newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

January 14, 2016

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Director Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro – 2013 General Rate Application
Prudence Review – Reply Submissions

Enclosed please find the original plus 12 copies of Newfoundland and Labrador Hydro's Reply Submission in relation to the above-noted matter.

Please note we are filing two cases that have not previously been filed and that the other cases referred to in the Reply Submissions have already been filed by either Hydro or the Consumer Advocate.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

GPY/bs

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Thomas J. O'Reilly, Q.C. - Cox & Palmer
Dennis Browne, Q.C. - Browne Fitzgerald Morgan & Avis
Danny Dumaresque
Thomas Johnson, Q.C. - Consumer Advocate
Yvonne Jones, MP Labrador
Senwung Luk – Olthuis, Kleer, Townshend LLP
Genevieve M. Dawson – Benson Buffett

IN THE MATTER OF the *Electrical Power Control Act,* 1994, SNL 1994, Chapter E-5.3 (the "*EPCA*") and the *Public Utilities Act*, RSNL, 1990, Chapter P-47 (the "*Act*"), as amended, and Regulations thereunder; and

IN THE MATTER OF a general rate Application filed by Newfoundland and Labrador Hydro on July 30, 2013; and

IN THE MATTER OF an amended general rate Application filed by Newfoundland and Labrador Hydro on November 10, 2014; and

IN THE MATTER OF a prudence review relating to certain actions and costs of Newfoundland and Labrador Hydro

---

Newfoundland and Labrador Hydro

Prudence Review
Reply Submissions

January 14, 2016

Table of Contents

1. INTRODUCTION

Newfoundland and Labrador Hydro ("Hydro") has reviewed the final written submissions in the Prudence Review filed by the Island Industrial Customers ("IICs"), the Consumer Advocate ("CA"), Newfoundland Power Inc. ("Newfoundland Power"), Vale Newfoundland & Labrador Limited ("Vale") and Mr. Danny Dumaresque.

Hydro has reply comments with respect to each of the other parties' final written submissions, as set out below.

As a preliminary comment, Hydro reaffirms its Closing Submissions filed with the Board on December 22, 2015, and this Reply Submission deals with specific items raised by the other parties in their closing submissions.

2. NEWFOUNDLAND POWER

Prudence Standard

At page 2 of its Written Submissions, Newfoundland Power submits that the prudence standard articulated in Liberty's Final Report of July 6, 2015 is appropriate for use by the Board. In summary this standard is that Hydro's decisions and actions must be reasonable in the context of information that was known or should have been known at the referable time, Hydro must have acted in a reasonable manner and used a reasonable standard of care in its decision making process, and hindsight is not to be used in assessing prudence. Hydro concurs.

Preventative maintenance, deferral, equipment failures and causation

Newfoundland Power then goes on at page 4 to submit that in its view, the key evidentiary finding in the Board's Prudence Review relates to the consequences to be attached to Hydro's failures in preventative maintenance ("PM"). In this regard Hydro submits that on the totality of the evidence, as fully canvassed in Hydro's Closing Submissions, Hydro's decisions and actions were reasonable in the context of the information that was known or should have been known at the time, and that Hydro acted in a reasonable manner using a reasonable standard of care in its decision making process.

The fundamental issue with Newfoundland Power's submissions, and in fact those of the other parties, is a lack of any meaningful acknowledgement of the balance that Hydro was making between cost and reliability. As was noted in detail by the Hydro witnesses, in particular Mr. Moore, and which is set out in detail in Hydro's Closing Submissions, Hydro only deferred preventative maintenance outside of the general preventative maintenance cycle where there was more **critical** work that arose which was unanticipated. Hydro submits that the totality of the record is abundantly clear that at all times Hydro was working in the best interests of its customers to provide least cost reliable service consistent with its legislative and regulatory mandate. For 2013 and 2014 alone, the additional person time required on critical break-in work was 21,357 and 22,266 hours respectively.[1]

Hydro's evidence is categorical and uncontroverted in this regard. Mr. Moore specifically noted:

> *The only reason we would re-prioritize any of our preventative maintenance activities would be for **any unknown work**, whether it be operating, corrective maintenance, or capital that is determined to be **of a higher priority nature for immediate reliability supply to our customers**, and that's the **only reason we would in any way stretch out our plan to longer intervals** because of anything that's of a higher priority, **a more urgent nature for our customers' supply**.*[2] *[emphasis added]*

The evidence makes clear that Hydro was proactively dealing with its preventative maintenance while at the same time addressing critical break-in work which was occurring. Newfoundland Power, and the other parties, discount both the criticality and volume of the break-in work faced by Hydro.

Newfoundland Power submits on page 5 of its Written Submissions that prior to January, 2014, Hydro's maintenance performance "was not shown to be pro-active or comprehensive or to pay due regard to Hydro's aging assets". Hydro submits that the evidence does not support this claim. As noted in Hydro's

[1] PR-V-NLH-002.
[2] Transcript, October 28, 2015, page 28, lines 8-19.

Reply Evidence, in 2006 Hydro recognized the magnitude and potential impact of its aging asset base and related customer reliability considerations and, as a result, initiated a comprehensive, long-term asset management plan. The response to PUB-NLH-039 in the Outage Inquiry describes in detail the significant asset management practices undertaken by Hydro over the past number of years to address concerns with its aging plant and equipment.[3]

This entire context is important, and is neglected by Newfoundland Power. Hydro has been carrying out significant asset condition assessments, has significantly increased its capital works program as described in detail in its Closing Submissions, and was working diligently to bring its preventative maintenance cycles into full compliance, subject only to the requirement to carry out more critical work. Hydro submits that a full reading of the evidence in the overall context supports that Hydro's activities, keeping in mind its mandate to provide least cost reliable supply, were reasonable. This context was set out in Hydro's Reply Evidence as follows:

> *Hydro recognized in 2009 that the rate of completion for certain PM work was beginning to lag and implemented a recovery plan for the period 2010 to 2015. This was a balanced and considered action taken by Hydro. During execution of the recovery plan, capital works grew significantly as well.*
>
> *The requirements for the recovery plan, increased capital work, and break-in work to deal with critical issues as they arose, required adjustments to resources to ensure the most critical and time sensitive work was completed cost effectively as necessary.*[4]

[3] Hydro Reply Evidence, August 7, 2015 (Revised September 23, 2015), page 3, lines 11-16.
[4] Hydro Reply Evidence, page 4, lines 1-8.

It is important to note that there is no evidence whatsoever that any of the maintenance that was deferred was done so for any reason other than ensuring that more critical and time sensitive work was completed.

At page 6 of its Written Submissions, Newfoundland Power submits that the length of time it will take to relieve Hydro's preventative maintenance backlog provides an indication of the severity of maintenance deficiencies prior to January 2014. However, as Mr. Moore confirmed, Hydro's program to fully catch up on the maintenance work that was outside its general maintenance cycle was to occur by the end of 2015. This has in fact occurred. Hydro had put in place a program to bring its preventative maintenance back into its general maintenance cycle, which program has been achieved, and any deferral of preventative maintenance was done solely to deal with more critical items. Hydro submits, that in the context of its mandate to provide least cost reliable electricity supply, its actions were reasonable.

Also on page 6, Newfoundland Power submits that Hydro has failed to show that its maintenance practices were reasonable. For the reasons noted above, Hydro submits that this is incorrect. Hydro has fully explained its maintenance practices, including its overall asset management approach which it has noted as being "pro-active, comprehensive, and cost effective and recognizes [Hydro's] aging asset base. All decisions and approaches to Hydro's overall asset management plan have been done in a considered fashion, and are adjusted appropriately as [Hydro's] plan proceeds".[5]

Newfoundland Power then submits that Hydro's inability to demonstrate that its maintenance practices were reasonable, which Hydro submits is incorrect, provides the Board with sufficient justification to assess Hydro's preventative maintenance performance prior to January, 2014 as imprudent despite the lack of any direct linkages between Hydro's maintenance and any of the equipment failures. Newfoundland Power submits that if such linkages were required, Hydro's customers or the Board would, in effect, be forced to prove that Hydro's maintenance practices were inadequate, as opposed to

[5] Hydro's Reply Evidence, August 7, 2015 (Revised September 23, 2015) page 4, lines 21-24.

requiring Hydro to prove them reasonable and that would not be a reasonable regulatory outcome. However, Newfoundland Power provides no regulatory support whatsoever for this contention.

As all parties, including Liberty, have agreed, despite extensive root cause analysis, there has been no linkage found between deferred maintenance work and the issues that caused the outages under review. As discussed in detail in Hydro's Closing Submissions at pages 26-28, and in reply to the Consumer Advocate below, there is no jurisprudential support for a finding of imprudence with respect to specific equipment failures on the basis of simply not meeting a general preventative maintenance cycle. To suggest otherwise would be to have Hydro forced to prove a negative; an untenable regulatory or jurisprudential outcome. Proof of causation is required as noted in the regulatory jurisprudence provided in Hydro's Closing Submission.

The CA in its submission[6] similarly states that "unless Hydro can adduce evidence that non-deferred preventative maintenance would not have affected the outcome, on the balance of the evidence that is available, it is more likely than not that equipment failure would have been prevented by non-deferred preventative maintenance." The evidence clearly does not support the contention that it is "more likely than not" that equipment failure would have been prevented by non-deferred preventative maintenance.

The Supreme Court of Canada ("SCC") in *Snell v Farrell*,[7] considered and rejected the idea that a defendant should have the burden of disproving causation or that the plaintiff need simply prove that the defendant created a risk that the injury which occurred would occur.[8] Instead, the SCC in *Snell* determined that adoption of either of those alternatives to the principles of causation in Canadian law

[6] Consumer Advocate Final Written Submissions, page 20.
[7] *Snell v Farrell,* 1990 Carswell NB 82 (SCC), Tab 3 of the Consumer Advocate's Final Written Submissions ("Snell").
[8] *Snell v Farrell*, at para. 26.

would be inappropriate as doing so would have the effect of compensating plaintiffs where a substantial connection between the injury and the defendant's conduct is absent.[9]

Even the now-antiquated doctrine of *res ipsa loquitor* ("the thing speaks for itself"), which doctrine has fallen into disfavour in Canadian law and which doctrine the SCC has stated should be treated as expired and no longer used, did not shift the burden of proof from the plaintiff to the defendant.[10]

Newfoundland Power, and the CA, would have the Board essentially turn Canadian jurisprudence on its head and have Hydro disprove causation with respect to the equipment failures. This is clearly inappropriate.

There is no support in these circumstances (in particular taking account of the rigorous root cause analysis conducted) for placing the burden on Hydro to disprove causation in the manner suggested by either Newfoundland Power or the CA.

Recovery of the 2014 Revenue Deficiency

At the bottom of page 7 of its Written Submissions, Newfoundland Power quotes from Hydro's 2013 General Rate Application ("GRA") with respect to recovery of the 2014 Revenue Deficiency. Then at the top of page 8, Newfoundland Power suggests that Hydro has not presented any evidence in this proceeding as to whether using a test year as a basis for recovering losses or deficiencies is an acceptable regulatory practice or whether the practice has been used in other jurisdictions. This issue is addressed in Hydro's GRA Rebuttal.

Proposed disallowance calculation

At page 8 of its Written Submissions, Newfoundland Power submits that it appears that Liberty used Hydro's 2014 audited financial statements to review costs for prudence because it was the best available information. Newfoundland Power notes that Hydro has indicated in numerous situations that certain costs noted by Liberty for potential disallowance were not reflected in Hydro's test year.

[9] *Snell v Farrell*, at para. 26.
[10] *Fontaine v British Columbia (Official Administrator)*, [1998] 1 SCR 424, at paras. 17, 23, 26, 27.

Newfoundland Power then states that the use of actual costs reflected in audited financial statements is logical, widely accepted and easily understood, and that Newfoundland Power has relied upon estimates based upon audited financial statements in making its submissions, where it makes reference to various specific dollar figures.

However, there is clearly no regulatory or any other financial or accounting basis to disallow costs for which Hydro has never sought recovery. Hydro assumes Newfoundland Power is not suggesting this, but it is unclear from their comments.

Hydro has indicated throughout its evidence in this proceeding those specific areas where amounts suggested for disallowance have not been sought in the first place, and Hydro will, as part of any compliance filing following the Board's decision, take account of any proposed disallowances in a manner consistent with Hydro's requests for cost recovery. The compliance filing will provide a full opportunity to reconcile any proposed disallowances with the costs sought for recovery by Hydro.

It would be surprising indeed if Newfoundland Power were suggesting that amounts should be disallowed in an amount that is greater than what Hydro has sought for recovery with respect to the issues in question in the first place.

Liberty made clear that it was utilizing the audited financial information that was available and that they were otherwise leaving the reconciliation of the amounts to be ultimately disallowed, if any, to others.

As explained by Mr. Vickroy of Liberty:

> *Yes. As I noted, we used 2014 actual audited financial data, and we received that upon request through RFIs from Hydro, and placed them in our report. We reported all the prudence financial data in the report in this format; in other words, 2014 actuals, and we did not determine or attempt to determine revenue requirements or translate the report to financial data in terms to be consistent with Hydro's revenue deficiency filing. So we did not attempt or even intend to attempt to do that. We have understood that other*

> *participants in this case, Grant Thornton, will be responsible for converting the financial data that is in Liberty's Report for GRA usage in the proceeding, and that would be following a Board Order to do so. So as a result, we really don't have any comments on Hydro's reply evidence or in its surrebuttal of estimates of the GRA impacts of what is in our report in our recommendations.*[11]

This is of course what should occur.

In this regard, Hydro does not intend as part of this Reply Submission to comment on the various figures presented by Newfoundland Power. Throughout its evidence Hydro has indicated the various issues which require reconciliation between actual and test year costs, and as part of its compliance filing on the GRA/Prudence Review Hydro will properly adjust its revenue requirement requests with respect to any potential disallowance findings by the Board.

Betterment

On page 13 of its Written Submissions, Newfoundland Power submits that "the application of the concept of 'betterment' to these circumstances has not been shown to be reasonable". Hydro submits that this contention is unsupported. As was made clear by Mr. Antonuk, Liberty itself acknowledges that the new assets which have been placed in service at Sunnyside and Western Avalon will provide a future continuing benefit that should be recognized.[12]

The issue with respect to this item is a question of what is the correct approach (if there are disallowances in relation to these assets). Hydro has explained its position in detail at pages 46-51 of its Closing Submissions, which, if the Board finds a disallowance, clearly will account for such, while at the same time ensuring appropriate regulatory and accounting treatment.

[11] Transcript, November 12, 2015, page 68, line 21 to page 69, line 16.
[12] Transcript, November 12, 2015, page 156, line 21 to page 157, line 18.

Clearly, however, simply ignoring the issue of betterment has no support in the evidence or in regulatory accounting practices.

Supply costs

At pages 13 and 14 of its Written Submissions, Newfoundland Power states that Hydro provided alternative calculations with respect to the January 2014 supply costs showing potential disallowances of $0 and approximately $1 million respectively. Newfoundland Power further states that use of only the initial January 1 to 4, 2014 four-day period "as suggested by Hydro which yields no disallowance may not be reasonable due to the extraordinary system conditions outlined in the Liberty Report Evidence". For clarification, in its Reply Evidence, Hydro indicated that use of Liberty's methodology but using the first four days of the period would indicate no disallowance, and that using an average of the first four and last four days would yield a figure of $984,674. However, Hydro never suggested that if the Board was to determine a disallowance, that only the first four-day period should be used. Hydro made clear in its Reply Evidence that "employing Liberty's methodology but utilizing an average of costs in both the first and last four days of the period in question (and adjusting for any double counting) is much more appropriate, especially in light of the fact that Holyrood Unit 1 was not even offline for the entirety of the January 5-8 period".[13]

With that clarification, Hydro notes Newfoundland Power's statement at page 14 of its Written Submissions that "there is no intrinsic reason for the Board to favour the approximately $1.7 million disallowance proposed in the Liberty Report (after deduction of approximately $0.5 million to avoid double counting) over the approximately $1 million which results from averaging replacement costs over both the four days before and after the January 5-8 period proposed by Hydro".

For the reasons expressed in detail in Hydro's Closing Submissions, and particularly in light of the fact that Liberty did not make any adjustment for the time period in which Holyrood Unit 1 was not even

[13] Hydro Reply Evidence, August 7, 2015, (Revised September 23, 2015) pages 7-8.

offline during the January 5 to 8, 2014 period, Newfoundland Power is correct that there is no "intrinsic reason" to accept Liberty's recommendation, and in fact Hydro submits its recommendation, if there is a disallowance, is a more balanced and appropriate approach.[14]

Black start

On page 15 of Newfoundland Power's Written Submissions, it submits that there is no evidence of reasonable system planning or weighing of risks on Hydro's part in reaching its decisions in relation to black start capability at Holyrood. Hydro submits that this statement is wholly unsupported by the evidence. In this regard, Hydro refers the Board back to the extensive evidential description provided by the Hydro witnesses and excerpted at pages 9-10 and 12-13 of Hydro's Closing Submissions referable to its decision-making and the surrounding context regarding the black start issue. Hydro also refers the Board to its reply to the IICs below.

Hydro also acknowledges Newfoundland Power's statement at page 15 of its Written Submissions that "the evidence relating to the lack of blackstart capability does not indicate that *the amounts spent* by Hydro to install blackstart capability at Holyrood following the January 2013 outage were imprudent. In fact, the evidence does not indicate that the diesels were not used and useful." As the Board and all parties are aware, the diesels remain in place and are still providing black start capability.

Fully consistent with Hydro's Closing Submissions, Newfoundland Power also notes at page 16 that "it is not appropriate for the Board to sanction a utility for imprudent conduct by disallowing any recovery of a utility investment which has not been shown to be anything but used and useful. This is because the sanction bears no reasonable nexus to the appropriate conduct."

This is fully consistent with Hydro's and La Capra's evidence and Hydro's Closing Submissions in this regard. See in particular Hydro's extensive discussion with respect to Liberty's proposed disallowance at

[14] Note that the Holyrood Unit 1 issues on January 8, 2014 when the Unit came back online at approximately 15:30 hours are unrelated to the January, 2013, Holyrood Unit 1 issue.

pages 18-23 of Hydro's Closing Submissions. As Hydro's Closing Submissions fully explain, there is no sound regulatory basis on which to monetarily sanction Hydro in these circumstances. As Hydro noted in its Closing Submissions, the Nova Scotia Utility and Review Board in a recent case also involving a Liberty recommended disallowance noted that such should not be imposed where on the balance of probabilities the amount of additional costs resulting from the issue in question had not been demonstrated.[15]

It is not regular regulatory practice to impose a disallowance in situations where no specific cost consequences have been determined.

In fact, as noted at page 23 of Hydro's Closing Submissions, the Terms of Reference state at page 3 that:

> *…where actions are found to be imprudent, Liberty will examine where and by how much costs would have differed under a prudent course of action.*

This is of course because the Terms of Reference were appropriately addressing the situation where a regulatory disallowance may be imposed, i.e., where costs would have differed under a prudent course of action.

In the circumstances, it is clearly inappropriate to disallow costs with respect to used and useful assets which were put in place following the Board's direction, simply on the basis that these assets were not put in place earlier. This is particularly so in light of the evidential record as to the context behind Hydro's decision making during the relevant period and its reliance on Hardwoods as an interim solution.

[15] Information No. 44.

Further, to the extent that the Board determines that any of Hydro's actions during the relevant period with respect to black start were imprudent, that finding in and of itself will be taken very seriously by Hydro.

Extraordinary transformer and breaker repairs

At the top of page 18 of Newfoundland Power's Written Submissions, they state in relation to the extraordinary transformer and breaker repairs that "it has not been proven in evidence" that Hydro's failure to adhere to its general maintenance cycles was the result of deferrals "to carry out higher priority work on a considered basis". Hydro submits that this is simply not in any way a correct summary of the evidence. Hydro consistently and uncontrovertibly made it clear that the only times when preventative maintenance was not carried out was where more critical work was required. Notably Newfoundland Power has no references in the evidential record supporting its statement. That is of course because the evidential record is clearly to the contrary. As was highlighted in Hydro's Closing Submissions, Mr. Moore specifically and uncontrovertibly noted as follows:

> *The only reason we would re-prioritize any of our preventative maintenance activities would be for any unknown work, whether it be operating, corrective maintenance, or capital that is determined to be of a higher priority nature for immediate reliability supply to our customers, and that's the only reason we would in any way stretch out our plan to longer intervals because of anything that's of a higher priority, a more urgent nature for our customers supply.*[16]
>
> . . .
>
> *What I'll say is the people that make decisions about any work of a higher priority nature that would take us off our annual work plan is a very considered decision by very*

[16] Transcript, October 28, 2015, page 28, lines 8-19.

> *knowledgeable people taking into account, you know, reliability up to that time of the assets, the asset condition, any known operating issues with the assets, knowledge of what the manufacturer had recommended as maintenance for the assets and very considered decisions of anything that'll take you off plan. What we have in place now is a - we talked about it there yesterday, I'll call it a management of change form that is used now to document any of those decisions and an opportunity for every person involved with the decision to sign off. The amount of rigor that goes into the decision itself, I think, is still as strong and will continue to be as strong as it's always been. What we're doing now is ensuring that we have a documented record of that decision going forward.*[17]

It was also specifically noted by Mr. Moore that the documentation at the relevant time would have been reflected in Hydro's computerized maintenance system where target dates and years for preventative maintenance activities would have changed, and members of Hydro's Short Term Planning and Scheduling Group, who develop Hydro's weekly work schedules and annual work plans, would have kept track of any of their changes through their normal maintenance planning process.[18]

The evidential underpinning for Newfoundland Power's submissions and conclusions in this regard simply does not exist.

Legal costs

At page 19 of its Written Submissions, Newfoundland Power states that the Liberty Reply Evidence indicated that it had not had the chance to review the source documents associated with the Hydro legal fees. For clarity, however, Mr. Vickroy specifically noted during direct examination that Liberty subsequently and before the oral hearing had the opportunity to review the applicable invoices.[19] The

[17] Transcript, October 28, 2015, page 31, line 23 to page 32, line 19.
[18] Transcript, October 28, 2015, page 33, lines 1-13.
[19] Transcript, November 12, 2015, page 70, lines 14-21.

issue of the applicable legal costs in relations to Phase 1 of the Outage Inquiry was dealt with in detail in Hydro's Closing Submissions at pages 53-55.

Other potential disallowances

On page 21 of Newfoundland Power's Written Submissions, it states that in its view, based upon the evidence before the Board, it appears that a number of operating cost disallowances may be justified. It then lists these in Table 6. Newfoundland Power simply cites the Liberty and Hydro positions and notes that operating cost disallowances "may" be justified, but then cites the complete Liberty disallowances, not in any way taking account of the various adjustments noted as appropriate by Hydro. Newfoundland Power's Written Submissions add nothing to the record in this regard. Each of the items listed in Table 6 of Newfoundland Power's Written Submissions are dealt with in detail in Hydro's Closing Submissions, which Hydro submits clearly indicate that the complete disallowances summarily shown by Newfoundland Power are not appropriate.

On page 22 of Newfoundland Power's Written Submissions, it notes in Table 8 with respect to the 2013 Holyrood Unit 1 failure a potential disallowance in respect to contract labour/other of $915,000. However, as Hydro made clear, these dollars were not sought at part of the 2014 Test Year revenue requirement in any event, and as such do not constitute part of any potential disallowance.

On page 23, Newfoundland Power states that approximately $8 million of disallowance are attributable to the January, 2013 failure of the DC lube oil pumping system, but this is incorrect in that this figure apparently includes the $915,000 noted above, as well as double counting depreciation expense together with capital costs. Hydro will of course in its compliance filing appropriately account for any costs it has sought recovery for with respect to the 2014 Holyrood Unit 1 incident for which it has accepted responsibility.

3. VALE

Hydro submits that the Vale Final Submissions simply reiterate the Liberty position on various items and does not take any cognisance of the position of Hydro and its extensive evidence filed in this proceeding. It is very much a one sided presentation of the evidence.

Vale states at page 2 of its Final Submissions that Hydro "did not establish that any of Liberty's findings of imprudence were incorrect". However, within the tests for prudence as articulated in the Terms of Reference, Hydro submits that it has shown that its actions were reasonable in the prevailing context.

Preventative maintenance

Vale states at page 4 of its Final Submissions that Hydro "could and should have retained a third party contractor to complete this work before 2013". However, when questioned by Board counsel specifically with respect to whether Hydro considered the need for additional resources or manpower or the requirement to hire an external contractor in this regard Mr. Moore explained in detail as follows:

> *When we developed a plan looking into 2012, that wasn't a consideration at the time because based on our existing resources at the time, plus an allotment for, we always in our annual work plan allot a certain amount of time for unknowns or corrective maintenance work that we do find during our preventative maintenance, so when we developed our plan in 2012, the plan itself looked like we could achieve an adequate amount of recovery PMs in 2012, but what we experienced in 2012, not so much as 2013, but there was a number of very customer focused activities that took us away from some of our planned activities in 2012 as well. One example I can think of is when we were installing the new power supply for Vale out in Long Harbour, the actual installation of that new terminal station with two transformers ended up drawing upon our resources that would be working on PMs for power transformers in a much higher amount, I think we've documented this in RFIs as well, than would have been claimed for that capital job. So then when we were going into 2013, we realized that we've accomplished some maintenance in 2012, but looking at the numbers here in the RFI, we completed our base plan, but we didn't get any further ahead on our recovery plan, shall we say, for power transformers, and then going into 2013 when we developed our plan, again looking at the most overdue first, we would have looked at the base amount that normally would be allocated to each shop, plus a portion of recovery and then--but we just talked about some of the things in 2013 that again took us off plan, so it wasn't until we put together the 2014 or the June 2nd, 2014 reports to the Board and the 2014, 2015*

> *test year as part of the amended GRA that we had an opportunity to identify the additional resources that were required to achieve our 2015 objective to be fully recovered.*[20]

Notable in this regard, is that Mr. Moore specifically stated that additional work for Vale was one of the factors in this regard. Mr. Moore also specifically noted the change in circumstances, and that Hydro was working with appropriate resources to address the most critical work.

Notable also is Vale's contention that had Hydro retained a contractor sooner the events of January 2013 and January 2014 "may have been avoided". There is no evidence however that the hiring of additional contractors would have prevented the issues which occurred.

Vale then continues on page 4 of its Final Submissions to state that the evidence presented "demonstrated that Hydro did not have an adequate system for documenting its decisions to defer preventative maintenance or guidelines for the criteria on which such decisions should be based". However as noted previously in this Reply Submission, Hydro's decisions were reflected in its computerized maintenance system and Hydro's Short Term Planning and Scheduling group kept track of these changes through their normal maintenance planning processes. Further, the uncontroverted evidence of Hydro is that all of such determinations were made by very knowledgeable and experienced engineering staff taking into account the nature of the break-in work and the information around the assets from which preventative maintenance was scheduled. There is no suggestion whatsoever in the evidential record that the decisions that were made to defer preventative maintenance to deal with more critical work were in any way inappropriate.

Vale's conclusion in this regard on page 5 of its Final Submissions is, in quoting Liberty, that Hydro's decision to defer preventative maintenance "deprived Hydro of the opportunity to identify and correct

[20] Transcript, October 27, 2015, page 163, line 10 to page 165, line 2. See also in relation to timing Transcript, October 29, 2015, page 81, lines 17 to page 83, line 6.

potential sources of equipment failure that regular maintenance is designed specifically to provide". However, for the reasons dealt with in detail in Hydro's Closing Submissions at pages 26-28, and below in reply to the CA, it is not appropriate to make a disallowance finding on the basis of a so-called lost opportunity. This is particularly so where, despite extensive efforts, there is no evidence whatsoever that failure to carry out certain preventative maintenance within the general maintenance cycle led to the issues in question, and where the preventative maintenance that was deferred was done so to address more critical issues.

At the top of page 6, Vale states that Breaker B1L03 was seven years past its life expectancy at the time of the failure and that it is reasonable to conclude that there is a correlation between the performance of preventative maintenance and failure of an asset operating beyond its expected life. However, as was made clear in Mr. Kennedy's evidence, the dispersion curve for assets such as B1L03 showed that they had significant levels of retirement activity occurring at any time from ages 20 all the way through age 80.[21] Further, as noted, there is no evidence supporting the failure of the assets due to preventative maintenance not being undertaken strictly within the general maintenance cycle.

In fact, with respect specifically to Breaker B1L03, counsel for Vale followed up with Mr. Moore on this issue:

> *MR. FLEMING:*
>
> *Q. Based on the mechanism of failure, do you think that preventative maintenance would have had any effect on that type of failure?*
>
> *MR. MOORE:*

[21] Hydro Surrebuttal Evidence dated October 14, 2015, Appendix A, pages 6 and 7 of 18, and page 18.

A. Not from the investigation that we did. We didn't find anything conclusive to indicate that if we had have completed the maintenance in the fall of 2013, that that would have definitely resulted in that breaker operating properly. That breaker did operate properly in 2013 on two occasions when we checked back through our records. It opened and closed as it should have in 2013. Like I indicated in PUB-NLH-174, there's a long list of preventative maintenance that's carried out in a terminal station, everything from monthly to quarterly to annual checks, and the six year PM is basically one portion of the maintenance that we do on these items, and it was the six year that was due in 2013 that we had to defer into 2014.

MR. FLEMING:

Q. I understand. I'm just wondering whether there's anything in that preventative maintenance that would have increased the ability of the breaker to work in a cold temperature?

MR. MOORE:

A. No.[22]

In its Final Submissions, Vale does not reference this testimony. In fact it also does not reference the ABB representative's report in relation to this breaker. It is simply not appropriate to look at the issue without the context of the actual evidence. With that context it is clear that Vale's contentions are not appropriate or supported.

[22] Transcript, November 2, 2015, page 80, line 10 to page 81, line 14.

Vale then states on page 6 of its Final Submissions that Liberty also found that Hydro's failure to install breaker failure protection prior to the incidents and to follow up on increasing acetylene gas readings in the transformer were imprudent actions that caused or potentially contributed to the failures. This is simply not the case. With respect to the breaker failure protection, Liberty specifically "did not find [Hydro's] application imprudent in these circumstances"[23]. With respect to the gassing issue, as highlighted throughout the evidence and in Hydro's Closing Submissions, the acetylene gas readings were completely unrelated to the issues that occurred. Vale provides no supporting reference for its contention to the contrary. Hydro fully explained in its evidence and in its Closing Submissions at pages 39-40 the activities that it undertook with respect to the acetylene gas issue.

Vale then reiterates Liberty's position on pages 6-8 of its Final Submissions where Liberty stated that "where causation is not determinable, despite good faith and capable effort, it is sufficient to make the categorical level connection, as exists here, between conducting maintenance and avoiding malfunction".

After citing Liberty's discussion on causation, once again Vale suggests that following up on the acetylene gas levels may have avoided the failure. This is completely unreferenced and unsupported in the evidence. The evidence does not indicate that the gassing levels had anything whatsoever to do with the Transformer T1 bushing failure.

Hydro has already dealt extensively with Liberty's suggested approach to causation, and has clearly indicated in its discussion on causation at pages 26-28 of its Closing Submissions why Liberty's approach is not supported in either the regulatory jurisprudence or in Canadian law. As dealt with in detail in Hydro's Closing Submissions, Canadian law requires evidence that on the balance of probabilities the conduct in question caused the cost to be incurred. Notably Vale cites no law for support of its contention. Vale would have the Board make a decision based on principles that are not supportable.

[23] Liberty Report, July 6, 2015, page 25.

The post-incident analysis did not identify any links between the failure to provide maintenance on the Sunnyside T1 Transformer or the B1L03 airblast circuit breaker and the issues at Sunnyside.

On page 7 Vale quotes to Mr. Antonuk of Liberty stating that there is a direct causal linkage between maintenance and performance. However, there is no evidence in this case that the failure to simply perform the preventative maintenance within the general maintenance cycle had anything to do with the incidents in question. It is causation of the incidents in question that is meaningful. Liberty's position was clearly premised, as discussed in Hydro's Closing Submissions, on Hydro losing the opportunity to potentially have prevented the occurrences. However, as fully explained in Hydro's Closing Submissions, the SCC has made it clear that proof of a "loss of a chance" does not satisfy the test of proof of causation.

At page 8 of its Final Submissions, Vale also refers to Hydro's "reliance on a test that occurred more than six year's before the failure". Hydro did not suggest that it was relying on the prior test, rather it made clear that the preventative maintenance on Sunnyside Transformer T1 was only overdue by about three months of the six year cycle, and importantly that the failure of the transformer in and of itself would have caused limited system issues.[24] The issues were exacerbated as a result of Breaker B1L03 failing to open, but as dealt with in detail in Hydro's Closing Submissions Breaker B1L03 had operated successfully in August 2013 and its operation could well, as indicated by ABB, have been impacted by the "cold temperatures that the breaker was experiencing for days up to the event".[25]

In the circumstances, to make an unsupported leap that if preventative maintenance had occurred within the six year cycle this would have prevented the incidents from occurring is inappropriate and not supported by regulatory or Canadian jurisprudence.

[24] Hydro Closing Submissions, December 22, 2015, at page 38.
[25] *Ibid* at page 29.

If the Board is of the view that all preventative maintenance must occur within the general PM cycles, then it is certainly open to the Board to make such a finding in its decision. However, to penalize the utility, with no proof of causation, for failing to strictly adhere to its PM cycles in the past, solely to deal with more critical work, Hydro submits is inappropriate. The evidence is clear that Hydro used its best efforts to carry out required preventative maintenance, and it used informed engineering judgment to deal with extensive critical break-in work which occurred. The evidence does not support that Hydro was in any way acting imprudently, rather it was at all times seeking to achieve a balance between cost and reliability for the benefit of its customers. Vale's Final Submissions, and the submissions of others, do not, in Hydro's respectful submission, in any way reflect this balance or the overall context and dynamic circumstances prevailing during the applicable times in question.

Notwithstanding that the gassing levels had nothing to do with the incidents in question, it is important to put Vale's comments in this regard on pages 8 and 9 of their Final Submissions in context. Vale states that the gassing level of 11 PPM was the highest ever recorded on the transformer and warranted a decision to follow up with further testing in 2014. However, this was simply 2 PPM greater than the top of the range which Hydro had been experiencing for decades on this transformer.[26] This was not an unusually high figure in the context of Hydro's ongoing monitoring program. As Mr. Moore made clear, a retest would have been scheduled but Hydro did not get the opportunity to do so as the transformer failed.[27]

As described fully in the evidence and in Hydro's Closing Submissions the circumstances known at the time led to Hydro's appropriate action of actively reviewing and monitoring the gas levels since as early as the 1990's.

[26] Undertaking No. 76
[27] Transcript, November 2, 2015, page 65, lines 3-7 and Transcript, October 27, 2015, page 179, line 20 to page 180, line 2.

Vale concludes with respect to the Sunnyside Replacement Equipment that Hydro has not refuted the "standard for establishing causation". This is incorrect for the reasons noted above. The standard for establishing causation has not been met in this case. Liberty's approach to that standard is not supported by regulatory or Canadian jurisprudence.

With respect to the Western Avalon Terminal Station T5 Tap Changer, at page 9 of its Final Submissions Vale states, in quoting Liberty once again, that Hydro was deprived of the opportunity to identify and address the cause of the failure before it occurred and thus Vale submits that Hydro has not refuted Liberty's findings. However, as noted, this is not an appropriate test, and Vale has provided no support for it being such. There is simply no support in regulatory or Canadian jurisprudence for this approach.

With respect to the overhaul of Sunnyside B1L03 and Holyrood B1L17 Vale again states at page 10 of its Final Submissions, that Hydro's statements failed to recognize the lost opportunity to correct any maintenance issues resulting from delaying preventative maintenance. Again, Vale rests its conclusions on a misunderstanding of the causation test, and ignores the fact that loss of chance is not a compensable standard in Canadian law. As noted above, in no instance does Vale provide any regulatory or jurisprudential support for its statements.

Vale also does not acknowledge the potential cost consequences of Hydro having to deal with both all of the preventative maintenance within the general maintenance cycle and the significant critical break-in work that arose from time to time over the applicable period. Again, there is no reflection of the balance Hydro was undertaking on behalf of its customers, and simply a request for the Board to accept the full disallowances suggested by Liberty despite no proof of causation. Hydro submits that this is simply inappropriate.

At page 10 of its Final Submissions, Vale also states that there is "no evidence that cold weather was the cause of failure". Again, Vale completely disregards ABB's finding that the cold temperatures that

Breaker B1L03 was experiencing for days up to the event and the condition of the pole control boxes are factors affecting the breaker operation and that the problem was intermittent and temperature related.[28]

Vale then goes on to state that "it is fair to assume that a breaker that has not been properly maintained is more likely to fail in cold conditions than a properly maintained breaker". However, there is no evidence that the breaker was not "properly" maintained, and more importantly, as noted above, Hydro's uncontroverted evidence when specifically questioned on this by Vale, was that there is nothing in the preventative maintenance that would have increased the ability of the breaker to work in a cold temperature. Vale simply disregards the evidence in this regard.

On page 12 of its Final Submissions, Vale states with respect to Breaker B1L17 that "it is clear that Hydro failed to 'securely cover the breaker' as water did in fact enter the breaker and cause the failure". However, there is no evidence to indicate that the breaker was not securely covered. The only evidence is that water did at some point and somehow enter the breaker. Even if the cover, for example only, became unsecure for one reason or another does not in any way indicate imprudence. Again, Vale simply makes leaps of logic that are not supported by the evidence.

On page 13 of its Final Submissions, Vale states as follows with respect to preventative maintenance:

> *Had these repairs not been imprudently deferred, they would have been completed between general rate applications and, therefore, would not have been recoverable. Hydro should not benefit from its decision to defer maintenance work by recovering expenses that would not otherwise have been recoverable had they been prudently completed in a timely manner.*

[28] See Hydro's Closing Submissions, page 29, line 17 to page 31, line 17.

First, Vale contends that the repairs were imprudently deferred. Again, as Hydro has repeatedly noted these deferrals were only done to deal with more critical break-in work. Vale's supposition is that if Hydro had determined that it should strictly stay within the preventative maintenance cycle and do all the critical break-in work, Hydro would not be entitled to recover its additional costs.

As Hydro made the decision, based on the knowledge known at the time and the technical expertise of its staff, to defer certain preventative maintenance work outside of the general maintenance cycle it did not have to consider making a separate application to the Board for the costs associated with the non-capital break-in work. Had it determined, as Liberty suggests, that all PM work should have been carried out regardless, then it would have had to make a decision at that time as to what applications should have been made for additional cost recovery to ensure all the PM work and critical break-in work was completed.

Vale's contention is that, notwithstanding that Hydro carried out thousands of additional man-hours of non-capital critical break-in work for which it did not seek additional cost recovery, it should now be precluded from recovering the costs of the preventative maintenance work that was deferred to be able to carry out the critical break-in work at the time when it was needed. Essentially, Vale's position is that Hydro should be responsible for the costs of all preventative maintenance and critical break-in work, and if one or the other is not set in rates, even if the critical break-in work was not planned for or foreseeable at the referable time, that Hydro should be responsible for the costs of that work, notwithstanding that it is being done for the benefit of Hydro's customers. Hydro submits that this is not an appropriate result.

Thus, Vale's comments at the top of page 14 that if Hydro was permitted to recover catch-up preventative maintenance costs in the 2014 and 2015 Test Years Hydro would in effect be receiving double recovery is not correct. With respect to the amount for ultimate recovery, in respect of Vale's comments on page 14 of its Final Submissions, this is an item which would be confirmed in Hydro's compliance filing.

Black start and the combustion turbine

On page 14 of its Final Submissions, Vale refers to Hardwoods as "a particularly unreliable plant". However, the record, in particular the response to Undertaking No. 81, does not support this contention. As Hydro previously noted, and as specifically stated in Undertaking No. 81, "UFOP [Utilization Forced Outage Probability] is generally considered a more meaningful comparator for units that have a small number of operating hour requirements", which is referable to Hardwoods as a unit which is on for limited periods of time. In the five year time period between 2008 and 2014 "the CEA UFOP factor ranged from 12.80 to 40.94 [while] the UFOP for the Hardwoods gas turbine ranged from 10.20 to 35.14, comparable to the range seen by other CEA members". It is inappropriate to simply look at Hardwoods UFOP without comparison to similar units. That comparison does not support Vale's contention.

On page 15 of Vale's Final Submissions, Vale submits that La Capra's position that even if Hydro had taken steps to immediately replace the Holyrood on-site black start in January 2012 it would not have been installed in time to prevent the January 2013 events is contradicted by the time frame in which Hydro was able to subsequently install the current black start diesel generators. However, this is pure hindsighting on Vale's part as is dealt with in more detail in Hydro's discussion of the IIC final Written Submissions discussed below.

Vale then contends at pages 15 and 16 that although the Holyrood combustion turbine ("CT") should be subject to recovery as a capital asset the costs associated with the black start diesel generators should not, as in Vale's view they "were only incurred because Hydro failed to install the new Holyrood combustion turbine in a timely manner". Vale provides no supportable discussion as to why the current CT was not provided in a timely manner. In fact, the record with respect to supply planning is clear that justification for the construction of the CT at an earlier time was not present.[29] The evidence simply does not support Vale's contention. Certainly a CT of the size and capabilities eventually put in place

[29] See for a detailed explanation of the record in this regard the Supply Planning section of Hydro's Closing Submissions at pages 9-11 and Hydro's reply to the IICs below.

would not have been done if a decision had been taken at an earlier time. Further, Liberty did not find any imprudence in relation to Hydro's planning, procurement or installation of the CT.[30]

Vale then also suggests, quoting to Liberty, that the diesel generators have "too short a used and useful period to justify the expenditures". Vale once again cites no regulatory support for such a proposition, and as noted in Hydro's Closing Submissions, following receipt of Hydro's Reply Evidence, which challenged the support for any such regulatory conclusion, Liberty appeared to change its position to one where Hydro should be penalized for a purported lack of on-site black start capability at Holyrood. As noted previously, the black start diesels continue to be used for this purpose and there is no regulatory support for disallowance of used and useful assets. For the extensive reasons set out in Hydro's Closing Submissions at pages 18-23, there is no support for the imposition of a penalty on Hydro for failing to have on-site black start capability during the period in question in the context of the prevailing circumstances.

Vale's contention that Hydro should be sanctioned for the full cost associated with the diesel generators is unfounded.

Supply costs

With respect to the supply costs, Vale submits at the top of page 20 of its Final Submissions that Liberty has demonstrated that the assumptions it used are more reasonable than those suggested by Hydro. Hydro submits that the record does not support this for the reasons it noted above in its reply to Newfoundland Power. Further, Vale then relies on the following quoted statement from Liberty, "there are methods available for a more accurate assessment than Liberty's assessment in this case, but they require better information, which Hydro cannot produce". Vale, however, failed to note Mr. Mazzini's statement during cross examination that Liberty had seen elsewhere that utilities do not always collect the data to the detail that is needed to conduct such an ex post facto review. As Mr. Mazzini stated, the

[30] Liberty Report, July 6, 2015, page ES-2.

data to that level simply was not available for Hydro or Liberty to do the calculation.[31] In such circumstances, there is no justification for drawing any adverse inference simply because the data necessary to do what in Liberty's view would be a more fulsome calculation was not fully available. Hydro submits this does not support Liberty's rough estimate for the purposes of a prudence disallowance.

Compliance filing

On page 20 of its Final Submissions, Vale submits that the Board should require Hydro to provide a compliance filing detailing the exact amount and basis for each Liberty deduction Hydro claims contains an error in relation to items such as double counting and actual expenditures where the amount has not been sought for recovery in the test year. Vale submits parties should have an opportunity to comment on such compliance filing. Hydro concurs that this is the appropriate process, if the Board makes imprudence findings which trigger a disallowance.

4. CONSUMER ADVOCATE

At the bottom of page 3 of the CA's Final Written Submissions, the CA submits that the expertise of Liberty and their evidence should be given significant weight in the Board's considerations. Likewise, Hydro submits that the evidence of La Capra should be provided significant weight by the Board based on their extensive experience. Furthermore, with respect to issues related to matters of Canadian jurisprudence, Hydro submits that the Liberty consultant's views on items of causation are not supported by Canadian jurisprudence nor were any of the Liberty consultants qualified in that regard.

Tests for prudence

After reviewing the recent SCC decisions in *Ontario (Energy Board) v. Ontario Power Generation Inc.*[32] and *ATCO Gas and Pipelines Ltd. v. Alberta (Utilities Commission),*[33] the CA submits that the test that has

[31] Transcript, November 12, 2015, page 66, lines 18-23.
[32] *Ontario (Energy Board)* v *Ontario Power Generation Inc*., 2015 SCC 44 ("*Ontario (Energy Board)*").
[33] *ATCO Gas and Pipelines Ltd. v Alberta (Utilities Commission)*, 2015 SCC 45 ("*ATCO*").

been used by Liberty in determining the prudence of the projects is less onerous to Hydro than that which could have been used in making that determination if the SCC test had been used. It is unclear how Liberty's review was more forgiving. In the circumstances of the present case, Hydro submits for the reasons set out in its Closing Submissions under the heading Note on Recent Jurisprudence (pages 3-5), and below, that the approach taken by Liberty, and which should be taken by the Board, is correct. In fact, Mr. Antonuk himself noted during cross examination that in his view "applying or not applying [the presumption of prudence] I think ended up being moot in what we found".[34]

As set out in Hydro's Closing Submissions at pages 3-5, the recent decisions from the SCC in the above noted cases support the application of the no-hindsight test for prudence set out in the Terms of Reference to the costs under review in this case.

The CA suggests in his submission[35] that the approach to the prudence review as set out in the Terms of Reference in this case is somehow a "less onerous standard" than that which the CA says the SCC has recently determined. Hydro submits that there is nothing in these recent SCC cases to suggest that the test set out in the Terms of Reference is any less onerous than the test that this Board should be applying to the review of the costs in this case.

Whether a particular cost may reasonably be assessed using hindsight or a no-hindsight approach in a prudence review should turn on the circumstances of the cost.[36] The majority of the SCC in the *Ontario (Energy Board)* case explained the difference between "forecast" costs and "committed" costs as follows:

> *Forecast costs are costs which the utility has not yet paid, and over which the utility still retains discretion as to whether the disbursement will be made. A disallowance of such*

[34] Transcript, November 12, 2015, page 168, lines 8-11.
[35] Consumer Advocate Final Written Submissions, pages 5-8.
[36] *Ontario (Energy Board),* at para. 104.

> *costs presents a utility with a choice: it may change its plans and avoid the disallowed costs, or it may incur the costs regardless of the disallowance with the knowledge that the costs will ultimately be borne by the utility's shareholders rather than its ratepayers. By contrast, committed costs are those for which, if a regulatory board disallows recovery of the costs in approved payments, the utility and its shareholders will have no choice but to bear the burden of those costs themselves. This result may occur because the utility has already spent the funds, or because the utility entered into a binding commitment or was subject to other legal obligations that leave it with no discretion as to whether to make the payment in the future. [emphasis added]*[37]

As the SCC recognized in *ATCO Gas*, "the no-hindsight prudence test may be appropriate when the regulator reviews utility costs that are committed".[38] The application of a no-hindsight test to a prudence review of committed costs is grounded in the following fact recognized by the majority of the SCC in *Ontario (Energy Board)*, that:

> *[…] any disallowance of costs to which a utility has committed itself has an effect on equity investor returns. This effect must be carefully considered in light of the long-run necessity that utilities be able to attract investors and retain earnings in order to survive and operate efficiently and effectively, in accordance with the statutory objectives of the Board in regulating electricity in Ontario.*[39]

Also, importantly, a no-hindsight approach "may play a particularly important role in ensuring that utilities are not discouraged from making the optimal level of investment in the development of their facilities."[40] Regarding the application of the no-hindsight prudence test to forecasted costs, the majority of the SCC in *Ontario (Energy Board)* recognized that "it makes no sense to apply such a test

[37] *Ontario (Energy Board)*, at para. 82.
[38] *ATCO*, at para. 48.
[39] *Ontario (Energy Board)*, at para. 17.
[40] *Ontario (Energy Board)*, at para. 107.

where a utility still retains discretion over whether the costs will ultimately be incurred; the decision to commit the utility to such costs has not yet been made".[41]

The costs under review in this case are clearly fully committed capital and operating costs (both of which should reasonably be assessed using a no-hindsight approach).[42] As such, even in light of the recent cases from the SCC, there is no basis on which this Board should apply any prudence test other than that which is articulated in the Terms of Reference for this review. The costs under review should therefore be reviewed based on the information that was available at the time the decisions were made by Hydro to incur the costs.

On page 12 of the CA's Final Written Submissions, the CA indicates Liberty's view that the performance of the Doble test "would" have identified the defective bushing. However, notably Mr. Lautenschlager stated elsewhere in the evidence that:

> *For example, a deteriorated bushing which likely caused the T1 transformer could have been identified by the double [Doble] power factor test that would have been part of the PM if it had been conducted in September, a few months before the failure. Although I can't say for certain that the unknown issues that caused the B1L03 air blast circuit breaker malfunction would have been detected or corrected by corrective tests, the point is that the opportunity was missed for the preventative maintenance to provide the information or to actually even prevent by the actions included in the PMs to prevent the failure as the PMs are designed to do.*[43] *[emphasis added]*

Here, Mr. Lautenschlager stated only that the bushing issue "could" not "would" have been identified. In fact there is no evidence that it "would" have been identified. Further, he went on to state that he

[41] *Ontario (Energy Board)*, at para. 83.
[42] *Ontario (Energy Board)*, at para. 102.
[43] Transcript, November 12, 2015, page 50, lines 5-19.

could not say whether the unknown issues that caused the B1L03 air blast circuit breaker malfunction would have been detected or corrected, and relied once again on the missed opportunity rationale, which does not support causation or disallowance. Hydro submits that this is particularly the case where pursuant to its legislative mandate it was balancing least cost reliable supply to its customers by ensuring the most critical work was carried out. Hydro did not have any information at the relevant times in question that the deferral of the PMs in relation to the assets in question should in any way have caused an issue for those assets. As noted in Hydro's Closing Submissions at page 29, breaker B1L03 was function-tested in 2011 and operated successfully in August 2013. There was no concern with the operability of the breaker at the relevant time.

As well, although the Doble test "may" have identified an issue with the bushing, the test, as fully explained by Mr. Moore and in Hydro's Closing Submissions at pages 38-39, is not a pass/fail test. Thus, even hypothetically, had there been some issue indicated by preventative maintenance, there is no evidence to suggest that it would have been of an order of magnitude to replace the bushing in the very short time period outside of the preventative maintenance cycle. As Mr. Moore specifically stated the Doble test is "a longer term condition monitoring test, as opposed to a pass/fail test".[44]

With respect to the gassing level noted by the CA see Hydro's comments in reply to Vale above. The CA quotes from Liberty's evidence at page 13 of the CA's Final Written Submissions that a test for the dissolved gas would have been simple and only required an employee to travel to Sunnyside to draw an oil sample from the transformer to be tested. However, the gassing issue was not linked to any of the incidents in question, it had been monitored for years, and in fact subsequent to the incident it has been reconfirmed that the gas level is due to gas migrating from the tap changer to the transformer tank thus validating Hydro and the manufacturer's understanding of this issue with respect to transformers of the same design and vintage as Sunnyside T1.

[44] Transcript, October 27, 2015, page 172, lines 18-22.

The CA and other parties simply wish to hang their hat on the fact that the simple failure to complete all of the preventative maintenance within the general preventative maintenance cycle is determinative. Hydro submits that in the full context it is not appropriate to make a finding of imprudence in relation to the incidents in question on this basis. Hydro's actions were, as categorically stated by its witnesses, at all times meant to provide a balance between least cost and reliable supply consistent with Hydro's mandate. Hydro utilized the best information it had at the relevant times to make its decisions and to focus on the most critical elements of reliability. The evidence supports and does not in any way contradict this.

Preventative maintenance

At the bottom of page 13 of the CA's Final Written Submissions, the CA refers to Liberty's opinion that Hydro should have identified the requirement to hire outside assistance years before they decided to undertake that effort in 2014. See Hydro's comments above in response to Vale in this regard.

At the top of page 14 of his Final Written Submissions the CA contends that in cross examination counsel for Hydro attempted to elicit from the Liberty panel that the real reason for the failure of the air blast circuit breaker was cold temperatures. He then goes on to indicate that the evidence of the panel on cross examination was that Liberty did not agree that the failure of the air blast circuit breaker at Sunnyside was the result of cold weather.

The CA's comments both misconstrue Hydro's questioning and Liberty's response. Hydro cross examined Liberty with respect to the quote from page 10 of Liberty's September 17, 2015 Reply Evidence that:

> *Hydro has also reported sufficient information from which to conclude that it has no basis, following investigation, to attribute the breaker failure to cold weather in any event.*

As was made clear from the evidence and the cross examination of Mr. Lautenschlager the cold temperatures which the breaker had been experiencing for days up to the event were a factor affecting the breaker operation.[45]

Mr. Lautenschlager also confirmed that ABB's conclusion was that:

> *The problem is probably intermittent and I also believe temperature related. This would explain why things worked OK with no problems.*[46]

At page 16 of his Final Written Submissions, the CA submits that the Board should place no weight on the intentions of Hydro as outlined in PR-PUB-NLH-166 that the Sunnyside T1 transformer would have been part of the 2014 work plan after the six-year preventative maintenance schedule had expired. It is simply inappropriate for the CA to suggest that no weight be placed on uncontroverted evidence of Hydro. Together with its response to PR-PUB-NLH-166, Hydro's position on this point was not specifically challenged and there is no evidence to suggest this evidence is anything but truthful.

The CA contends that this is an "after the fact" statement. However, Hydro explained that it fully intended to conduct the six-year preventative maintenance on Sunnyside T1 in the 2014 annual work plan, and that the work plan for 2014 was under development when T1 failed in January 2014, and as a result the six-year preventative maintenance for T1 would not have been documented in the 2014 annual work plan. Thus, there was no prior time in which Hydro would have documented this intention due to the timing of the circumstances in question. That in no way suggests any lack of veracity with respect to Hydro's evidence in this regard. Hydro submits that it is inappropriate for the CA to suggest such.

[45] Undertaking No. 78 and Transcript, November 12, 2015, page 101, line 20 to page 105, line 20.
[46] Transcript, November 12, 2015, page 105, lines 11-20.

With respect to the CA's discussion on causation at pages 17-22, as stated in Hydro's Closing Submissions,[47] the relevant regulatory jurisprudence on prudence reviews requires proof of causation between imprudent conduct and the costs incurred before recovery of such costs may be disallowed. The CA raised, in its Final Written Submissions, certain cases related to the issue of causation in Canadian negligence law.[48] The CA appears to rely on these cases in support of his position that the causation requirement can be satisfied in this case by some test other than the "but for" causation test. Hydro submits that the circumstances of this case do not permit the application of any test other than the basic "but for" test of causation, and that there is no evidence to satisfy the basic "but for" causation requirement for cost disallowance in this case.

Since the cases cited by the CA were decided, the Supreme Court of Canada in *Clements v Clements*[49] reviewed the law on causation (including the SCC cases referenced by the CA) and succinctly summarized the present state of the law in Canada regarding the legal tests available for establishing causation as follows:

> *(1) As a general rule, a plaintiff cannot succeed unless she shows as a matter of fact that she would not have suffered the loss "but for" the negligent act or acts of the defendant. A trial judge is to take a robust and pragmatic approach to determining if a plaintiff has established that the defendant's negligence caused her loss. Scientific proof of causation is not required.*
>
> *(2) Exceptionally, a plaintiff may succeed by showing that the defendant's conduct materially contributed to risk of the plaintiff's injury, where (a) the plaintiff has established that her loss would not have occurred "but for" the negligence of two or more tortfeasors, each possibly in fact responsible for the loss; and (b) the plaintiff,*

[47] Hydro's Closing Submissions pages 26-27.
[48] CA's Final Written Submissions, pages 17-19.
[49] *Clements v Clements*, 2012 SCC 32 *("Clements)*.

> *through no fault of her own, is unable to show that any one of the possible tortfeasors in fact was the necessary or "but for" cause of her injury, because each can point to one another as the possible "but for" cause of the injury, defeating a finding of causation on a balance of probabilities against anyone.*[50]

With respect to the second test, which Hydro understands that the CA is asking this Board to apply to the prudence analysis in this case, the SCC stated:

> *[…] Exceptionally, however, courts have accepted that a plaintiff may be able to recover on the basis of "material contribution to risk of injury", without showing factual "but for" causation. As will be discussed in more detail below, this can occur in cases where it is impossible to determine which of a number of negligent acts by multiple actors in fact caused the injury, <u>but it is established that one or more of them did in fact cause it</u>. In these cases, the goals of tort law and the underlying theory of corrective justice require that the defendant not be permitted to escape liability by pointing the finger at another wrongdoer. Courts have therefore held the defendant liable on the basis that he materially contributed to the risk of the injury. [underlining added]*[51]

The SCC in *Clements* properly recognized that "elimination of proof of causation as an element of negligence is a "radical step" and that "recourse to a material contribution to risk approach is necessarily rare".[52] Indeed, at least as of the time *Clements* was decided, "while accepting that it might be appropriate in "special circumstances", the Court has never in fact applied a material contribution to risk test."[53]

[50] *Clements*, at para. 46.
[51] *Clements*, at para. 13.
[52] *Clements*, at para. 16.
[53] *Clements*, at para. 28.

The "special circumstances" recognized by the SCC in *Clements* as permitting the exceptional application of the material contribution to the risk approach in substitution for the "but for" test of causation are not present in this case. Just because proof of causation on the "but for" test cannot be made out on the facts of this case (which the CA acknowledges is the case at page 19 of his Final Written Submissions) does not mean that the material contribution to the risk approach suggested by the CA may be applied in this case. As the SCC in *Clements* stated:

> *What then are the cases referring to when they say that it must be "impossible" to prove "but for" causation as a precondition to a material contribution to risk approach? The answer emerges from the facts of the cases that have adopted such an approach. Typically, there are a number of tortfeasors. All are at fault, and one or more has in fact caused the plaintiff's injury. The plaintiff would not have been injured "but for" their negligence, viewed globally. However, because each can point the finger at the other, it is impossible for the plaintiff to show on a balance of probabilities that any one of them in fact caused her injury. This is the impossibility of which Cook and the multiple employer mesothelioma cases speak.*
>
> *The cases that have dispensed with the usual requirement of "but for" causation in favour of a less onerous material contribution to risk approach are generally cases where, "but for" the negligent act of one or more of the defendants, the plaintiff would not have been injured. This excludes recovery where the injury "may very well be due to factors unconnected to the defendant and not the fault of anyone": Snell, per Sopinka J., at p. 327. The plaintiff effectively has established that the "but for" test, viewed globally, has been met. It is only when it is applied separately to each defendant that the "but for" test breaks down because it cannot be shown which of several negligent defendants actually launched the event that led to the injury. The plaintiff thus has shown negligence and a relationship of duty owed by each defendant, but faces failure on the*

> *"but for" test because it is "impossible", in the sense just discussed, to show which act or acts were injurious. In such cases, each defendant who has contributed to the risk of the injury that occurred can be faulted. [underlining added]*[54]

The critical element for applying a material contribution to the risk of injury test instead of a "but for" test is "the impossibility of proving which of two or more possible tortious causes is in fact the cause of the injury".[55] The classic scenario in which the material contribution to the risk of injury test may be applied is the situation referred to in the quote from *Clements* above where it was impossible to say which of two shots negligently fired by two hunters in the woods struck a third hunter. The plaintiff was subject to negligent conduct "but for" which he would not have been injured, but it was not possible to determine which negligent tortfeasor caused his injuries. In circumstances where both defendants had breached their duty of care and subjected the plaintiff to an unreasonable risk of the injury that in fact materialized, it would have been unjust to permit each of the negligent defendants to escape liability by pointing the finger at each other.[56]

The present prudence review is not a case where there are multiple tortfeasors, nor is it even a case where it can be said that causation has been proven even with respect to one alleged "tortfeasor" (i.e., Hydro). The SCC in *Clements* considered and rejected the possibility of applying a material contribution to risk approach to a single tortfeasor scenario, commenting that "courts in Canada have not applied a material contribution to risk test in a case with a single tortfeasor."[57] As such, whether Hydro's imprudence may result in a cost disallowance in this case requires proof of causation on the "but for" standard (which has not been satisfied as acknowledged by the CA) and no other test may properly be substituted for the causation requirement in this case. The material contribution test relied on by the CA is simply not applicable to the current case. Thus, his conclusion at the bottom of page 20/top of

[54] *Clements*, at paras. 39-40.
[55] *Clements*, at para. 45.
[56] *Clements*, at para. 18-19.
[57] *Clements*, at para. 42.

page 21 of his Final Written Submissions that Hydro's deferral of preventative maintenance legally caused the injury suffered by its customers has no foundation and is not correct.

The reference in the articulation of the 'but for' test of causation in *Snell,* referred to by the CA, to an inference of causation being permitted in certain circumstances does not mean that a decision-maker does not require any evidential basis on which to conclude that negligent conduct caused the injury. Rather, the statement in *Snell* that the "evidence adduced by the plaintiff may result in an inference being drawn adverse to the defendant"[58] plainly requires that there first be evidence adduced by the plaintiff on which such an inference may be drawn.

Given the absence of evidence that Hydro's failure to complete all its preventative maintenance within the general PM cycle caused the losses now claimed to be recovered, there is no basis in this case on which such an inference may be made. In the negligence context, the requirement that "a substantial connection between the injury and the defendant's conduct" exist ensures that recovery is excluded where the injury "may very well be due to factors unconnected to the defendant and not the fault of anyone".[59] In the regulatory context of this case, costs may not be disallowed where there is no evidence that Hydro's actions in fact resulted in the losses now being sought to be recovered and where those losses may equally have been due to other factors.

As stated by the SCC in *Clements*:

> *On its own, proof by an injured plaintiff that a defendant was negligent does not make that defendant liable for the loss. The plaintiff must also establish that the defendant's negligence (breach of the standard of care) caused the injury. That link is causation.*[60]

[58] *Snell,* at para. 32.
[59] *Snell*, at para. 26, as referred to in *Resurface* v. *Hanke*, at para. 23.
[60] *Clements*, at para. 6.

This is fully consistent with the findings in *Public Service Commission of the State of Missouri* in the regulatory context, cited at pages 26-27 of Hydro's Closing Submissions.

There is no evidence that Hydro's failure to complete all its preventative maintenance within the general PM cycle itself caused the losses now claimed to be recovered. As a result, and as Liberty necessarily framed the issue, the most that can be alleged is that Hydro's actions may have resulted in a lost opportunity to avoid the loss now claimed. As set out in Hydro's Closing Submissions,[61] the loss of chance doctrine relied upon by Liberty is not a proper foundation for satisfying the causation requirement of the prudence test contained in the relevant regulatory jurisprudence.

Black start

With respect to the CA's comments regarding the used and useful life of the black start diesels and Hardwoods UFOP see Hydro's reply comments above to Vale.

On pages 23-25 of his Final Written Submissions the CA essentially just reiterates statements made by Liberty. He indicates in part that there was not a thoughtful analysis completed by Hydro in determining that Hardwoods would be the best option for black start of the Holyrood plant. However, the CA completely neglects the extensive evidence of Hydro on this topic, including the specific testimony of Mr. Henderson highlighted in detail at pages 12-13 of Hydro's Closing Submissions, where Mr. Henderson in part respectfully totally disagreed with questioning from Board counsel that Hardwoods was not an appropriate interim option for Hydro looking at the evidence facing Hydro at the time.

Hydro submits that the full evidence, as summarized in detail on pages 11-14 of Hydro's Closing Submissions, does not at all support the CA's characterization. The CA has painted a very one-sided picture of the evidence in this regard.

[61] Hydro's Closing Submissions, pages 27-28.

The CA then goes on to apparently attempt to discredit the testimony of La Capra. Hydro submits that such a characterization is completely inappropriate and not supported by the record. Undertaking Nos. 92 and 93 indicate the extensive review carried out by La Capra in this regard, including email communications with various management and staff. The CA refers to the fact that Mr. LeDrew was only present on one of the teleconferences with La Capra. In fact, Undertaking No. 92 makes it clear that Mr. LeDrew was involved in four separate discussions with the La Capra representatives. It appears that the CA is only referring to the time period before the filing of La Capra's initial evidence and not the ongoing discussions that continued for the preparation of La Capra's reply evidence and witness preparation. Mr. LeDrew was available throughout the time period to La Capra and it is clear that he was involved in ongoing discussions with La Capra, and there is nothing to suggest that the La Capra witnesses were not fully informed of the background to the black start situation. As well, Mr. LeDrew was only one of many Hydro representatives with whom La Capra communicated as is clear from Undertaking No. 92.

The La Capra witnesses are highly qualified senior electricity industry experts and La Capra is a well recognized energy consultant firm. These witnesses provided independent testimony under cross examination and fully maintained their view that Hydro's decision to rely on Hardwoods in the prevailing circumstances as an interim solution was not unreasonable. Hydro submits that, quite to the contrary of what the CA is suggesting, these witnesses testimony should be given significant weight. Hydro submits that these witnesses acted fully impartially and independently and it was clear from their testimony and credentials they were knowledgeable and professional with respect to the issues in question.
On page 26 of his Final Written Submissions, the CA states that the La Capra panel was unable to identify the members of the Hydro team that they dealt with during the formulization of their report. This again is quite an overstatement. In response to Board counsel's questions on who the team of individuals were who La Capra discussed black start with, Mr. Di Domenico responded as follows:

> *I'm not sure I can give you the exact record, if you will, of exactly who was on the call. I know Mr. Henderson was part of the calls for the most part but I don't know the whole team that was on the calls.*

Simply because Mr. Di Domenico could not recall all participants in each call, of which there were several individuals as indicated in Undertaking No. 92, does not at all suggest that La Capra were unaware of the individuals they were dealing with. Upon a review of the applicable records, this information together with the information relied upon by La Capra, were provided in response to Undertaking Nos. 92 and 93.

Again at page 26 of his Final Written Submissions, the CA suggests that La Capra indicated their opinion that for an extended period of time, long before 2010, Hydro had Hardwoods as an acceptable alternative to black start Holyrood and that this statement is incorrect.

Again, Hydro submits that this statement is not incorrect, and that it is clear from the record that Mr. Di Domenico's understanding was that Hardwoods was always part of the area restoration plan. The Consumer Advocate refers to Mr. Henderson's testimony on October 27, 2015, where he indicated that following January 2012 Hydro put Hardwoods operators through specific training so that they would be able to restart Holyrood. However, this in no way limits the fact that Hardwoods was always part of the overall grid area restoration plan.[62] Rather, Mr. Henderson was simply noting that very specific operator training was put in place once Hardwoods was being particularly relied upon in the absence of the black start on-site CT. Restoration from the system, including Hardwoods, was always part of the area restoration plan as is clear from the record, in particular Mr. Henderson's testimony on October 27, 2015.

At the end of his discussion on black start at page 30 of his Final Written Submissions the CA submits that any costs related to the leasing and installing of the diesel generators should be removed from any permitted 2014 revenue deficiency recovery and the 2015 Test Year as otherwise Hydro's imprudence will be without consequence to Hydro.

[62] Transcript, October 27, 2015, page 20, line 17 to page 21, line 6 and page 35, line 17 to page 36, line 10.

Again, the CA, like Vale and others, is suggesting that Hydro must be penalized if there is a finding of imprudence, even where there is no nexus between the basis of the penalty, or the amount of the penalty, and Hydro's actions. The CA cites no regulatory support for this proposition. Hydro submits that it is not appropriate to disallow costs simply because an action may be determined to be imprudent. In the specific circumstances surrounding the black start issue there is no requirement for a disallowance. Certainly a disallowance in the order of magnitude of $6 million would be extraordinary. As noted in Hydro's Closing Submissions and above, in similar circumstances, the Nova Scotia Utility and Review Board has not found a disallowance. The concept of simply penalizing the utility, particularly within the full context of Hydro's decision making around the black start issue, is not countenanced by regulatory precedent nor is it appropriate. As Mr. Athas of La Capra, who has significant experience with electricity regulation noted:

> *. . . associating recovery of the investment with an inaction at some other time is misleading, in my frame of mind.*[63]

Breaker B1L17

At page 31 of his Final Written Submissions, the CA states with respect to Breaker B1L17 that the post-installation tests "were not designed to detect the presence of water in the receiver tank". However, Hydro's evidence specifically noted that Hydro exercises its breakers prior to putting them back into service utilizing clean, dry air from the compressed air system and it had been performing regular dew point tests on its compressed air system consistent with the practice of other utilities. Accordingly, Hydro had no reason to check for moisture in the receiver tank based on prior experience and testing practices.[64]

At the top of page 33 of his Final Written Submissions, the CA indicates that under cross examination the Hydro panel could not confirm the material of which the covering was made nor could they confirm

[63] Transcript, November 2, 2015, page 59, line 25 to Page 160, line 2.
[64] Hydro Reply Evidence, page 18, lines 22-25.

how the covering was secured. Again, this is in Hydro's submission an incorrect interpretation of the evidence. Mr. Moore was specifically asked what sort of material the covering was made out of, was it nylon, rubber, canvass, and he did state he did not know right off the top of his head. However, he then went on to specifically state that:

> *. . . you know, they would pick – use a material that would be very secure, heavy duty, able to sustain our weather elements that they're certainly quite familiar with our equipment operating*[65]

The CA did not specifically follow up with Mr. Moore to ask for an undertaking or otherwise with respect to the precise material of the covering.

Likewise, and in addition to his reference regarding the use of a very secure material, Mr. Moore noted that:

> *. . . it would be a brand new suitable cover – of suitable weather tightness and durability for our elements*[66]

So to suggest that the evidence of Hydro was that it was unaware of the nature of the covering or how it was secured is not in Hydro's submission an appropriate characterization.

The CA then submits, on page 33 of his Final Written Submissions, that the temporary cover that was installed by Hydro did not carry out its function as intended. But even if that was shown evidentially to be the case, which it has not, that is a far cry from finding Hydro's actions in covering the equipment to be imprudent.

---

[65] Transcript, October 30, 2015, page 98, lines 14-19.
[66] Transcript, October 30, 2015, page 99, lines 17-23.

Further, on the same page, the CA submits that placing a breaker in a situation where it is exposed to the elements is inappropriate. But of course Hydro did not put the breaker in a situation where it was "exposed" to the elements.

Extraordinary repairs

With respect to the CA's comments on pages 37 and 38 regarding extraordinary transformer and breaker repairs see Hydro's reply comments above in response to Vale.

Supply costs

With respect to the 2014 supply costs, at the bottom of page 41 of his Final Written Submissions, the CA submits that Liberty has demonstrated that the assumptions it used are more reasonable than those suggested by Hydro. Hydro submits that for the reasons detailed in its Closing Submissions and above in reply to Vale that this is not the case. The CA provides no rationale for its submission except quoting Liberty's own position.

Betterment

With respect to the betterment issue, at page 43 of his Final Written Submissions, the CA submits that replacement assets should only be put in rate base at the point in time when they would have ended their normal life, and to do otherwise effectively rewards Hydro for its imprudence. This simply is not the case. The betterment approach taken by Hydro only reflects the costs of the already consumed value of the replaced assets at the time they came out of service, and Hydro would remain fully responsible for the portion of the replacement costs associated with what would have been the remaining undepreciated value of the assets at the time they came out of service. Hydro has simply indicated that its approach is more consistent with similar accounting treatment at Hydro and does not require further determinations on end of life considerations, which require further evaluation. Under no circumstance would Hydro be rewarded for imprudence, if the Board were to find such, if it followed Hydro's suggested betterment approach. In fact the approach suggested by Hydro would specifically take account of such an imprudence finding.

With respect to the CA's discussion at page 43-46 of its Final Written Submissions of Hydro's response to PR-CA-NLH-014, as Hydro noted both in that response and in its Closing Submissions, the information provided was indicative of the issues raised by Liberty's various approaches, and dealt with items in which Liberty's approach would cause issues such as double counting and recovery not requested from customers. However, Hydro specifically noted that the information and quantifications provided may have to be adjusted as part of any ultimate compliance filings for the 2014 and 2015 Test Years. Hydro submits that the compliance filing is the appropriate place to confirm the cost consequences with respect to a finding of imprudence, if any, by the Board.

5. IICs

The IICs have focussed their Written Submissions solely on Hydro's Black Start Application, to which Hydro makes the following reply.

Hydro's actions characterized as "inexplicably dilatory" in addressing the issue of on-site black start at Holyrood

Hydro disagrees entirely with the general characterization of Hydro as having been "inexplicably dilatory" in its actions in addressing the issue of on-site black start. Hydro submits that the IICs are representing a single period of time in hindsight using selective dates, rather than considering all of the external factors impacting Hydro's decision making and Hydro's efforts and activities during the period in question. The evidence clearly demonstrates a continuous effort on Hydro's part from 2010 until the filing of the Black Start Application in 2013, to ensure the presence of effective and reliable on-site black start at Holyrood (and in the absence of on-site black start, to ensure the availability of a cost efficient and appropriate interim solution until the on-site black start option could be finally determined).

Hydro submits that contrary to the selective submission of the IICs on the black start timeline, the entirety of the evidence related to Hydro's activities during this period should be considered. Further, the evidence demonstrates that the period March 2010 (when the stop work order was issued regarding the Holyrood gas turbine ("GT")) to November 2013 (when Hydro filed the Black Start Application) should be viewed as three distinct periods in which different external factors drove Hydro decision

making about on-site black start. These periods are represented in the timeline with associated references to the evidence (Table 1 following) and are described below.

1. **Stop Work Order and Rectification Activities (March 2010 to January 2011)**. Following the issuance of the stop work order in March 2010, Hydro was undertaking activities to rectify the stop work order and concurrently gathering condition assessment information from AMEC and other OEMs. A capital budget application was prepared in the summer and filed in August 2010 to overhaul the Holyrood GT, and in September, 2010 the Board was advised of the stop work order. Efforts during this period were focussed on rectifying the stop work order and appropriately and reasonably assessing the condition of the Holyrood GT to determine options. Given there was an overall assessment of the entire Holyrood plant underway (which included a Level 1 assessment of the Holyrood GT), it was determined that extensive capital work on the Holyrood GT should be deferred until that assessment was completed. Hydro submits this was a reasonable approach in the prevailing circumstances. The full condition assessment of the entire Holyrood plant (including the Holyrood GT) was not completed by AMEC until January 2011. In this period (the 10 months from March 2010 to January 2011), Holyrood was without on-site black start, but was able to avail of the grid as needed in the event restoration was required.[67]

2. **Stop Work Order Lifted; Options Considered (February 2011 to December 2011)**. Following work by Hydro, the stop work order was lifted in February 2011 and the Holyrood GT was able to be used, albeit for emergency purposes, for most of 2011. Hydro continued its process to obtain advice from AMEC as to the condition of the Holyrood GT in order to formulate options for refurbishment/replacement. An RFP process was followed for a Level 2 assessment specific to the Holyrood GT and a contract awarded in the spring of 2011. Following a site visit by AMEC in the spring/summer of 2011, AMEC submitted an initial version of its report in August 2011,

[67] Transcript, November 2, 2016, page 128.

which was subject to Hydro feedback, and a final report issued in December 2011.[68] Again Hydro submits its activities during this time were fully reasonable.

3. **Holyrood GT No Longer Able to be Used; Focus on Single CT Solution (January 2012, to September 2013).**

   a. ***January 2012 to January 2013***. The AMEC Level 2 condition assessment resulted in Hydro having to discontinue use of the Holyrood GT in January of 2012. Hydro pursued evaluation of various options, while concurrently developing a written instruction and additional training[69] for the use of Hardwoods as the primary interim black start solution. Concurrently, Hydro was reviewing and considering additional capacity needs which were identified to be in service in 2015. The review of the requirement for additional generation presented an opportunity to resolve both capacity and black start issues, and during 2012 Hydro proceeded to explore a single option that would serve both purposes. Additional factors had to be considered in ensuring a cost effective and reliable implementation of a new CT (for both capacity and black start purposes), including a risk assessment, budgeting and a careful review of various options in the marketplace. Hydro made the reasoned decision to proceed with a single solution to be in service in 2015 with Hardwoods remaining the interim solution.

   b. ***February 2013 to September 2013.*** In January 2013, a severe weather event resulting in an outage and isolation of Holyrood from the grid caused Hydro to seek additional options for on-site black start. Immediately after the January 2013 outage, Hydro contacted NP seeking its mobile generation (mobile gas turbine and mobile diesel generation) as a possible interim on-site black start solution, which was installed, tested in May of 2013, and determined unable to fully black start the plant. Hydro continued to pursue the single CT option, until directed by the Board in October 2013 to present other, accelerated options to address the Board's concerns.

[68] PR-PUB-NLH-002, Attachment 1, page 3 of 371.
[69] Transcript, October 27, 2015, page 35, line 17 to page 36, line 10.

Table 1: Black Start Timeline

Year	Month	Key Dates	Reference	Summary of Activities
2010	March	HRD GT stop work order issued by OHS (Mar. 30, 2010)	PUB-NLH-027 (Black Start Application), Attachment 1	Hydro working to rectify stop work order and gather information from OEMs and consultants on ongoing condition of HRD GT
	April			
	May			
	June			
	July			
	August	Capital Budget Application ("Overhaul Gas Turbine") filed	Information #31; IC-NLH-010 (Black Start Application), Attachment 5, page 5	
	September	Capital Budget Application project ("Overhaul Gas Turbine") deferred for completion of AMEC Level 1 Condition Assessment (expected Oct. 2010) (includes reference to the OHS stop work order)	Information No. 32	
	October			
	November	Rolls-Wood inspection of HRD GT (condition survey and borescope)	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 354	
	December			
2011	January	GNL provides clarification on requirements to put HRD GT back in limited purpose service	PUB-NLH-027 (Black Start Application), Attachment 2	
		Level 1 Condition Assessment for HRD (including HRD GT) completed	Undertaking No. 82	
	February	HRD GT OK for emergency use only (stop work order lifted)	PUB-NLH-027 (Black Start Application), Attachment 4	Hydro has on site black start in HRD GT, but exploring other options (due to limited use)
		Siemans inspection of HRD GT	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 312	
		Greenray inspection of HRD GT (power turbine and gearbox assessment)	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 303	
		Braden Manufacturing inspection of HRD GT (exhaust stack and interior building exhaust components	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 300	
	March			
	April	[*general period*] Contract awarded to AMEC for Level 2 Condition Assessment	Undertaking No. 84	
	May	AMEC HRD GT site visit	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 32	
	June			
	July			
	August	Version 0 of AMEC Level 2 Assessment issued to Hydro	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 3	
	September			
	October			
	November			
	December	Version 1 of AMEC Level 2 Assessment issued to Hydro	NP-NLH-022 (Revision 1, Aug 5-14) (Black Start Application), Attachment 1, page 3	

Year	Month	Key Dates	Reference	Summary of Activities
2012	January	Holyrood GT cannot be operated	IC-NLH-010 (Black Start Application), page 2	Hydro looking at HWD and NP mobile generation as short term black start solutions while seeking a combined long term capacity and black start solution
	February			
	March	Worley Parsons risk assessment workshop for CT siting	CT Application, Appendix F1	
	April	Internal discussion re siting of the CT at Holyrood as black start solution in addition to capacity	PUB-NLH-013 (Black Start Application), Attachment 6	
	May			
	June	T-007 (Operating instruction re HWD) issued	CA-NLH-019 (Black Start Application), Attachment 10	
	July			
	August			
	September			
	October			
	November	*Generation Planning Issues Report* identifies need for 50MW CT in 2015	PUB-NLH-001 (Black Start Application), Attachment 1	
	December			
2013	January	HRD outage (no ability to black start plant - Jan. 11, 2013)		
		Hydro explores installing NP mobile generation at HRD	PUB-NLH-013, Attachment 9	
		Hydro makes enquiries on the availability of units up to 60MW capacity for immediate using in supporting generation needs.	GT-PUB-NLH-031 (CT Application)	
	February	Planning for installation of NP mobile generation at HRD	PUB-NLH-013, Attachment 11	
	March			
	April	NP mobile generation connected at HRD and initial tests conducted	IC-NLH-010 (Black Start Application), page 3	
	May	NP mobile generation tested at HRD for system support	CA-NLH-001 (Black Start Application)	
		NP mobile generation disconnected and returned for NP capital and maintenance program	IC-NLH-010 (Black Start Application), page 4	
	June			
	July			
	August			
	September			
	October	Directive from the Board	IC-NLH-010 (Black Start Application), Attachment 5	
	November	Hydro submits report to the Board as requested and subsequently, the Black Start Application is filed with the Board	IC-NLH-010 (Black Start Application), page 4; Black Start Application	
		Hydro requests return of NP mobile GT	IC-NLH-010 (Black Start Application), page 4	
	December	NP mobile GT reconnected at HRD	IC-NLH-010 (Black Start Application), page 4	

Year	Month	Key Dates	Reference	Summary of Activities
2014	January	Hydro requested proposal of new and aftermarket CTs to submit high level budgetary proposals	GT-PUB-NLH-031 (CT Application), page 2	
	February			
	March			
	April	CT Application filed with the Board	CT Application	
		Black start diesels interconnected with HRD	CA-NLH-021 (Black Start Application)	
	May			
	June			
	July	Black start diesels in service	CA-NLH-021 (Black Start Application)	
	August			
	September			
	October			
	November			
	December			
2015	January	New CT in service (black start diesels in service)		
	February			
	March			
	April			
	May			
	June			
	July			
	August			
	September			
	October			
	November			
	December			

	On site black start available at HRD
	Reliance on offsite sources for black starting HRD with no alternate proposals to the Board filed
	On site black start generation installed - to be tested

As noted in Hydro's Closing Submissions and La Capra's evidence, it would have been open for Hydro to simply spend money to implement an on-site black start solution at Holyrood in a shorter timeframe.[70] However, in seeking a lowest cost, reliable solution for its customers, Hydro took reasonable and considered steps at each stage of the process to ensure it was making the right decision for both the infrastructure at Holyrood and Hydro's customers as a whole, in the context of the information available to it at the relevant times. Further, Hydro did so with a full understanding of the history of on-site black

[70] Hydro Closing Submissions, page 15.

start requirements at the Holyrood plant[71] and the risks involved in not having on-site black start at Holyrood. Hydro submits that only a review of the full timeline and Hydro's considerations at each stage, without hindsight, will allow the Board to render a fully informed decision on prudence. Hydro submits that within such context its decisions and actions were reasonable.

AMEC Level 2 Condition Assessment of the Holyrood GT and timing

The IICs state that Hydro has provided "no satisfactory explanation" as to the period between the disclosures to the Board in the fall of 2010 (concerning the stop work order for the Holyrood GT) and the AMEC Level 2 condition assessment delivered in December of 2011. As noted above, Hydro proceeded to seek advice on the condition of the Holyrood GT to allow it to make an informed decision as to the value of overhauling the asset. Following receipt of the January 2011 Level 1 condition assessment on the Holyrood plant, Hydro set about to tender, award, and subsequently work with AMEC to finalize a Level 2 condition assessment specifically focussed on the Holyrood GT. Tendering processes, condition assessment and report creation are not instantaneous processes. Given the decision at hand (extensive overhaul versus replace), careful analysis had to be performed to ensure that the appropriate decision could be made and justified. Hydro submits that there is nothing unreasonable about its actions and the timelines that occurred in this period.

The IICs have further stated that Hydro "failed to act on any of the options for Holyrood black start identified by AMEC".[72] That is simply not the case. As stated by Mr. Humphries during the hearing, Hydro was faced with a decision on a generation need, which also presented a possible least cost option for black start at Holyrood.[73] While not an option noted by AMEC (who were of course retained only to provide black start options and not capacity addition options) it would have been imprudent to have ignored this new option and simply commenced the process for acquiring a new black start resource

[71] Hydro Closing Submissions, page 13.
[72] IIC Prudence Submission, page 6.
[73] Transcript, October 27, 2015, page 66, lines 16 to 24.

beginning in 2012. An evolution of thinking is not inaction. It is, in fact, a considered approach to system planning.

Timing of implementation of black start diesels and hindsight

The IICs, on page 7 of their Written Submissions, state the following:

> *…[G]iven the urgency with which Hydro had purported to view black start capability at Holyrood and given that Hydro has, since November 2013, been able to implement 2 distinct projects intended to restore full black start capability at Holyrood (the November 2013 black start diesels project, applied for in November 2013 and operational by January 2014; the 100 MW CT project, applied for in April 2014 and operational by January 2015), it would have been reasonable to expect that Hydro could have restored reliable black start capability at Holyrood before the commencement of the 2012-2013 winter season. Indeed, the Level 2 Assessment Report and consequent January 2012 decision that the Holyrood gas turbine was no longer safe to operate (a state of affairs that no doubt existed for some time and which would have been determined by July 2011 [i]f the Level 2 Assessment report had been delivered on time) should have kick-started [if] Hydro's process for restoration of black start capability at Holyrood.*

Further, at page 8, the IICs observe, "it is noteworthy that once applied for, this interim solution was able to be implemented on a very substantially abbreviated timeline of less than 3 months". Hydro submits this assessment is entirely hindsight and completely inappropriate for a review of the decisions at the relevant time. The ultimate timing of the implementation of the black start diesels has no bearing on whether a decision two years previous was reasonable or not. The only information before Hydro at that time (December 2011) was that provided by AMEC in its Level 2 condition assessment. The various options outlined by AMEC had earliest in-service dates of March 2013 (new/used), May 2013 (new) and October 2013 (refurbishment of the existing Holyrood GT) based on

commencement of the applicable processes as in August/September, 2011. Hydro's only known options in 2011 were solutions that would not have been available in the 2012-2013 winter period (including during the January 2013 outage).[74] The fact that subsequent solutions were ultimately installed in a shorter timeframe in 2014 has no correlation whatsoever to whether decisions in the 2011 to 2013 period were reasonable or not. Consistent with the test for prudence, Hydro's decisions at the relevant time were reasonable.

Costs and benefits of alternate solutions

With respect to costs and benefits of alternate solutions and timing, the IICs present hypothetical scenarios and make a number of assumptions with no evidentiary basis to support their submissions.

First, on page 9 of the IICs Written Submissions, the IICs appear to argue that the hypothetical implementation of an interim black start solution (presumably in 2012) should have been considered, even with the projected 2015 CT in service date. As noted, there is no evidence to suggest that a black start solution could have been installed in 2012, based on the information before Hydro at the time, and likely not before the end of winter 2013, at the earliest. Further, there is no evidence (nor was it put to any witness at the Hearing) that a solution, installed in 2013 would have an "enhanced terminal value" upon installation of the new CT. It is a purely hypothetical scenario. In fact, as evidenced by the current situation, present circumstances suggest it is appropriate for Hydro to keep six of the diesel units even with the CT.

Second, on page 9 of the IIC Written Submissions, the IICs also argue that had the units been purchased in 2012, "[i]t is reasonable to assume this additional cost to customers would have been even less if diesel units purchased in 2012 could have been sold by 2015". Again, the IICs provide no evidence to support the costs for similar diesels during the period, and no evidence to support their hypothetical scenario of a 2015 sale. In fact, the IICs statement is premised on Hydro's response to IC-NLH-001 in

[74] PR-PUB-NLH-002 Attachment 1, pages 8-10, 143-144 and 169-170. See also Transcript, October 27, 2015, pages 38-39.

Hydro's 2015 application to procure 12 MW of diesel generation, and Hydro specifically noted in that response the various issues with the hypothetical request being made and the hindsight nature of the scenario in question.

Third, the IICs also make erroneous assumptions about the benefit an earlier installation of a black start solution could have provided.[75] As indicated, the evidence is that a black start solution would not have been available prior to the January 2013 event, even if installed immediately following the initial scheduled finish of the AMEC Level 2 condition assessment of July 2011. As noted previously, the initial version of the AMEC report was provided in August 2011 (revised in December 2011) and the timelines for completion of both proposed GT/diesel options ran from a commencement of the necessary processes in late August/early September. These timelines did not run from a date following December 2011. This is made abundantly clear in the Schedules provided at pages 143 and 144 of PR-PUB-NLH-002 Attachment 1. Thus there is no evidence suggesting a possibility of any solution being available prior to January 2013.

Fourth, the IICs argue that the current black start solution "does not meet the used and useful test for prudent expenditure, in a manner consistent with least cost, reliable service". In response, Hydro reiterates its submissions at page 20, lines 1-15 of its Closing Submissions and submits that there is no basis for this argument.

Finally, the IICs state on page 11 of the IICs Written Submissions, that the Worley Parsons report of March 2012 indicated that Hydro's planning was well advanced with respect to the need [for] a new gas turbine generation source. This is a qualitative assessment of the status of Hydro's planning based on a siting report, and while planning was underway for a possible new CT, the evidence clearly shows as indicated in reply to Vale above, that due to the changing supply planning situation support for construction of the CT at an earlier time was not fulsome. Hydro refers the Board to pages 9-11 of its

[75] IIC Written Submissions, pages 9-10.

Closing Submissions that summarizes Hydro's evidence on the timing related to the ultimate CT installation. Hydro submits that the IICs conclusion is not supported by the evidence.

Use of Hardwoods

The IICs state that Hardwoods was "an unreliable area restoration response" and was not "a true 'black start' capability for Holyrood" as understood by La Capra, Hydro's consultant, or Hydro itself.[76] As Hydro stated in its Closing Submissions, this was not the case. While Hydro had no on-site black start for Holyrood during the periods in which the Holyrood GT was unavailable, it appropriately relied on its area restoration plan, which was a reasonable decision in the context, and as indicated in Hydro's Closing Submissions and through the testimony of La Capra, a reasonable option available to it under the NERC Guidelines.[77] Further, as noted in Undertaking No. 81, and above in reply to Vale's Final Submissions, the UFOP was comparable to the range seen by other CEA members during the same period.

"Blocks" of generation capacity as a solution to the black start issue

On page 15 of the IIC Written Submissions, the IICs state as follows:

> *Hydro should have made application to the Board in early 2012, at the latest, to review the options for black start capability at Holyrood. It is reasonable to expect that the solution of installation of 25 MW (or under 50 MW) of gas turbine generation at Holyrood in time for the commencement of the 2012-2013 winter season could have been identified at that time, with due review of the options before the Board. Such a solution would have kept Hydro's options open to add additional blocks of 25 MW generation capacity, as required.*[1]

The references cited by the IICs in support do not in any way support this argument. Mr. MacIsaac, in his testimony of November 5, 2015 does discuss "additive" options, but purely in the context in the

[76] IIC Written Submissions, page 14, lines 20-23.
[77] Hydro Closing Submissions, page 16, line 32 to 17, line 11.

range of searches conducted in 2012 by Hydro for combustion turbines.[78] Undertaking No. 108 discusses options explored by Hydro in 2012, none of which turned up 25 MW turbines as described above.[79] GT-PUB-NLH-031 discusses the options explored by Hydro following the January 2013 outage at Holyrood, none of which turned up 25MW turbines as described above.

There is absolutely no evidence that a 25 MW "additive" black start/generation capacity solution existed in reality. In fact, the evidence shows that Hydro was open to considering additive solutions, but did not find any as described by the IICs. Further, there is no evidence that this option, even if found and used for on-site black start at Holyrood, would have resulted in a solution that ultimately could have been expanded as required (and at least cost) to meet Hydro's generation needs.

Planning decisions made by 2012

At page 15 of the IICs Written Submissions, the IICs state that Hydro "had all the information, and the incentive given the acknowledged need for reliable black start capability at Holyrood, to have made reasonable planning decisions by early 2012". There is no evidence to suggest that Hydro was taking anything other than a reasoned approach in early 2012 in this regard. The following points should be noted:

- As of January 2012, the evidence had shown that Hydro was aware of these key facts: (1) Hydro had become aware via the AMEC report that an on-site black start only solution at Holyrood would not be available to Hydro until March 2013 at the earliest; (2) area restoration from Hardwoods was an option and in that timeframe, the only option available to Hydro for black starting the Holyrood plant; and (3) an opportunity was presenting itself (with the determination of a generation requirement) that could lead to a solution to the long term black start requirement at Holyrood. There is simply no evidence to suggest that in early 2012, Hydro could have availed itself of a hypothetical 25 MW (or under 50 MW) option before the end of

[78] Transcript, November 5, 2015, page 60, lines 3 to 23.
[79] The smallest unit noted was 41MW.

2012 as suggested by the IICs.[80] Even if there was such an option, there is no evidence that this would have been a least cost (or effective) solution to the issue at hand.

- Contrary to the assertions of the IICs at page 16 of the IIC Written Submissions and as previously noted, the only known solutions at the time would not have provided support for the entirety of the period December 2012 to January 2014 and, based on the information known at the time, not during the January 2013 outage.

Decision sought

The IICs argue that Hydro customers (including the IICs) "ought not to bear any of the capital, lease, operational, fuel or other costs in respect of the eight (8) 2MW diesel units installed at Holyrood."[81] Hydro reiterates it submissions at pages 20 (line 17) to 21 (line 21) of its Closing Submissions in this regard, and submits that any penalty, particularly one in excess of $6 million, when reviewed in the full context of Hydro's ongoing and considered approach during the periods in question, as previously described, is simply not supportable.

6. MR. DANNY DUMARESQUE

Hydro makes the following reply to Mr. Dumaresque's submissions on the CT.

Cost of the CT and fair market value

On page 3, paragraph 10 of Mr. Dumaresque's prudence Submission, Mr. Dumaresque states:

> *Given the age of these assets at the time, seven years old and five years old respectively, the usual amortization that would accompany these aging assets*

[80] IIC Written Submissions, page 16. See Undertaking No. 108, where the earliest indicated installation date for any of the solutions listed in that undertaking (all 41 MW or larger) was more than 12 months.
[81] IIC Written Submissions, page 176.

> *strongly suggests that the CT package advertised for "$23 million or nearest offer" would have likely been available for a lower price than that advertised.*

Hydro refers to its Closing Submissions, pages 7 and 8, and as noted by Mr. MacIsaac in his testimony of November 5, 2015, the project was subject to a public tendering process, which was the process utilized by Hydro to determine fair market value.[82] Contrary to the assertions by Mr. Dumaresque above and in his concluding comments at page 6, paragraph 25 of his prudence Submission, there is nothing imprudent about engaging in a public tendering process that seeks to derive value for customers, conducted in accordance with the *Public Tender Act*.

At page 3, paragraph 10, Mr. Dumaresque makes mention of "confirmation" of the USD$23 million value via a fair market appraisal on a similar unit conducted by R.W. Beck. As noted by Mr. MacIsaac, this appraisal was conducted in the context of a transfer of assets from a regulated to a non-regulated entity and thus Hydro submits it is not relevant in this context.[83]

Despite detailed testimony on the component pricing by Mr. MacIsaac, Mr. Dumaresque continues to suffer from a fundamental misunderstanding on the budgeting of this project. At page 3, paragraph 13 of his prudence Submission, Mr. Dumaresque goes on to state that "[t]he contract awarded by Hydro to ProEnergy for the CT package portion of the Consolidated Agreement is valued at approximately USD$54.7 million". The evidence is clear that the CT package portion was USD$31.5 million,[84] consistent with the referable model M501DA fair market values provided in Information No. 36. The additional costs beyond the USD$31.5 million were as explained by Mr. MacIsaac in his testimony, and included (but were not limited to) such items as: a step-up

[82] Transcript, November 5, 2015, page 190.
[83] Transcript, November 5, 2015, pages 188-189. Information No. 37.
[84] Undertaking No. 131.

transformer, switch gear, the diesel fuel delivery system, air inlet system, snow doors, water treatment plant, the SCADA and communications system and the CT black start plant.[85]

Price of installation

In paragraph 15 on page 4 of Mr. Dumaresque's prudence Submission, Mr. Dumaresque cites evidence from the Muskrat Falls Review in 2011. Hydro submits this evidence is not before the Board in this hearing and in any event, has no relevance as to the actual bid cost of the CT when actually put out to tender in 2014. Further, there is no evidence citing the components of this so-called industry standard of $15 million, such that can be usefully compared to the prudently tendered and accepted EPC contract for USD$45 million.[86]

As noted by Mr. MacIsaac in his testimony, the installation of the CT at Holyrood had a number of complexities requiring additional work by the contractor to ensure the asset fit with the needs of the Holyrood site.[87] The costs are clearly set out in GT-DD-NLH-001, Attachment 1, page 464. As noted in Hydro's Closing Submissions, Liberty did not find these costs unreasonable.[88]

Due diligence and reliability

At page 5, paragraph 20 of Mr. Dumaresque's prudence Submission, Mr. Dumaresque alleges that Hydro "did not have in its possession any inspections or reports indicating fitness, suitability, fair market value or any other prudency measure of the assets" at the time the contract was awarded to ProEnergy. This is simply not the case. As noted in Undertaking No. 118, Hydro staff and managers were in close communication with AMEC, the consultant conducting the third party inspection of the ProEnergy unit, commencing with an initial summary inspection report

[85] Transcript, November 6, 2015, pages 85-87. See also Exhibit #3.
[86] See GT-DD-NLH-001, Attachment 1, page 373.
[87] Transcript, November 5, 2015, pages 125-126.
[88] Liberty Report, July 6, 2015, page 14.

sent to Hydro on April 30, 2014 and a draft of the final inspection report on May 5, 2014.[89] Further, as noted in Mr. MacIsaac's November 5, 2015 testimony, concurrent with the third party inspection, Hydro senior managers inspected the unit as well to determine fitness for purpose.[90]

At page 5, paragraph 20, Mr. Dumaresque notes in his prudence Submission that Hydro has "experienced a number of problems when calling upon the asset to be available". Hydro has submitted detailed explanations for each outage of the CT in both PR-DD-NLH-012 and Undertaking No. 103 and in the testimony of Mr. MacIsaac,[91] who indicated that the performance of the unit has been reliable.[92]

Evaluation process

Mr. Dumaresque submits that the assignment of "0" or "1" during the evaluation process "seemed to assign values on an arbitrary basis".[93] Hydro submits that this assertion has no basis in fact. Hydro filed numerous undertakings outlining in minute detail all differences between the assignment of scores as between ProEnergy and PW Power Systems. The evaluation of vendors was conducted fairly and with due consideration as to Hydro's requirements for the project.[94]

Other issues raised by Mr. Dumaresque

Mr. Dumaresque alleges at page 5, paragraph 24 of his prudence Submission that "there have been a number of issues with the procurement and installation of the CT unit that simply have never been satisfactorily addressed by Hydro, despite the prudency review process". Hydro has filed a detailed application and numerous responses to requests for information, submitted several witnesses in senior management for cross examination by Mr. Dumaresque and other intervenors, filed exhibits, further

[89] See Undertaking No. 118 and GT-DD-NLH-002, Attachment 1, page 2.
[90] Transcript, November 5, 2015, page 176.
[91] Transcript, November 4, 2015, pages 186-194.
[92] Transcript, November 4, 2015, pages 194-195.
[93] Mr. Dumaresque prudence Submission, page 5, paragraph 20.
[94] See GT-CA-NLH-005, Undertakings Nos. 125, 126, 127, 128, 129, and 130.

responses to undertakings, a Closing Submission and this Reply. Hydro disagrees that there are issues with respect to the CT which have not been satisfactorily addressed.

Mr. Dumaresque also takes issue with the Board's expert, Liberty, and submits that Liberty failed to take into account "fair market value of the CT package" and did not deal with the "reliability and performance of the unit to date".[95] Hydro submits that Liberty was privy to all of the evidence submitted by Hydro as requested by Mr. Dumaresque and others (including PR-DD-NLH-012 with respect to reliability of the unit), as well industry data. With respect to costs, Liberty concluded in its initial report that the costs with respect to the CT were consistent with the industry data and prudently incurred.[96] Notably, the opinion of the Liberty consultants did not change during the course of testimony of the Liberty panel.[97]

In conclusion, with respect to costs, Mr. Dumaresque has shown a continued lack of understanding of how this project has been budgeted, even with the considerable evidence as noted above. Mr. Dumaresque makes sweeping statements about the lack of "diligence" undertaken by Hydro in procuring the new CT. Mr. Dumaresque's assertions about a lack of diligence are wholly unsupported by the evidence. As previously noted, Hydro undertook an appropriate tendering process and engaged its own staff and a third party to perform an inspection of the unit. The value of the project arose from the tendering process with vendor's proposed costs, which were based on the requirements of Hydro at the time of tender. Following a detailed evaluation process, Hydro chose the current configuration, with a warranty. There is simply nothing to indicate that Hydro failed to follow established procurement processes or otherwise acted imprudently in this case. Liberty have also found the project be prudent.

[95] Mr. Dumaresque's Prudence Submission, page 6, paragraph 26.
[96] Liberty Prudence Review, page 14.
[97] Transcript, November 12, 2015, pages 33-34.

7. CONCLUSION

With respect to the foregoing Reply Submissions, Hydro submits that the overriding theme is that the other parties have in many cases supported Liberty's proposed disallowances without providing the Board the full context of the evidence. Hydro encourages the Board in making its decision to review the evidence in detail, including Hydro's submissions, in order to ensure that its final decisions are made with the full context and evidential base.

As well, the Board should be mindful of the regulatory and legal jurisprudence in determining what if any disallowances are appropriate in the circumstances of any potential imprudence findings that it may make. As Hydro has indicated, the basis for many of Liberty's purported disallowances is not supportable by regulatory or Canadian legal jurisprudence.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Case Name:

Fontaine v. British Columbia (Official Administrator)

Beth Naomi Fontaine, appellant;
v.
Insurance Corporation of British Columbia, respondent.

[1997] S.C.J. No. 100

[1997] A.C.S. no 100

[1998] 1 S.C.R. 424

[1998] 1 R.C.S. 424

156 D.L.R. (4th) 577

223 N.R. 161

[1998] 7 W.W.R. 25

J.E. 98-715

103 B.C.A.C. 118

46 B.C.L.R. (3d) 1

41 C.C.L.T. (2d) 36

34 M.V.R. (3d) 165

78 A.C.W.S. (3d) 203

File No.: 25381.

Supreme Court of Canada

Hearing and judgment: November 14, 1997.
Reasons delivered: March 19, 1998.

Present: Gonthier, Cory, McLachlin, Iacobucci and Major JJ.

ON APPEAL FROM THE COURT OF APPEAL FOR BRITISH COLUMBIA

Torts -- Negligence -- Res ipsa loquitur -- Circumstantial evidence -- Precise time, date and place of motor vehicle accident unknown -- Severe weather and bad road conditions at presumed time of accident -- Whether or not res ipsa loquitur applicable, and if so, effect of applying it.

Appellant claimed damages with respect to the death of her husband who was found several weeks after his expected return from a hunting trip. His body and that of his hunting companion (which was still buckled in the driver's seat) were in the companion's badly damaged truck which had been washed along a flood swollen creek flowing alongside a mountain highway. No one saw the accident and no one knew precisely when it occurred. A great deal of rain had fallen in the vicinity of the accident the weekend of their hunting trip and three highways in the area were closed because of weather-related road conditions. The trial judge found that negligence had not been proven against the driver and dismissed the appellant's case. An appeal to the Court of Appeal was dismissed. At issue here was when res ipsa loquitur applies and the effect of invoking it.

Held: The appeal should be dismissed.

Since various attempts to apply res ipsa loquitur have been more confusing than helpful, the law is better served if the maxim is treated as expired and no longer a separate component in negligence actions. Its use had been restricted to cases where the facts permitted an inference of negligence and there was no other reasonable explanation for the accident. The circumstantial evidence that the maxim attempted to deal with is more sensibly dealt with by the trier of fact, who should weigh the circumstantial evidence with the direct evidence, if any, to determine whether the plaintiff has established on a balance of probabilities a prima facie case of negligence against the defendant. If such a case is established, the plaintiff will succeed unless the defendant presents evidence negating that of the plaintiff.

The circumstantial evidence here did not discharge the plaintiff's onus. Many of the circumstances of the accident, including the date, time and precise location, were not known. There were minimal, if any, evidentiary foundations from which any inference of negligence could be drawn. Although severe weather conditions impose a higher standard of care on drivers to take increased precautions, human experience confirms that severe weather conditions are more likely to produce situations where accidents occur and vehicles leave the roadway regardless of the degree of care taken. In these circumstances, it should not be concluded that the accident would ordinarily not have occurred in the absence of negligence. Any inference of negligence which might be drawn in these circumstances would be modest. Most of the explanations offered by the defendants were grounded in the evidence and were adequate to neutralize whatever inference the circumstantial evidence could permit to be drawn. The trial judge's finding that the defence had succeeded in producing alternative explanations of how the accident may have occurred without negligence on the driver's part was not unreasonable and should not be interfered with on appeal.

Cases Cited

Referred to: National Trust Co. v. Wong Aviation Ltd., [1969] S.C.R. 481; Gauthier & Co. v. The King, [1945] S.C.R. 143; Scott v. London and St. Katherine Docks Co. (1865), 3 H. & C. 596, 159 E.R. 665; Jackson v. Millar, [1976] 1 S.C.R. 225; Hellenius v. Lees, [1972] S.C.R. 165; Tone-guzzo-Norvell (Guardian ad litem of) v. Burnaby Hospital, [1994] 1 S.C.R. 114.

Statutes and Regulations Cited

Family Compensation Act, R.S.B.C. 1979, c. 120.

Authors Cited

Balkin, Rosalie P., and J. L. R. Davis. Law of Torts, 2nd ed. Sydney: Butterworths, 1996.
Clerk, John Frederic, and William Harry Barber Lindsell. Clerk & Lindsell on Torts, 13th ed. Common Law Library No. 3. London: Sweet & Maxwell, 1969.
Klar, Lewis N. Tort Law, 2nd ed. Scarborough, Ont.: Carswell, 1996.
Linden, Allen M. Canadian Tort Law, 5th ed. Toronto: Butterworths, 1993.
Sopinka, John, Sidney N. Lederman and Alan W. Bryant. The Law of Evidence in Canada. Toronto: Butterworths, 1992.
Stanton, K. M. The Modern Law of Tort. London: Sweet & Maxwell, 1994.
Wright, Cecil A. "Res Ipsa Loquitur", in Special Lectures of the Law Society of Upper Canada (1955), Evidence. Toronto: Richard de Boo, 1979, 103.

APPEAL from a judgment of the British Columbia Court of Appeal (1996), 22 B.C.L.R. (3d) 371, 74 B.C.A.C. 241, 121 W.A.C. 241, 18 M.V.R. (3d) 1, [1996] 9 W.W.R. 305, [1996] B.C.J. No. 845 (QL), dismissing an appeal from a judgment of Boyd J., [1994] B.C.J. No. 716 (QL). Appeal dismissed.

Robert A. Easton, for the appellant.
Patrick G. Foy and A. M. Gunn, for the respondent.

Solicitors for the appellant: Swinton & Company, Vancouver. Solicitors for the respondent: Ladner Downs, Vancouver.

The judgment of the Court was delivered by

1 **MAJOR J.**:-- This appeal provides another opportunity to consider the so-called maxim of res ipsa loquitur. What is it? When does it arise? And what effect does its application have? This appeal centres on these questions. At the conclusion of the hearing, the appeal was dismissed with reasons to follow. These are the reasons.

I. Facts

2 The appellant claimed damages under the Family Compensation Act, R.S.B.C. 1979, c. 120, as amended, with respect to the death of her husband, Edwin Andrew Fontaine.

3 On November 9, 1990, Edwin Andrew Fontaine ("Fontaine") and Larry John Loewen ("Loewen") left Surrey, B.C. for a weekend hunting trip. They were expected back on November 12, 1990, and were reported missing later that day. Their bodies were found on January 24, 1991 in Loewen's badly damaged truck ("the vehicle"), which was lying in the Nicolum Creek bed adjacent to Highway 3 (approximately seven kilometres east of Hope, B.C.). There were no witnesses to the accident, and no one knows precisely when or how the accident happened.

4 The weather was bad on the weekend the men went missing. Between 10 p.m. on November 8 and 10 p.m. on November 10, 1990, the area in and around the Hope weather station received approximately 328 mm. of rain. Three highways lead out of Hope. Highway 1 was cut off by a major landslide, Highway 3 was closed owing to the washout of a large culvert from under the highway, and two bridges on Highway 5 were closed because of heavy river flooding and potential damage to the bridges' understructures.

5 Police investigators concluded that, at the time of the accident, the vehicle had been travelling westbound on Highway 3 and left the roadway at a point approximately 10 metres east of the entrance to a rest area. The vehicle then tumbled down a rock-covered embankment into the swollen flood waters of Nicolum Creek and was swept downstream. The vehicle left the road with sufficient momentum to break a path through some small alder trees. Loewen was found, with his seatbelt in place, in the driver's seat.

6 A police constable testified that, at the presumed time of the accident, Nicolum Creek was in flood condition with the water within two-thirds of a metre of the edge of Highway 3 at the likely site of the accident. The wind was gusting to "extremely high velocities" and a rainstorm was raging.

7 The constable also testified that there is a swale in the highway at the point where the vehicle is believed to have left the road. With heavy rains, between 12.5 and 38 mm. of rain may collect in the swale. In the constable's opinion, if the driver continued to drive straight at this point, loss of control would be unlikely. However, if the driver were to suddenly turn the vehicle's wheels in an attempt to avoid the pool of water or engage in any other sudden driving manoeuvres, the vehicle might hydroplane, particularly if the vehicle had worn tires. The police report indicated that the two front tires of the vehicle showed "excessive" wear, with only 4 and 5 mm. of tread on the tires. The constable further testified that the sidewall of the right front tire was cut and the rim was damaged, consistent with the tire hitting a rock or other solid object on the road surface. He considered it difficult to say whether or not a flat tire might have caused the vehicle to go out of control and leave the roadway. He further agreed that the driver might have swerved to avoid hitting an animal on the road surface.

8 The trial judge found that negligence had not been proven and dismissed the case. A majority of the Court of Appeal dismissed the appeal.

II. Judicial History

Supreme Court of British Columbia, [1994] B.C.J. No. 716 (QL) (Boyd J.)

9 The trial judge held that the appellant had not proven, on a balance of probabilities, that driver negligence contributed to the fatal injuries suffered by Fontaine. She found the only evidence that potentially suggested negligence was that the vehicle left the road at sufficient speed to break a

path through some small alder trees and wind up in the creek. However, in her view, given the road and weather conditions this evidence was no more than neutral and did not point to negligence on Loewen's part.

10 She rejected the appellant's contention that the fact that the vehicle left the highway was prima facie evidence of the driver's negligence. The trial judge also found that even if it were, the respondent had succeeded in producing several explanations for the accident that were equally consistent with no negligence. The onus remained on the plaintiff to prove negligence, on a balance of probabilities. Boyd J. held that the burden of proof had not been met and she dismissed the action.

British Columbia Court of Appeal (1996), 22 B.C.L.R. (3d) 371

(1) Gibbs J.A. (Proudfoot J.A. concurring)

11 Gibbs J.A. for the majority stated at p. 376 that "nothing in or about the vehicle, or in respect of the bodies inside, or elsewhere, points to negligence by the driver. It is, of course, possible to speculate but speculation does not discharge the burden of proof on a plaintiff." He then distinguished this case from the numerous authorities referred to by the appellant, finding that in every one of those judgments there were proven facts from which inferences pointing to negligence could be drawn, whereas there were none here.

12 Gibbs J.A. found that, as in National Trust Co. v. Wong Aviation Ltd., [1969] S.C.R. 481, the trial judge held that there were explanations as consistent with no negligence as with negligence. The consequence of this finding was that res ipsa loquitur did not apply, the appellant was left with the burden of proof, and that burden not having been discharged, the case failed. In addition, he considered res ipsa loquitur was not available because the circumstances did not fall within the accepted definition of res ipsa loquitur, as the road and weather conditions at the relevant times were such that the accident could not be said to have happened "in the ordinary course of things" (p. 379).

13 Gibbs J.A. noted that the trial judge appeared to have given little weight to the evidence on excessive wear of the front tires. He found that she did not err in that assessment. He agreed with the trial judge that the plaintiff had failed to prove negligence and dismissed the appeal.

(2) McEachern C.J., dissenting

14 McEachern C.J. held that the trial judge should have considered the plaintiff's negligence argument in light of cases where circumstantial evidence was key, having regard to the standards of proof established in Gauthier & Co. v. The King, [1945] S.C.R. 143. The Chief Justice found that a car leaving the roadway in the circumstances of this case was some evidence of negligence. In his view, the storm and its consequences did not assist the defendants, given that if the storm made driving hazardous, the driver was aware of the risk and should have taken greater care. Also, the worn condition of the front tires, for which Loewen was responsible, increased the risk when driving in a storm.

15 Absent an alternative explanation, McEachern C.J. concluded that it was probable the vehicle left the road because of the driver's negligence. He further observed that there was no evidence that this accident was caused by any of the agencies suggested by the trial judge. He said the authorities are clear that possible causes for which there is no evidence cannot be relied upon and concluded that the appeal be allowed with or without recourse to res ipsa loquitur.

III. Issues

16

1. When does res ipsa loquitur apply?
2. What is the effect of invoking res ipsa loquitur?

IV. Analysis

A. When does res ipsa loquitur apply?

17 Res ipsa loquitur, or "the thing speaks for itself", has been referred to in negligence cases for more than a century. In Scott v. London and St. Katherine Docks Co. (1865), 3 H. & C. 596, 159 E.R. 665, at p. 596 and p. 667, respectively, Erle C.J. defined what has since become known as res ipsa loquitur in the following terms:

> There must be reasonable evidence of negligence.
>
> But where the thing is shewn to be under the management of the defendant or his servants, and the accident is such as in the ordinary course of things does not happen if those who have the management use proper care, it affords reasonable evidence, in the absence of explanation by the defendants, that the accident arose from want of care.

18 These factual elements have since been recast (see Clerk & Lindsell on Torts (13th ed. 1969), at para. 967, quoted with approval in Jackson v. Millar, [1976] 1 S.C.R. 225, at p. 235, and Hellenius v. Lees, [1972] S.C.R. 165, at p. 172):

> The doctrine applies (1) when the thing that inflicted the damage was under the sole management and control of the defendant, or of someone for whom he is responsible or whom he has a right to control; (2) the occurrence is such that it would not have happened without negligence. If these two conditions are satisfied it follows, on a balance of probability, that the defendant, or the person for whom he is responsible, must have been negligent. There is, however, a further negative condition: (3) there must be no evidence as to why or how the occurrence took place. If there is, then appeal to res ipsa loquitur is inappropriate, for the question of the defendant's negligence must be determined on that evidence.

19 For res ipsa loquitur to arise, the circumstances of the occurrence must permit an inference of negligence attributable to the defendant. The strength or weakness of that inference will depend on the factual circumstances of the case. As described in Canadian Tort Law (5th ed. 1993), by Allen M. Linden, at p. 233, "[t]here are situations where the facts merely whisper negligence, but there are other circumstances where they shout it aloud."

20 As the application of res ipsa loquitur is highly dependent upon the circumstances proved in evidence, it is not possible to identify in advance the types of situations in which res ipsa loquitur will arise. The application of res ipsa loquitur in previous decisions may provide some guidance as to when an inference of negligence may be drawn, but it does not serve to establish definitive cate-

gories of when res ipsa loquitur will apply. It has been held on numerous occasions that evidence of a vehicle leaving the roadway gives rise to an inference of negligence. Whether that will be so in any given case, however, can only be determined after considering the relevant circumstances of the particular case.

21 Where there is direct evidence available as to how an accident occurred, the case must be decided on that evidence alone. K. M. Stanton in The Modern Law of Tort (1994), stated at p. 76:

> Res ipsa loquitur only operates to provide evidence of negligence in the absence of an explanation of the cause of the accident. If the facts are known, the inference is impermissible and it is the task of the court to review the facts and to decide whether they amount to the plaintiff having satisfied the burden of proof which is upon him.

See also R. P. Balkin and J. L. R. Davis, Law of Torts (2nd ed. 1996), at p. 289; Lewis Klar in Tort Law (2nd ed. 1996), at p. 421.

22 Finally, the phrase "in the ordinary course of things" in the passage quoted from St. Katherine Docks, supra, has been the source of some confusion. It has been suggested that the circumstances themselves must be ordinary in order for res ipsa loquitur to apply. That is not necessarily true. The question that must be asked is whether, in the particular circumstances established by the evidence, the accident would ordinarily occur in the absence of negligence. Granted, some circumstances may be so extraordinary or unusual that it cannot be said with any degree of certainty what would ordinarily happen in those circumstances. In such cases, res ipsa loquitur will not apply. In other cases, expert evidence may be presented to assist the trier of fact in understanding what would ordinarily occur in a given set of circumstances.

B. Effect of the application of res ipsa loquitur

23 As in any negligence case, the plaintiff bears the burden of proving on a balance of probabilities that negligence on the part of the defendant caused the plaintiff's injuries. The invocation of res ipsa loquitur does not shift the burden of proof to the defendant. Rather, the effect of the application of res ipsa loquitur is as described in The Law of Evidence in Canada (1992), by John Sopinka, Sidney N. Lederman and Alan W. Bryant, at p. 81:

> Res ipsa loquitur, correctly understood, means that circumstantial evidence constitutes reasonable evidence of negligence. Accordingly, the plaintiff is able to overcome a motion for a non-suit and the trial judge is required to instruct the jury on the issue of negligence. The jury may, but need not, find negligence: a permissible fact inference. If, at the conclusion of the case, it would be equally reasonable to infer negligence or no negligence, the plaintiff will lose since he or she bears the legal burden on this issue. Under this construction, the maxim is superfluous. It can be treated simply as a case of circumstantial evidence.

24 Should the trier of fact choose to draw an inference of negligence from the circumstances, that will be a factor in the plaintiff's favour. Whether that will be sufficient for the plaintiff to succeed will depend on the strength of the inference drawn and any explanation offered by the defendant to negate that inference. If the defendant produces a reasonable explanation that is as consistent

with no negligence as the res ipsa loquitur inference is with negligence, this will effectively neutralize the inference of negligence and the plaintiff's case must fail. Thus, the strength of the explanation that the defendant must provide will vary in accordance with the strength of the inference sought to be drawn by the plaintiff.

25 The procedural effect of res ipsa loquitur was lucidly described by Cecil A. Wright in "Res Ipsa Loquitur" (Special Lectures of the Law Society of Upper Canada (1955), Evidence, pp. 103-36), and more recently summarized by Klar in Tort Law, supra, at pp. 423-24:

> If the plaintiff has no direct or positive evidence which can explain the occurrence and prove that the defendant was negligent, appropriate circumstantial evidence, as defined by the maxim res ipsa loquitur, may be introduced. Should the defendant, at this stage of the proceeding, move for a nonsuit, on the basis that the plaintiff's evidence has not even made out a prima facie case for it to answer, the practical effect of the maxim will come into play. The court will be required to judge whether a reasonable trier of fact could, from the evidence introduced, find an inference of the defendant's negligence. That is, could a reasonable jury find that on these facts the maxim res ipsa loquitur applies? If it could so find, the motion for a nonsuit must be dismissed. If such an inference could not reasonably be made, the motion must be granted. In other words, the maxim, at the least, will get the plaintiff past a nonsuit.
>
> This, however, does not end the matter. What, if anything, must the defendant do at this point? In theory, where the case is being tried by a judge and jury, the defendant still need not do anything. Although the judge has decided that as a matter of law it would not be an error for the trier of fact to find for the plaintiff on the basis of the circumstantial evidence which has been introduced, it is still up to the jury to decide whether it has been sufficiently persuaded by such evidence. In other words, the judge has decided that as a matter of law, the maxim can apply. Whether as a question of fact it does, is up to the jury. The jury may decide, therefore, that even despite the defendant's failure to call evidence, the circumstantial evidence ought not to be given sufficient weight to discharge the plaintiff's onus. Thus, even if a defendant has decided not to introduce evidence, a trial judge should not, in an action tried by judge and jury, either take the case from the jury and enter judgment for the plaintiff, or direct the jury to return a verdict in favour of the plaintiff. It is up to the trial judge to determine whether the maxim can apply, but up to the jury to decide whether it does apply.

26 Whatever value res ipsa loquitur may have once provided is gone. Various attempts to apply the so-called doctrine have been more confusing than helpful. Its use has been restricted to cases where the facts permitted an inference of negligence and there was no other reasonable explanation for the accident. Given its limited use it is somewhat meaningless to refer to that use as a doctrine of law.

27 It would appear that the law would be better served if the maxim was treated as expired and no longer used as a separate component in negligence actions. After all, it was nothing more than an attempt to deal with circumstantial evidence. That evidence is more sensibly dealt with by the trier

of fact, who should weigh the circumstantial evidence with the direct evidence, if any, to determine whether the plaintiff has established on a balance of probabilities a prima facie case of negligence against the defendant. Once the plaintiff has done so, the defendant must present evidence negating that of the plaintiff or necessarily the plaintiff will succeed.

C. Application to this case

28 In this appeal, the trial judge had to consider whether there was direct evidence from which the cause of the accident could be determined, or, failing that, whether there was circumstantial evidence from which it could be inferred that the accident was caused by negligence attributable to Loewen.

29 The trial judge found that the only potential evidence of negligence on Loewen's part concerned the fact that the vehicle left the roadway and was travelling with sufficient momentum to break a path through some small trees. She concluded that, when taken together with other evidence concerning the road and weather conditions, this was no more than neutral evidence and did not point to any negligence on Loewen's part. That conclusion was not unreasonable in light of the evidence, which at most established that the vehicle was moving in a forward direction at the time of the accident, with no indication that it was travelling at an excessive rate of speed.

30 There was some evidence about "excessive wear" on the front tires of the vehicle. In commenting upon this evidence, Gibbs J.A. for the majority of the Court of Appeal stated at p. 379:

> The fact was stated thus in an accident investigation report: "The front tires showed excessive wear with only 4 mm. LF and 5 mm. RF tread depth". The author of the report was not called as a witness. The evidence does not disclose whether the witness who was asked about the effect of "excessive" wear had himself measured the tires as well as observing the wear. There was no evidence of where on the tires the measurement was taken or of whether the wear was uniform over the tires. Perhaps most importantly, there was no evidence of what the tread depth of an unworn tire of that make and style would be, whatever the make and style was. So there was no standard against which to measure the 4 and 5 mm., and no way for the court to attach an objective meaning to the observer's subjective description of "excessive" wear.

In light of these deficiencies in the evidence, I agree with Gibbs J.A. that the trial judge did not err when she apparently treated this evidence as of negligible value.

31 There are a number of reasons why the circumstantial evidence in this case does not discharge the plaintiff's onus. Many of the circumstances of the accident, including the date, time and precise location, are not known. Although this case has proceeded on the basis that the accident likely occurred during the weekend of November 9, 1990, that is only an assumption. There are minimal if any evidentiary foundations from which any inference of negligence could be drawn.

32 As well, there was evidence before the trial judge that a severe wind and rainstorm was raging at the presumed time of the accident. While it is true that such weather conditions impose a higher standard of care on drivers to take increased precautions, human experience confirms that severe weather conditions are more likely to produce situations where accidents occur and vehicles leave the roadway regardless of the degree of care taken. In these circumstances, it should not be concluded that the accident would ordinarily not have occurred in the absence of negligence.

33 If an inference of negligence might be drawn in these circumstances, it would be modest. The trial judge found that the defence had succeeded in producing alternative explanations of how the accident may have occurred without negligence on Loewen's part. Most of the explanations offered by the defendants were grounded in the evidence and were adequate to neutralize whatever inference the circumstantial evidence could permit to be drawn. The trial judge's finding was not unreasonable and should not be interfered with on appeal.

34 The finding of facts and the drawing of evidentiary conclusions from those facts is the province of the trial judge, and an appellate court must not interfere with a trial judge's conclusions on matters of fact unless there is palpable or overriding error: see Toneguzzo-Norvell (Guardian ad litem of) v. Burnaby Hospital, [1994] 1 S.C.R. 114, at p. 121 per McLachlin J. There is no indication that the trial judge committed a palpable or overriding error here.

35 The appellant submitted that an inference of negligence should be drawn whenever a vehicle leaves the roadway in a single-vehicle accident. This bald proposition ignores the fact that whether an inference of negligence can be drawn is highly dependent upon the circumstances of each case: see Gauthier & Co., supra, at p. 150. The position advanced by the appellant would virtually subject the defendant to strict liability in cases such as the present one.

V. Disposition

36 The trial judge did not err in concluding based on either the direct or circumstantial evidence or both that the plaintiff failed to establish on a balance of probabilities that the accident occurred as a result of negligence attributable to Loewen. The appeal is therefore dismissed with costs.

4 of 9 DOCUMENTS

** Preliminary Version **

Case Name:

Clements v. Clements

Joan Clements, by her Litigation Guardian, Donna Jardine, Appellant;
v.
Joseph Clements, Respondent, and
Attorney General of British Columbia, Intervener.

[2012] S.C.J. No. 32

[2012] A.C.S. no 32

2012 SCC 32

[2012] 2 S.C.R. 181

[2012] 2 R.C.S. 181

331 B.C.A.C. 1

431 N.R. 198

2012EXP-2458

J.E. 2012-1292

[2012] 7 W.W.R. 217

31 B.C.L.R. (5th) 1

93 C.C.L.T. (3d) 1

29 M.V.R. (6th) 1

346 D.L.R. (4th) 577

215 A.C.W.S. (3d) 1035

2012 CarswellBC 1863

File No.: 34100.

Supreme Court of Canada

Heard: February 17, 2012;
Judgment: June 29, 2012.

Present: McLachlin C.J. and LeBel, Deschamps, Fish, Abella, Rothstein, Cromwell, Moldaver and Karakatsanis JJ.

(63 paras.)

Appeal From:

ON APPEAL FROM THE COURT OF APPEAL FOR BRITISH COLUMBIA

Tort law -- Negligence -- Causation -- Causal connection -- Application of principles -- Contributory negligence -- Proof of -- Onus of proof -- Relation to causation -- Motor vehicles -- Liability of driver -- Evidence and proof -- Appeal by plaintiff from decision dismissing negligence action allowed -- Court of Appeal set aside judgment against defendant because "but for" causation had not been proved and material contribution test did not apply -- Trial judge erred in insisting on scientific precision in evidence as condition of finding "but for" causation -- Trial judge also erred in applying material contribution to risk test, since this was not a case where it was known that loss would not have occurred "but for" the negligence of two or more possible tortfeasors, but plaintiff could not establish on balance of probabilities which negligent actor or actors caused injury.

Appeal by Joan Clements (Joan), by her litigation guardian, from a judgment of the British Columbia Court of Appeal dismissing her negligence action against Joseph Clements (Joseph). Joseph was driving a motor bike while Joan was riding on the passenger seat. The bike was about 100 pounds overloaded. Unbeknownst to Joseph, a nail had punctured the bike's rear tire. Though Joseph was travelling in a 100 km/h zone, he accelerated to at least 120 km/h in order to pass a car. As he crossed the centre line, the rear tire deflated and the bike crashed, throwing Joan off. She suffered a severe traumatic brain injury and sued Joseph, claiming that her injury was caused by his negligence in the operation of the bike. The trial judge found that Joseph's negligence contributed to Joan's injury. However, he held that Joan was unable to prove that 'but for' Joseph's breaches, she would not have been injured, due to the limitations of the scientific reconstruction evidence. He concluded that in view of this impossibility of precise proof, "but for" causation should be

dispensed with and a "material contribution" test applied. He found Joseph liable on this basis. The British Columbia Court of Appeal set aside the judgment against Joseph on the basis that "but for" causation had not been proved and the material contribution test did not apply.

HELD: Appeal allowed. The basic rule of recovery for negligence was that the plaintiff had to establish on a balance of probabilities that the defendant caused the plaintiff's injury on the "but for" test. This was a factual determination. Exceptionally, however, courts have accepted that a plaintiff could be able to recover on the basis of "material contribution to risk of injury", without showing factual "but for" causation. This could occur in cases where it was impossible to determine which of a number of negligent acts by multiple actors in fact caused the injury, but it was established that one or more of them did in fact cause it. Recourse to a material contribution to risk approach was necessarily rare, and justified only where it was required by fairness and conformed to the principles that ground recovery in tort. The jurisprudence consistently held that scientific precision was not necessary to a conclusion that "but for" causation was established on a balance of probabilities. It followed that the trial judge erred in insisting on scientific precision in the evidence as a condition of finding "but for" causation. The trial judge's second error was to apply a material contribution to risk test. The special conditions that permitted resort to a material contribution approach were not present in this case. This was not a case where it was known that the loss would not have occurred "but for" the negligence of two or more possible tortfeasors, but the plaintiff could not establish on a balance of probabilities which negligent actor or actors caused the injury. It could not be certain what the trial judge would have concluded had he not made the errors. All that could be said was that the parties did not receive a trial based on correct legal principles. The appropriate remedy in these circumstances was an order for a new trial.

Subsequent History:

NOTE: This document is subject to editorial revision before its reproduction in final form in the Canada Supreme Court Reports.

Court Catchwords:

Torts -- Negligence -- Causation -- Motor vehicle accident -- Motorcycle passenger injured in crash -- Passenger alleging driver's negligence in operation of motorcycle caused injury -- Whether trial judge erred in insisting on scientific reconstruction evidence to prove causation, and in applying "material contribution" test rather than "but for" test to determine causation.

Court Summary:

C was driving his motorcycle in wet weather, with his wife riding behind on the passenger seat. The bike was about 100 pounds overloaded. Unbeknownst to C, a nail had punctured the rear tire. Though in a 100 km/h zone, C accelerated to at least 120 km/h in order to pass a car; the nail fell out, the rear tire deflated, and the bike began to wobble. C was unable to bring the bike under control and it crashed; his wife suffered a severe traumatic brain injury. She then sued C, alleging

that her injury was caused by his negligence in driving an overloaded bike too fast. The trial judge found that C's negligence in fact contributed to the injury. However, he also found that C's wife, through no fault of her own, was unable to prove "but for" causation, due to the limitations of scientific reconstruction evidence. The trial judge applied a material contribution test instead and found C liable on this basis. The Court of Appeal set aside the judgment and dismissed the action, on the basis that "but for" causation had not been proved and the material contribution test did not apply.

Held (LeBel and Rothstein JJ. dissenting): The appeal should be allowed, and a new trial ordered.

Per **McLachlin C.J.** and Deschamps, Fish, Abella, Cromwell, Moldaver and Karakatsanis JJ.: On its own, proof by an injured plaintiff that a defendant was negligent does not make that defendant liable for the loss. As a general rule, a plaintiff cannot succeed unless she shows as a matter of fact that she would not have suffered the loss "but for" the negligent act or acts of the defendant. Exceptionally, however, a plaintiff may be able to recover on the basis of material contribution to risk of injury, without showing factual "but for" causation. Elimination of proof of causation as an element of negligence is a radical step that goes against the fundamental principle that a defendant in an action in negligence is a wrongdoer only in respect of the damage which he actually causes to the plaintiff. Therefore, recourse to a material contribution to risk approach is justified only where it is required by fairness and conforms to the principles that ground recovery in tort. The cases that have dispensed with the usual requirement of "but for" causation in favour of a less onerous material contribution to risk approach are generally cases with a number of tortfeasors where, "but for" the negligent act of one or more of the defendants, the plaintiff would not have been injured. It is only when it is applied separately to each defendant that the "but for" test breaks down because it cannot be shown which of several negligent defendants actually launched the event that led to the injury. In these circumstances, permitting the plaintiff to succeed on a material contribution to risk basis meets the underlying goals of the law of negligence. The plaintiff has shown that she is in a correlative relationship of doer and sufferer of the same harm with the group of defendants as a whole, if not necessarily with each individual defendant.

In this case, the trial judge committed two errors. First, he insisted on scientific reconstruction evidence as a necessary condition of finding "but for" causation. Scientific precision is not necessary to a conclusion that "but for" causation is established on a balance of probabilities. Second, the trial judge erred in applying a material contribution to risk test. The special conditions that permit resort to a material contribution approach were not present in this case. This is a simple single-defendant case: the only issue was whether "but for" the defendant's negligent conduct, the injury would have been sustained. Although the trial judge used language tantamount to finding actual "but for" causation, we cannot be certain what he would have concluded had he not made these two errors. The appropriate remedy in these circumstances is an order for a new trial.

Per **LeBel** and Rothstein JJ. (dissenting): There is no basis in fact and law for ordering a new trial. The key finding of fact made by the trial judge was that the plaintiff had not proven causation on the

basis of the "but for" test. The trial judge's finding that the material contribution test was satisfied cannot be reinterpreted as a finding that "but for" causation was established.

On policy grounds, this Court and courts of appeal should be mindful of the need for finality and efficiency in the civil litigation process. In this appeal, there is no basis in the trial judge's judgment for inferring that the overloading of the motorcycle and excessive speed could have been the "cause" of the accident as that term is understood in the context of the "but for" test. Nor is this a case in which it would be appropriate to send the matter back for a new trial.

Cases Cited

By McLachlin C.J.

Distinguished: *Sienkiewicz v. Greif (UK) Ltd.*, [2011] UKSC 10, [2011] 2 All E.R. 857; **referred to:** *Wilsher v. Essex Area Health Authority*, [1988] A.C. 1074; *Snell v. Farrell*, [1990] 2 S.C.R. 311; *Athey v. Leonati*, [1996] 3 S.C.R. 458; *Betts v. Whittingslowe*, [1945] HCA 31, 71 C.L.R. 637; *Bennett v. Minister of Community Welfare*, [1992] HCA 27, 176 C.L.R. 408; *Flounders v. Millar*, [2007] NSWCA 238, 49 M.V.R. 53; *Roads and Traffic Authority v. Royal*, [2008] HCA 19, 245 A.L.R. 653; *MacDonald v. Goertz*, 2009 BCCA 358, 275 B.C.A.C. 68; *Resurfice Corp. v. Hanke*, 2007 SCC 7, [2007] 1 S.C.R. 333; *Browning v. War Office*, [1962] 3 All E.R. 1089; *Mooney v. British Columbia*, 2004 BCCA 402, 202 B.C.A.C. 74; *Cook v. Lewis*, [1951] S.C.R. 830; *Walker Estate v. York Finch General Hospital*, 2001 SCC 23, [2001] 1 S.C.R. 647; *Fairchild v. Glenhaven Funeral Services Ltd.*, [2002] UKHL 22, [2002] 3 All E.R. 305; *Barker v. Corus UK Ltd.*, [2006] UKHL 20, [2006] 2 A.C. 572.

Authors Cited

Weinrib, Ernest J. *The Idea of Private Law*. Cambridge, Mass.: Harvard University Press, 1995.

History and Disposition:

APPEAL from a judgment of the British Columbia Court of Appeal (Frankel, Tysoe and Garson JJ.A.), 2010 BCCA 581, 12 B.C.L.R. (5) 310, 79 C.C.L.T. (3d) 6, 4 M.V.R. (6) 1, 327 D.L.R. (4) 1, 298 B.C.A.C. 56, 505 W.A.C. 56, [2010] B.C.J. No. 2532 (QL), 2010 CarswellBC 3477, reversing a decision of Grauer J., 2009 BCSC 112 (CanLII), [2009] B.C.J. No. 166 (QL), 2009 CarswellBC 202. Appeal allowed, LeBel and Rothstein JJ. dissenting.

Counsel:

Dick Byl and *Kimi Aimetz*, for the appellant.

Robert A. Easton, Ryan W. Morasiewicz and *Greg A. Cavouras*, for the respondent.

Jonathan Eades, for the intervener.

The judgment of McLachlin C.J. and Deschamps, Fish, Abella, Cromwell, Moldaver and Karakatsanis JJ. was delivered by

McLACHLIN C.J.:--

I. Introduction

1 The parties to this appeal, Mr. and Mrs. Clements, were motor bike enthusiasts. August 7th, 2004, found them en route from their home in Prince George, British Columbia, to visit their daughter in Kananaskis, Alberta. The weather was wet. Mr. Clements was driving the bike and Mrs. Clements was riding behind on the passenger seat. The bike was about 100 pounds overloaded. Unbeknownst to Mr. Clements, a nail had punctured the bike's rear tire. Though Mr. Clements was travelling in a 100 km/h zone, he accelerated to at least 120 km/h in order to pass a car. As he crossed the centre line to commence the passing manoeuvre, the nail fell out, the rear tire deflated, and the bike began to wobble. Mr. Clements was unable to bring the bike under control and it crashed, throwing Mrs. Clements off. Mrs. Clements suffered a severe traumatic brain injury. She now sues Mr. Clements, claiming that her injury was caused by his negligence in the operation of the bike.

2 Mr. Clements' negligence in driving an overloaded bike too fast is not disputed. The only issue is whether his negligence *caused* Mrs. Clements' injury. Mr. Clements called an expert witness, Mr. MacInnis, who testified that the probable cause of the accident was the tire puncture and deflation, and that the accident would have happened even without the negligent acts of Mr. Clements.

3 The trial judge rejected this conclusion, and found that Mr. Clements' negligence in fact *contributed to* Mrs. Clements' injury. However, he held that the plaintiff "through no fault of her own is unable to prove that 'but for' the defendant's breaches, she would not have been injured", due to the limitations of the scientific reconstruction evidence (2009 BCSC 112 (CanLII), at para. 66). The trial judge went on to hold that in view of this impossibility of precise proof of the amount each factor contributed to the injury, "but for" causation should be dispensed with and a "material contribution" test applied. He found Mr. Clements liable on this basis.

4 The British Columbia Court of Appeal, *per* Frankel J.A., set aside the judgment against Mr. Clements on the basis that "but for" causation had not been proved and the material contribution test did not apply (2010 BCCA 581, 12 B.C.L.R. (5th) 310).

5 The legal issue is whether the usual "but for" test for causation in a negligence action applies, as the Court of Appeal held, or whether a material contribution approach suffices, as the trial judge

held. For the reasons that follow, I conclude that a material contribution test was not applicable in this case. I would return the matter to the trial judge to be dealt with on the correct basis of "but for" causation.

II. Outline

A. *Causation in the Law of Negligence: The Basic Rule of "But For" Causation*

B. *The Material Contribution to Risk Approach*

1. The Canadian Cases
2. The United Kingdom Cases
3. When Is a Material Contribution to Risk Approach Available?

C. *Summary*

D. *Application*

III. Discussion

A. *Causation in the Law of Negligence: The Basic Rule of "But For" Causation*

6 On its own, proof by an injured plaintiff that a defendant was negligent does not make that defendant liable for the loss. The plaintiff must also establish that the defendant's negligence (breach of the standard of care) *caused* the injury. That link is causation.

7 Recovery in negligence presupposes a relationship between the plaintiff and defendant based on the existence of a duty of care -- a defendant who is at fault and a plaintiff who has been injured by that fault. If the defendant breaches this duty and thereby causes injury to the plaintiff, the law "corrects" the deficiency in the relationship by requiring the defendant to compensate the plaintiff for the injury suffered. This basis for recovery, sometimes referred to as "corrective justice", assigns liability when the plaintiff and defendant are linked in a correlative relationship of doer and sufferer of the same harm: E. J. Weinrib, *The Idea of Private Law* (1995), at p. 156.

8 The test for showing causation is the "but for" test. The plaintiff must show on a balance of probabilities that "but for" the defendant's negligent act, the injury would not have occurred. Inherent in the phrase "but for" is the requirement that the defendant's negligence was *necessary* to bring about the injury -- in other words that the injury would not have occurred without the defendant's negligence. This is a factual inquiry. If the plaintiff does not establish this on a balance of probabilities, having regard to all the evidence, her action against the defendant fails.

9 The "but for" causation test must be applied in a robust common sense fashion. There is no need for scientific evidence of the precise contribution the defendant's negligence made to the injury. See *Wilsher v. Essex Area Health Authority*, [1988] A.C. 1074, at p. 1090, *per* Lord Bridge;

Snell v. Farrell, [1990] 2 S.C.R. 311.

10 A common sense inference of "but for" causation from proof of negligence usually flows without difficulty. Evidence connecting the breach of duty to the injury suffered may permit the judge, depending on the circumstances, to infer that the defendant's negligence probably caused the loss. See *Snell* and *Athey v. Leonati*, [1996] 3 S.C.R. 458. See also the discussion on this issue by the Australian courts: *Betts v. Whittingslowe*, [1945] HCA 31, 71 C.L.R. 637, at p. 649; *Bennett v. Minister of Community Welfare*, [1992] HCA 27, 176 C.L.R. 408, at pp. 415-16; *Flounders v. Millar*, [2007] NSWCA 238, 49 M.V.R. 53; *Roads and Traffic Authority v. Royal*, [2008] HCA 19, 245 A.L.R. 653, at paras. 137-44.

11 Where "but for" causation is established by inference only, it is open to the defendant to argue or call evidence that the accident would have happened without the defendant's negligence, i.e. that the negligence was not a necessary cause of the injury, which was, in any event, inevitable. As Sopinka J. put it in *Snell*, at p. 330:

> The legal or ultimate burden remains with the plaintiff, but in the absence of evidence to the contrary adduced by the defendant, an inference of causation may be drawn although positive or scientific proof of causation has not been adduced. If some evidence to the contrary is adduced by the defendant, the trial judge is entitled to take account of Lord Mansfield's famous precept [that "all evidence is to be weighed according to the proof which it was in the power of one side to have produced, and in the power of the other to have contradicted" (*Blatch v. Archer* (1774), 1 Cowp. 63, 98 E.R. 969, at p. 970)]. This is, I believe, what Lord Bridge had in mind in *Wilsher* when he referred to a "robust and pragmatic approach to the ... facts" (p. 569). [Emphasis added.]

12 In some cases, an injury -- the loss for which the plaintiff claims compensation -- may flow from a number of different negligent acts committed by different actors, each of which is a necessary or "but for" cause of the injury. In such cases, the defendants are said to be jointly and severally liable. The judge or jury then apportions liability according to the degree of fault of each defendant pursuant to contributory negligence legislation.

13 To recap, the basic rule of recovery for negligence is that the plaintiff must establish on a balance of probabilities that the defendant caused the plaintiff's injury on the "but for" test. This is a factual determination. Exceptionally, however, courts have accepted that a plaintiff may be able to recover on the basis of "material contribution to risk of injury", without showing factual "but for" causation. As will be discussed in more detail below, this can occur in cases where it is impossible to determine which of a number of negligent acts by multiple actors in fact caused the injury, but it is established that one or more of them did in fact cause it. In these cases, the goals of tort law and the underlying theory of corrective justice require that the defendant not be permitted to escape liability by pointing the finger at another wrongdoer. Courts have therefore held the defendant liable

on the basis that he materially contributed to the risk of the injury.

14 "But for" causation and liability on the basis of material contribution to risk are two different beasts. "But for" causation is a factual inquiry into what likely happened. The material contribution to risk test removes the requirement of "but for" causation and substitutes proof of material contribution to risk. As set out by Smith J.A. in *MacDonald v. Goertz*, 2009 BCCA 358, 275 B.C.A.C. 68, at para. 17,

> ... "material contribution" does not signify a test of causation at all; rather it is a policy-driven rule of law designed to permit plaintiffs to recover in such cases despite their failure to prove causation. In such cases, plaintiffs are permitted to "jump the evidentiary gap": see "Lords a 'leaping evidentiary gaps", (2002) Torts Law Journal 276, and "Cause-in-Fact and the Scope of Liability for Consequences", (2003) 119 L.Q.R. 388, both by Professor Jane Stapleton. That is because to deny liability "would offend basic notions of fairness and justice": *Hanke v. Resurfice Corp.*, para. 25.

15 While the cases and scholars have sometimes spoken of "material contribution to the injury" instead of "material contribution to risk", the latter is the more accurate formulation. As will become clearer when we discuss the cases, "material contribution" as a substitute for the usual requirement of "but for" causation only applies where it is impossible to say that a particular defendant's negligent act in fact caused the injury. It imposes liability not because the evidence establishes that the defendant's act caused the injury, but because the act contributed to the risk that injury would occur. Thus this Court in *Snell* and *Resurfice Corp. v. Hanke*, 2007 SCC 7, [2007] 1 S.C.R. 333, raised the possibility of a material contribution to risk approach. The English law takes the same approach, as discussed below.

16 Elimination of proof of causation as an element of negligence is a "radical step that goes against the fundamental principle stated by Diplock L.J. in *Browning v. War Office*, [1962] 3 All E.R. 1089 (C.A.), at pp. 1094-95: '...[a] defendant in an action in negligence is not a wrongdoer at large; he is a wrongdoer only in respect of the damage which he actually causes to the plaintiff'": *Mooney v. British Columbia*, 2004 BCCA 402, 202 B.C.A.C. 74, at para. 157, *per* Smith J.A., concurring in the result. For that reason, recourse to a material contribution to risk approach is necessarily rare, and justified only where it is required by fairness and conforms to the principles that ground recovery in tort.

B. *The Material Contribution to Risk Approach*

1. The Canadian Cases

17 The possibility of material contribution as an exceptional substitute for "but for" causation has arisen in a variety of contexts involving multiple tortfeasors.

18 One of the earliest cases on the issue is *Cook v. Lewis*, [1951] S.C.R. 830. Three men were out hunting. Two of them fired shots, virtually simultaneously. One of the shots struck a fourth hunter, Mr. Lewis, who was injured and sued both defendants in negligence. On the evidence, it could not be established which defendant's gun had fired the shot that injured Mr. Lewis. Clearly, one of the men had caused Mr. Lewis' injury, and one had not. But which one? The evidence shed no light on this. The defendants contended that the plaintiff's action must be dismissed because he had not proved "but for" causation against either defendant, relying on the classic "point the finger at someone else" defence. Both defendants were found jointly and severally liable. The majority reasons in this Court spoke of reversing the onus in these circumstances, rather than material contribution to risk.

19 The Court in *Cook* relaxed the usual "but for" test for causation on the basis that fairness required this. It was "impossible" for the plaintiff to prove on a balance of probabilities that either man had injured him on the "but for" test; both defendants could say it was just as likely the other had caused Mr. Lewis' injury, precluding the plaintiff from discharging his burden against either. Only one of the defendants had *in fact* injured the plaintiff. But both defendants had breached their duty of care to Mr. Lewis and subjected him to unreasonable risk of the injury that in fact materialized. The plaintiff was the victim of negligent conduct "but for" which he would not have been injured. To deny him recovery, while allowing the negligent defendants to escape liability by pointing the finger at each other, would not have met the goals of negligence law of compensation, fairness and deterrence, in a manner consistent with corrective justice.

20 *Cook* was considered in *Snell*. The plaintiff in *Snell* had undergone surgery to remove a cataract. Bleeding occurred. When the bleeding cleared up nine months later, it was found that the plaintiff's optic nerve had atrophied, causing loss of sight in her right eye. Neither of the expert witnesses was able to state what caused the atrophy or when it had occurred. The trial judge, upheld by the Court of Appeal, did not apply the usual "but for" test, but applied a reverse onus test. This Court affirmed recovery, but on the basis of a robust and common sense application of the "but for" test. However, Sopinka J. suggested that had it been necessary and appropriate, a material contribution to risk approach might have been applicable:

> I have examined the alternatives arising out of [*McGhee v. National Coal Board*, [1973] 1 W.L.R. 1 (H.L.)]. They were that the plaintiff simply prove that the defendant created a risk that the injury which occurred would occur. Or, what amounts to the same thing, that the defendant has the burden of disproving causation. If I were convinced that defendants who have a substantial connection to the injury were escaping liability because plaintiffs cannot prove causation under currently applied principles, I would not hesitate to adopt one of these alternatives. In my opinion, however, properly applied, the principles relating to causation are adequate to the task. [Emphasis added; pp. 326-27.]

21 Sopinka J. went on to underline the importance of establishing a *substantial connection*

between the injury and the defendant's negligence. The usual requirement of proof of "but for" causation should not be relaxed where the result would be to permit plaintiffs to recover in the absence of evidence connecting the defendant's fault to the plaintiff's injury. Thus Sopinka J. stated that if the injury likely was brought about by "neutral" factors, that is, it would have occurred absent any negligence, the plaintiff cannot succeed. To allow recovery where the injury was the result of neutral factors would neither further the goals of compensation, fairness and deterrence, nor comport with the theory of corrective justice that underlies the law of negligence.

22 These ideas were again taken up in *Athey*. The plaintiff, who suffered from pre-existing back problems, suffered a herniated disc after two motor vehicle accidents. He sued the drivers of the motor vehicles in negligence for his injury. The trial judge held that although the accidents were "not the sole cause" of the disc herniation, they played "some causative role" (para. 8). She accordingly found the defendants liable for 25 percent of the plaintiff's loss. In the Court of Appeal, the plaintiff sought to uphold the result on the basis of material contribution, but that court declined to consider the issue as it had not been raised at trial.

23 This Court, *per* Major J., discussed the limitations of the "but for" test and the propriety of exceptionally using a material contribution test. Major J. emphasized that a robust common sense approach to the "but for" test permits an inference of "but for" causation from evidence that the defendant's conduct was a significant factor in the injury, and concluded that "[t]he plaintiff must prove causation by meeting the 'but for' or material contribution test" (para. 41). Major J. concluded that the 25 percent contribution found by the trial judge was a "material contribution" sufficient to meet the "but for" test. The term "material contribution", read in context, does not detract from the fact that the Court in the end applied a robust, common sense application of the "but for" test, in accordance with *Snell.*

24 The problem of proof of causation where there are two or more possible tortfeasors arose in a slightly different manner in *Walker Estate v. York Finch General Hospital*, 2001 SCC 23, [2001] 1 S.C.R. 647. Ms. Walker contracted HIV from tainted blood. Her estate sued the supplier of the blood for negligence in failing to screen out donors with a high risk of HIV by warning them not to give blood. In defence, the suppliers argued that "but for" causation was not established, because even if they had taken the required steps to screen, persons with HIV who did not know of their condition or who did not wish to disclose it might have donated blood in any event. The Court rejected this defence and found the supplier liable.

25 In *Walker Estate*, as in *Athey*, Major J. once again alluded to the inadequacy of the "but for" test in some situations, in particular in cases where multiple independent causes may bring about a single harm (para. 87). He found that causation in the usual sense could be established on the trial judge's findings (paras. 89-98). In *obiter*, however, Major J. adopted the reasoning of Sopinka J. in *Snell* to the effect that, in an appropriate case, where the ordinary principles of causation are inadequate to the task and result in unfairness and inconsistency with the underlying principles of negligence, it might be possible to dispense with factual proof of "but for" causation and apply a

less onerous "material contribution" test (para. 99).

26 This brings us to *Resurfice*. The plaintiff, whose job was to maintain ice surfaces, mistakenly poured water into the gas tank of the machine used for that purpose. Gasoline vapour was sparked, causing an explosion and fire, and the plaintiff was badly burned. He sued the manufacturer and distributor of the machine, alleging negligence in not arranging or marking the machine in a way that would have avoided confusion between the water tank and the gas tank. The trial judge found that the plaintiff had not proved that the accident had been caused by the manufacturer or the distributor and dismissed the action. The Court of Appeal ordered a new trial on the basis that the trial judge had erred in his treatment of forseeability and causation.

27 This Court endorsed the trial judge's conclusion that the plaintiff had failed to establish causation on the "but for" test, and held that a material contribution approach was inapplicable. The decision affirmed that in "special circumstances", the law has recognized that the "but for" test for causation should be replaced by a material contribution approach (para. 24). This may occur where it is "impossible" for the plaintiff to prove causation on the "but for" test, and where it is clear that the defendant breached his duty of care in a way that exposed the plaintiff to an unreasonable risk of injury. The basis for the exception in these circumstances is that requiring "but for" causation "would offend basic notions of fairness and justice" (para. 25).

28 To recap, the Canadian Supreme Court jurisprudence on a material contribution approach to date may be summarized as follows. First, while accepting that it might be appropriate in "special circumstances", the Court has never in fact applied a material contribution to risk test. *Cook* was analyzed on a reverse onus basis. *Snell*, *Athey*, *Walker Estate* and *Resurfice* were all resolved on a robust and common sense application of the "but for" test of causation. Nevertheless, the Court has acknowledged the difficulties of proof that multi-tortfeasor cases may pose -- difficulties which in some cases may justify relaxing the requirement of "but for" causation and finding liability on a material contribution to risk approach.

2. The United Kingdom Cases

29 The courts of the United Kingdom have adopted a material contribution to risk approach to the problem of toxic agent cases involving negligence by more than one employer: *Fairchild v. Glenhaven Funeral Services Ltd.*, [2002] UKHL 22, [2002] 3 All E.R. 305; and *Barker v. Corus UK Ltd.*, [2006] UKHL 20, [2006] 2 A.C. 572. Recently, the United Kingdom Supreme Court decided that a material contribution to risk approach can apply as well when a single negligent employer has exposed a plaintiff to asbestos: see *Sienkiewicz v. Greif (UK) Ltd.*, [2011] UKSC 10, [2011] 2 All E.R. 857. I will return to this case later in these reasons.

30 The plaintiffs in *Fairchild* and *Barker* had developed diseases related to toxic workplace agents, but were unable to prove which of several possible sources of the agents had caused their disease. In both cases, the plaintiffs had been exposed to asbestos at different times when working for different employers. A single fibre of asbestos could have caused the disease. As all the

employers had exposed the employee to the same risk, it was impossible to say which employer's negligence in fact led to the disease. In each case, the defendants pointed the finger at the negligence of others. And in each case, the court rejected this defence and found liability on the basis of material contribution.

31 The U.K. toxic agent cases debated whether the defendants in these circumstances were held liable because they materially contributed to the *injury*, or to the *risk* of the injury. Lord Hoffmann, in *Barker*, stated that the purpose of the *Fairchild* exception was "to provide a cause of action against a defendant who has materially increased the risk that the claimant will suffer damage and may have caused that damage, but cannot be proved to have done so because it is impossible to show, on a balance of probability, that some other exposure to the same risk may not have caused it instead" (para. 17).

32 Viewed generally, the toxic agent cases up to *Sienkiewicz* hold that resort may be had to the concept of material contribution to the risk of injury where it is plain that any or all of a number of tortfeasers could have caused the plaintiff's injury, but it is impossible to say that any particular one in fact did so. In this situation, fairness and policy support relaxation of the "but for" test. In each case, the plaintiff would not have contracted the disease, "but for" the negligence of the defendants as a group. As I will discuss further below, to allow the defendants to each escape liability by pointing the finger at one another would have been at odds with the fairness, deterrence, and corrective justice objectives of the law of negligence.

3. When Is a Material Contribution to Risk Approach Available?

33 We have seen that the jurisprudence establishes that while tort liability must generally be founded on proof that "but for" the defendant's negligence the injury would not have occurred, exceptionally proof of factual causation can be replaced by proof of a material contribution to the risk that gave rise to the injury.

34 In *Resurfice*, this Court summarized the cases as holding that a material contribution approach may be appropriate where it is "impossible" for the plaintiff to prove causation on the "but for" test and where it is clear that the defendant breached its duty of care (acted negligently) in a way that exposed the plaintiff to an unreasonable risk of injury. As a summary of the jurisprudence, this is accurate. However, as a test it is incomplete. A clear picture of when "but for" causation can be replaced by material contribution to risk requires further exploration of what is meant by "impossible to prove" (*Resurfice*, at para. 28) and what substratum of negligence must be shown. I will discuss each of these related concepts in turn.

(a) *"Impossibility"*

35 The idea running through the jurisprudence that to apply the material contribution approach it must be "impossible" for the plaintiff to prove that the defendant's negligence caused the plaintiff's injury using the "but for" test has produced uncertainty in this case and elsewhere.

36 Some have suggested that "but for" proof must be logically or conceptually impossible before material contribution to risk is available, arguing that *Cook* and the toxic agent cases show impossibility in this sense. But it is difficult to know what this means. As a matter of pure logic, it is conceivable that ballistics tests could have revealed which shotgun fired the shot that injured Mr. Lewis. It is also conceivable that with further understanding, medical science may someday be able to say which employer supplied the particle of asbestos that caused the plaintiffs in *Barker* to develop mesothelioma. Clearly the impossibility in those examples was related to difficulties with factual proof, not to logical problems inherent in the peculiarities of the case.

37 However, the option of finding that a material contribution to risk approach is available whenever proof of "but for" causation cannot be made on the facts is equally problematic. First, how does one distinguish between a case of true impossibility of factual proof and a situation where the plaintiff simply fails to meet her burden of establishing "but for" causation on the evidence? Unless one can make a clear distinction, one effectively undermines the requirement that the plaintiff bears the burden of showing that, "but for" the defendant's negligence, she would not have been injured. In any difficult case, the plaintiff would be able to claim impossibility of proof of causation. Such a result would fundamentally change the law of negligence and sever it from its anchor in corrective justice that makes the defendant liable for the consequences, but only the consequences, of his negligent act.

38 "Scientific impossibility", relied on by the trial judge in this case, is merely a variant of factual impossibility and attracts the same objections. In many cases of causal uncertainty, it is conceivable that with better scientific evidence, causation could be clarified. Scientific uncertainty was referred to in *Resurfice* in the course of explaining the difficulties that have arisen in the cases. However, this should not be read as ousting the "but for" test for causation in negligence actions. The law of negligence has never required scientific proof of causation; to repeat yet again, common sense inferences from the facts may suffice. If scientific evidence of causation is not required, as *Snell* makes plain, it is difficult to see how its absence can be raised as a basis for ousting the usual "but for" test.

39 What then are the cases referring to when they say that it must be "impossible" to prove "but for" causation as a precondition to a material contribution to risk approach? The answer emerges from the facts of the cases that have adopted such an approach. Typically, there are a number of tortfeasors. All are at fault, and one or more has in fact caused the plaintiff's injury. The plaintiff would not have been injured "but for" their negligence, viewed globally. However, because each can point the finger at the other, it is impossible for the plaintiff to show on a balance of probabilities that any one of them in fact caused her injury. This is the impossibility of which *Cook* and the multiple employer mesothelioma cases speak.

(b) *Substratum of Negligence Involving Multiple Possible Tortfeasors*

40 The cases that have dispensed with the usual requirement of "but for" causation in favour of a

less onerous material contribution to risk approach are generally cases where, "but for" the negligent act of one or more of the defendants, the plaintiff would not have been injured. This excludes recovery where the injury "may very well be due to factors unconnected to the defendant and not the fault of anyone": *Snell, per* Sopinka J., at p. 327. The plaintiff effectively has established that the "but for" test, viewed globally, has been met. It is only when it is applied separately to each defendant that the "but for" test breaks down because it cannot be shown which of several negligent defendants actually launched the event that led to the injury. The plaintiff thus has shown negligence and a relationship of duty owed by each defendant, but faces failure on the "but for" test because it is "impossible", in the sense just discussed, to show which act or acts were injurious. In such cases, each defendant who has contributed to the risk of the injury that occurred can be faulted.

41 In these circumstances, permitting the plaintiff to succeed on a material contribution to risk basis meets the underlying goals of the law of negligence. Compensation for injury is achieved. Fairness is satisfied; the plaintiff has suffered a loss due to negligence, so it is fair that she turns to tort law for compensation. Further, each defendant failed to act with the care necessary to avoid potentially causing the plaintiff's loss, and each may well have in fact caused the plaintiff's loss. Deterrence is also furthered; potential tortfeasors will know that they cannot escape liability by pointing the finger at others. And these goals are furthered in a manner consistent with corrective justice; the deficit in the relationship between the plaintiff and the defendants viewed as a group that would exist if the plaintiff were denied recovery is corrected. The plaintiff has shown that she is in a correlative relationship of doer and sufferer of the same harm with the group of defendants as a whole, if not necessarily with each individual defendant.

42 The only case to apply a material contribution to risk approach to a single tortfeasor is *Sienkiewicz*. A plaintiff suffering from mesothelioma had only been exposed to asbestos from a *single* negligent source and on the trial judge's findings, "but for" causation could not be inferred. The United Kingdom Supreme Court took the view that it was bound by precedent to apply a material contribution to risk approach in all mesothelioma cases. Several members of the court in *Sienkiewicz* noted the difficulty with such a result. Lady Hale observed (at para. 167) that she found it hard to believe that a defendant "whose wrongful exposure might or might not have led to the disease would be liable in full for the consequences even if it was more likely than not that some other cause was to blame (let alone that it was not more likely than not that he was to blame)". In my view, nothing compels a similar result in Canada, and thus far, although Sopinka J.'s remarks in *Snell* (quoted above at para. 20) do not preclude it, courts in Canada have not applied a material contribution to risk test in a case with a single tortfeasor.

43 It is important to reaffirm that in the usual case of multiple agents or actors, the traditional "but for" test still applies. The question, as discussed earlier, is whether the plaintiff has shown that one or more of the defendants' negligence was a necessary cause of the injury. Degrees of fault are reflected in calculations made under contributory negligence legislation. By contrast, the material contribution to risk approach applies where "but for" causation cannot be proven against any of

multiple defendants, all negligent in a manner that might have in fact caused the plaintiff's injury, because each can use a "point the finger" strategy to preclude a finding of causation on a balance of probabilities.

44 This is not to say that new situations will not raise new considerations. I leave for another day, for example, the scenario that might arise in mass toxic tort litigation with multiple plaintiffs, where it is established statistically that the defendant's acts induced an injury on some members of the group, but it is impossible to know which ones.

45 The Court of Appeal reached a similar view of the law to that here proposed. It pointed out that the material contribution to risk exception to "but for" causation is not a test for proving factual causation, but a basis for finding "legal" causation where fairness and justice demand deviation from the "but for" test. It correctly identified the critical element for application of a material contribution to risk approach -- the impossibility of proving which of two or more possible tortious causes is in fact the cause of the injury. And it correctly suggested that the approach could apply to situations where, as in *Walker Estate*, a defendant attempts to defeat "but for" causation by pointing the finger at the hypothetical negligence of a third party that might have caused the loss in any event. It was unnecessary, in my view, to hang the analysis on "circular causation", and "dependency causation", which may complicate the matter rather than simplify it. However, in broad terms, the Court of Appeal correctly identified the circumstances where a material contribution to risk approach may exceptionally be imposed.

C. *Summary*

46 The foregoing discussion leads me to the following conclusions as to the present state of the law in Canada:

(1) As a general rule, a plaintiff cannot succeed unless she shows as a matter of fact that she would not have suffered the loss "but for" the negligent act or acts of the defendant. A trial judge is to take a robust and pragmatic approach to determining if a plaintiff has established that the defendant's negligence caused her loss. Scientific proof of causation is not required.

(2) Exceptionally, a plaintiff may succeed by showing that the defendant's conduct materially contributed to risk of the plaintiff's injury, where (a) the plaintiff has established that her loss would not have occurred "but for" the negligence of two or more tortfeasors, each possibly in fact responsible for the loss; and (b) the plaintiff, through no fault of her own, is unable to show that any one of the possible tortfeasors in fact was the necessary or "but for" cause of her injury, because each can point to one another as the possible "but for" cause of the injury, defeating a finding of causation on a balance of probabilities against anyone.

D. *Application*

47 The trial judge made two errors.

48 The first error was to insist on scientific reconstruction evidence as a necessary condition of finding "but for" causation. The trial judge stated, at para. 66 that

> ... the plaintiff through no fault of her own is unable to prove that "but for" the defendant's breaches, she would not have been injured. This is because after the fact, it is not possible through accident reconstruction modeling to determine at what combination of lower speed and lesser weight recovery from the weave instability would have been practicable.

49 As discussed above, the cases consistently hold that scientific precision is not necessary to a conclusion that "but for" causation is established on a balance of probabilities. It follows that the trial judge erred in insisting on scientific precision in the evidence as a condition of finding "but for" causation.

50 The trial judge's second error was to apply a material contribution to risk test. The special conditions that permit resort to a material contribution approach were not present in this case. This is not a case where we know that the loss would not have occurred "but for" the negligence of two or more possible tortfeasors, but the plaintiff cannot establish on a balance of probabilities which negligent actor or actors caused the injury. This is a simple single-defendant case: the only issue was whether "but for" the defendant's negligent conduct, the injury would have been sustained.

51 The judge accepted evidence to the effect that overloading would have increased instability in the event of a weave caused by tire deflation (para. 41). He also noted expert evidence to the effect that instability due to tire deflation increases with speed and that it was impossible to predict without tests whether the capsize would have occurred at a lower speed (para. 42). However, the trial judge rejected the evidence of the expert witness, Mr. MacInnis, that the accident would have happened even if the defendant had not negligently overloaded his bike and driven too fast (para. 62). He gave a number of reasons for rejecting this evidence. The judge noted that his own findings of fact on the issues of speed and weight were markedly different than the facts assumed by the expert in formulating his opinion. The judge found as a fact that the motorcycle was overloaded to the extent of more than 100 pounds, in other words by a factor of nearly 10 percent, while the expert assumed considerably less overloading -- no more than 5 percent. The judge found as a fact that the defendant had exceeded a proper speed by at least 30 km/h (based on a safe traveling speed of approximately 90 km/h in all of the circumstances, as found by the trial judge), whereas the expert assumed an excess speed of about 12.5 km/h (para. 60). The judge further noted that the expert had "readily conceded" that his opinion that the excess speed and weight were non-contributing factors was "largely conjectural" because it "could not be supported scientifically" (para. 60 (emphasis added)).

52 Having rejected the defendant's expert evidence that the accident would have happened regardless of the excess speed and excess weight, the judge was left with the fact that while there

was no scientific proof one way or the other, "[o]rdinary common sense" supported the causal relationship between the injury and the excessive speed and weight (paras. 63-64). He noted, at para. 64, that the motorcycle's manual itself stated that "[h]igh speed increases the influence of any other condition affecting stability and possibility of loss of control", and that the defendant agreed the speed he was travelling and the load he was carrying were factors that contributed to the accident (para. 33). Finally, the trial judge used language tantamount to finding actual "but for" causation, stating (at para. 67):

> I conclude on all of the evidence that the defendant's breaches of duty materially contributed to the injuries suffered by the plaintiff as a result of the accident. In short, her injuries were the result of her husband driving too fast with too heavy a load when his rear tire unexpectedly deflated. Causation is therefore established within the parameters discussed by the Supreme Court of Canada in *Athey* and *Resurfice*. [Emphasis added.]

53 We cannot be certain what the trial judge would have concluded had he not made the errors I earlier described. All that can be said is that the parties did not receive a trial based on correct legal principles. In my view, the appropriate remedy in these circumstances is an order for a new trial.

54 I would allow the appeal and order a new trial. The appellant will have her costs in this Court. The orders for costs below are set aside.

The reasons of LeBel and Rothstein JJ. were delivered by

55 LeBEL J. (dissenting):-- I have read the Chief Justice's reasons. I agree with the substance of her analysis of the law of causation and the nature of the "but for" test. But, in my respectful opinion, there is no basis in fact and law for ordering a new trial. I would uphold the judgment of the Court of Appeal and dismiss the appeal.

56 The key finding of fact made by the trial judge was that the plaintiff had not proven causation on the basis of the "but for" test. The trial judge specifically stated, at para. 66, that the plaintiff had been "unable to prove that 'but for' the defendant's breaches, she would not have been injured" (2009 BCSC 112 (Can LII)). Given this finding, it would be exceedingly difficult to draw a common sense inference that those breaches caused the accident. Such inferences cannot be pulled out of thin air at the whim of the trier of fact. They must have a reliable factual foundation.

57 In this case, a factual foundation that would support an inference that the overloading of the motorcycle and excessive speed caused the accident is quite simply lacking. The only evidence directly related to the issue came from the respondent's expert, Mr. MacInnis. According to his evidence, the accident would have happened even if the motorcycle had been travelling at a lower, legal speed and without a pound of excess baggage. The trial judge evidently rejected this opinion. The fact remains, however, that no evidence was adduced regarding the exact (or even approximate) speed and weight at which the respondent would have been able to regain control of his motorcycle.

The state of the evidence therefore leaves precious little room for speculating about robust common sense inferences as to the cause of the accident.

58 The Chief Justice takes a different view. She states, at para. 52, that the trial judge "used language tantamount to finding actual 'but for' causation". She quotes the following passage from para. 67 of the trial judge's reasons:

> I conclude on all of the evidence that the defendant's breaches of duty materially contributed to the injuries suffered by the plaintiff as a result of the accident. In short, her injuries were the result of her husband driving too fast with too heavy a load when his rear tire unexpectedly deflated. Causation is therefore established within the parameters discussed by the Supreme Court of Canada in *Athey* [*v. Leonati*, [1996] 3 S.C.R. 458] and *Resurfice* [*Corp. v. Hanke*, 2007 SCC 7, [2007] 1 S.C.R. 333].

59 The trial judge's comments must be read in the context of his decision as a whole. He had determined that, in view of the impossibility of proving how, or whether, each factor had contributed to the accident, "but for" causation should be dispensed with and a "material contribution" test applied. The quoted comments were made in the context of his application of the latter test. They constituted his conclusion that the material contribution test had been satisfied.

60 For the reasons given by the Chief Justice, the application of the material contribution test by the trial judge was inappropriate. Further, as the Chief Justice states, at para. 14, the "but for" and material contribution tests are "two different beasts". The material contribution test does not require a factual inquiry into what likely happened, but imposes liability as a matter of policy. The trial judge's finding that the material contribution test was satisfied cannot be reinterpreted as a finding that "but for" causation was established without seriously undermining the important distinction between the two tests and the clarity of the analysis pertaining to causation.

61 Moreover, I wonder whether the order for a new trial itself represents sound judicial policy. I am not arguing that this Court lacks jurisdiction to issue this order and that the order is therefore illegal. But, on policy grounds related to the administration of justice and the conduct of civil appeals, this Court and courts of appeal should be mindful of the need for finality and efficiency in the civil litigation process. Where it is appropriate to do so, an attempt should be made to resolve the issues and thereby avoid sending the matter back for a new trial, which might itself trigger a new round of appeals.

62 In this appeal, I am unable to find any basis in the trial judge's judgment for inferring that the overloading of the motorcycle and excessive speed could have been the "cause" of the accident as that term is understood in the context of the "but for" test. Nor is this a case in which it would be appropriate to send the matter back for a new trial.

63 For those reasons, I would dismiss the appeal with costs.

Appeal allowed, LeBEL *and* ROTHSTEIN JJ. *dissenting.*

Solicitors:

Solicitors for the appellant: Dick Byl Law Corporation, Prince George.

Solicitors for the respondent: Miller Thomson, Vancouver.

Solicitor for the intervener: Attorney General of British Columbia, Vancouver.