

An Arbitrary Imbalance: Rate Shock and Broken Trust in the 2018/19 General Rate Application

**CLOSING SUBMISSIONS OF THE PUBLIC INTEREST
LAW CENTRE ON BEHALF OF THE CONSUMERS
COALITION (CONSUMERS' ASSOCIATION OF CANADA
(MANITOBA) & WINNIPEG HARVEST)**

Manitoba Hydro 2017/18 & 2018/19 GRA

February 7, 2018

Road Map

- Thank you and a proposed hearing recap for your consideration
- Application of just and reasonable elements from *Order 5/12*
 - Recognizing its onus, has Manitoba Hydro demonstrated that a 7.9% increase (path) is necessary to appropriately balance the interests of ratepayers and the health of the utility?
 - If not rate shock, what level of rate increase would be appropriate taking into account
 - whether the Corporation's forecasts are reasonably reliable
 - whether the Crown Monopoly has demonstrated prudent and reasonable management of expenditures
 - How should the overall revenue requirement be reflected in rates for different classes of consumers?
- Recommendations aimed at the development of just and reasonable rates and improved regulatory oversight and dialogue
- Focus on 7.9% rate application for 2018/19 – interim rate increases for 16/17 and 17/18 effectively immunized by the passage of time and overarching risk to consumers from 7.9%

Thank You

- 2300 voices responding to the PUB acutely aware of risk
- Presenters individuals, municipalities and businesses acutely aware of risk
- Consumers and stakeholders who participated in Consumers Coalition town hall, focus groups, Facebook and Twitter
- Ultimate position developed by Consumers Coalition - informed by interactive dialogue with Manitoba consumers before and during the hearing

Thank You to Coalition Witnesses and Advisors

- **Mr. Pelino Colaiacovo – Morrison Park Advisors Inc. (co-sponsored with MIPUG)**
 - financial markets
 - policy considerations relating to public utilities and the financial marketplace
 - advisor to regulators, firms and NGOs
- **Mr. William Harper, ECS**
 - regulatory economics and rate design
 - practical realities based on many years within a large utility
- **METSCO**
 - international best practice - capital asset management - some of the largest, most sophisticated utilities in North America and Europe
 - advisor to regulators, firms and NGOs
- **Dr. Doug Gotham**
 - load forecast and MISO marketplace
 - State Utility Forecast Group, Purdue U
 - MISO load forecast
 - advisor to regulators, stakeholders and NGOs
- **Dr. Wayne Simpson and Dr. Janice Compton**
 - award winning econometricians
 - advisors to government and to NGOs
- **Independent expertise in the market place – in operations of electric industry – in regulatory principles and in modern economic analysis**

Thank You to the Ratepayers Panel

- Lived experience offers its own expertise
- Ratepayers panel
 - Insight
 - Passion
 - Ability to listen
 - Nuanced struggle with the issues
- And listening, nuance and struggle are required in the face of the challenges posed by Hydro's application

A Need to Dig Deep

- Hearing requires us to look beyond the simple solution of a monopolist imposing rate shock on its captive customers

- *Utilities and utility economics are different from typical economics*

COLAIACOVO, Transcript, 4890

- *Each utility has a different story*

COLAIACOVO, Transcript, 4862

- *If you're going to do peer group analysis in – in a real detailed way, **you have to go very deeply into the stories of each different utility, look for similarities and differences, look for their story and understand their story***

COLAIACOVO, Transcript, 4862-4863 (emphasis added)

Reading Ten Information Requests is Not Enough

- *You can approach your task with a view that the issue is either complex or straightforward. Complex means immersing yourself in 32,000 pages of materials that have been filed to date. Complex means trying to understand and remember every detail. I don't believe it's humanly possible. I don't believe it's necessary. The key issue is straightforward: Does Manitoba Hydro have enough revenue to operate the business, manage its risks and pay its finance expense. Absent a 7.9 percent rate increase, the answer is clearly no*

Manitoba Hydro's Opening Statement, Transcript, 48

- Recommended list of only 10 IRs

Digging Deep may not be preferred when there is a frail analytic edifice

- Narrative of this hearing – is about the unravelling of the case theory in support of rate shock
- Began with a plaintive cry by Manitoba Hydro
 - choose the simple path – the path crafted in the \$4M Boston Consulting Group communications narrative
- Followed by a policy panel that could not reasonably be characterized as experts in electrical utilities or cost of service regulatory principles
- Included both a Manitoba Hydro “sale's pitch” and a “written speech”

SHEPHERD, Transcript, 470-471

CHAIRPERSON GABOR, Transcript, 1768-70, 2235-37

Digging Deep may not be preferred when there is a frail analytic edifice

- MH did not present a single external witness or independent expert in support of its simple path to rate shock
 - no independent witness in support of financial targets
 - no independent witness to document alleged damage to Manitoba if 7.9% path not followed
 - no one from the Province or from a Credit Rating agency
- Indeed, only independent expert proffered by MH – Dr. Mason – implicitly warned against the path to rate shock by noting that the level of rates is a primary driver of energy poverty

MASON, Transcript, 2818-2820

A Choice in Search of a Justification

- Limitations of Hydro's case became readily apparent
 - when exposed to cross examination of its own witnesses
 - when tested by independent evidence from IECs and intervenors
 - in Hydro's attempts to cross-examine the evidence of leading experts such as Mr. Colaiacovo or Mr. Bowman (inadvertent friendly cross)
- Hydro's policy choice to propose rate shock foundered when tested against the evidence of witnesses such as MPA, Daymark (exports) and Intergroup

Two Key Quotes from the Hearing

- *Ratepayers are in fact – in fact, in Manitoba Hydro taking that risk. It's a pure customer risk.*

COLAIACOVO, Transcript, 4855

- *I would like more accountability and transparency from Manitoba Hydro. As a consumer what I still have trouble with is **why am I, as a consumer, being held responsible for the financial resp – irresponsibility or the mismanagement of a – another company?***

MS. EMILY MAYHAM, Ratepayers Panel, Transcript, 3444 (emphasis added)

Recurring themes in Consumer Coalition Submissions

- **Rate shock and rate turmoil** are the inevitable by-products of the rate proposal and the larger plan to achieve 75/25 in 2027 at a time of intensive capital expenditures
- There has been a **failure to explore alternatives** whether in the rate application, day to day capital planning or integrated resource planning including Demand Side Management
- There is a need to **hold Manitoba Hydro accountable** for poor capital planning and management, for ongoing challenges in eliminating bias from forecasting and above all for the **implicit NFAT promise** that major projects could be brought on line without placing an unreasonable burden on current ratepayers
- There is a need to **listen more carefully** to Manitoba consumers and to recognize that their status as captive risk takers puts them in unique relationship with their Crown monopoly
- There is a need to **restore trust** in Manitoba Hydro through improved dialogue both within and outside the regulatory process

Economy, Efficiency, Reliability and Balance

- Given their captive status and the critical nature of Hydro as a basic necessity, Manitobans expect a lot from their Crown Corporation
- They expect reliable service that is delivered in an economic and efficient manner that maximizes provincial well-being while taking into account the broader social and environmental impact of the development and sale of power
- As noted by our Court of Appeal, they expect their relationship with Manitoba Hydro to be fair and balanced:

The PUB has two concerns when dealing with a rate application; the interests of the utility's ratepayers, and the financial health of the utility. Together, and in the broadest interpretation, these interests represent the general public interest.

Consumers' Assn. of Canada (Manitoba) Inc v Manitoba Hydro Electric Board, 2005 MBCA 55 at para 65

This is not a balanced rate application

- Imbalance:
 - lack of proportion or relation between corresponding things (ie - "tension is generated by the imbalance of power")

www.dictionary.com

- Manitoba Hydro has failed to demonstrate that rate shock to prevent potential rate shock is fair to Manitoba consumers or necessary to preserve its corporate health

Part I: An Arbitrary Imbalance

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- Recognizing its onus, has Manitoba Hydro demonstrated that a 7.9% increase (path) is necessary to appropriately balance the interests of ratepayers and the health of the utility?

Roadmap for this Part

- Is 7.9% necessary to satisfy the financial markets?
 - Distinguishing between the problem and the choice
 - The implications of the single minded pursuit of 75/25 in 2027
 - Large capital projects and the sawtooth issue
 - Recommended considerations on credibility
 - Challenges in applying insights from the market and from other Crowns to the unique reality of MB Hydro
 - The relationship between debt/retained earning levels and credit ratings
 - Key drivers for the capital markets' assessment of risks associated with a Crown monopoly enjoying a government debt guarantee
 - In the context of the capital markets, the necessity of rate shock to prevent potential rate shock has not been demonstrated
 - Remembering the “little old lady on Agnes street”
 - Retained earnings and risk including drought risk
 - Considerations of an appropriate rule to give comfort to the financial markets and provide transparency for rate setting
 - Simplistic propositions versus evidence based financial analysis

Roadmap for this Part

- What are the broader implications of 7.9% for the public interest?
 - If it walks like rate shock and it talks like rate shock – its probably rate shock
 - There is an opportunity cost for Manitoba consumers including residential consumers and municipal government
 - Rate shock is hardly optimal at a time of significant market disruption
 - Industry and business will be negatively impacted as will their trust in Manitoba Hydro
 - The economy, jobs and labour income will grow more slowly which will have a trickle down effect on taxpayers

Roadmap for this Part

- If 7.9% is not necessary, what range of alternatives should be considered?
 - A rate at or below 3.95% would appear to be consistent with the regulatory path outlined in the NFAT and subsequent board decisions
 - Rate smoothing would be consistent with long-term regulatory practice and industrial planning needs
 - While there has been significant change, a path in the range of 3.0% to 4.5% annual rate increases would be consistent with the risk tolerances expressed in the NFAT and subsequent PUB orders
 - Issues related to the Weighted Average Term to Maturity (WATM) of new debt should not drive the ultimate rate selected
 - Turning the regulatory approach on a dime would be harmful to confidence in the regulatory process in Manitoba

Distinguishing between the Problem and the Choice

- The Problem

- Over budget and behind schedule Keeyask
- Lower than forecast export revenues
- Lower than forecast load

- Set off against

- Lower than expect interest rates

- The Choice

- To abandon the rate smoothing and relaxation of financial targets recommended in NFAT
- To pursue rate shock level rate increases with the objective of 75/25 in 2027

Is the Option Chosen Necessary?

- [...] *is the situation forcing them into choosing six (6) years of 7.9 percent rate increases? Or did they have a variety of options and this is the one that they selected and, therefore, they're – they have to present arguments as to why this particular option is better than alternatives.*

COLAIACOVO, Transcript, 4846 (emphasis added)

The Choice to Achieve 75/25 in 2027 Drives the Rate Application

- *Once you put in place a determination that you need to get to 25 percent equity within ten (10) years, every other issue pales because you've just set yourself the challenge of finding an extra 3 1/2 billion dollars above costs within ten (10) years, and that trumps everything.*

BOWMAN, Transcript, 6016-6017

- *[...] the only way that you can come to a conclusion that those rates are required is if you believe that the target of 75 percent debt and the timing goal must be achieved by 2027*

COLAIACOVO, Transcript, 4985-4986

MB Hydro is not the first utility in 150 years to face the challenge of Large, Lumpy Assets

- Utilities are peculiar in that you have to deal with the problem of having a sawtooth rate impact for large assets

COLAIACOVO, Transcript, 4870-4871

- *Your rates have to go up immediately upon in-service, and then they fall for life of the asset*

COLAIACOVO, Transcript, 4870

- *That's difficult for ratepayers because everything else in the economy is going up by inflation, more or less*

COLAIACOVO, Transcript, 4870

- *Things don't typically go up by large amounts, and then fall over time; that's not how most products actually work – most markets actually work*

COLAIACOVO, Transcript, 4870

- Over a hundred and fifty years of development of regulatory economics, people have come up with options to try and address the sawtooth effect because it is so abnormal as compared to most of the rest of the economy

COLAIACOVO, Transcript, 4872-4873

The Sawtooth Problem is Compounded when you there are no shareholders to call upon to address this Thorny Problem

- *In Manitoba Hydro's case, there are no investors. There – there are no shareholders who can contribute this equity other than ratepayers contributing that equity through rates. [...] so you are going to rely more on debt during the period of construction, and your debt ratio will unfortunately go up.*

COLAIACOVO, Transcript, 4877

Manitoba Hydro has two problems to deal with, with a large asset:

- Sawtooth effect that occurs for all regulated utilities; and
- Contribution to retained earning.
- Who's going to put that money in? Which customers, at what point in time?
- Raises important issue of how to fairly allocate costs over population who will actually benefit from a used and useful asset

Imposing a target of 75/25 in 2027 Compounds the Sawtooth Problem

- [...] *it means customers have to contribute one quarter (1/4) of that \$6.5 billion that's been spent to date, plus they have to contribute one quarter (1/4) of whatever gets spent on those projects in the next five (5) years till they're finished, plus the customers have to contribute one quarter (1/4) of the difference between capital spending and depreciation over this period.*

COLAIACOVO, Transcript, 4901-4902

Is front loading contributions on a 100 year asset just and reasonable? Is it necessary?

- *Keeyask is going to be coming into service in 2022. So, five (5) years after the coming into service, you will have fully funded the 25 percent customer contribution into Keeyask, and yet Keeyask will last for a hundred years. So for the other ninety-five (95) years of Keeyask's life, customers won't have to contribute anything to it. They'll pay their depreciation. They'll pay the cost of capital, but they won't be contributing to that portion of the capital.*

COLAIACOVO, Transcript, 4902

- The judgement on whether front loading contributions on a 100 year asset is just, reasonable and necessary necessitates forming certain opinions on the analytic credibility of witnesses

Judgements Regarding Credibility

- Intervenor and Independent Experts - Colaiacovo, Harper, Bowman, Osler, Forrest, Yatchew
 - financial markets
 - operations of electric utilities across Canada
 - rate setting issues related to cost of service rate making
 - regulatory issues related to Manitoba Hydro ratemaking in the modern PUB era,
 - energy policy in North America
- Manitoba Hydro on Morrison Park
 - *We saw a fair bit of common ground in the – in the Morrison Park advisors report commissioned by the Coalition and – and MIPUG. I thought was actually a very good, balanced piece of work, but I don't agree with all of their conclusions, just to be clear.*

MCCALLUM, Transcript, 191

Judgements Regarding Credibility

- Hydro Policy Panel (Shepherd and McCallum)

- Strong Careers in Other Fields

- Senior management in telecommunications industry operating under price caps and forbearance of regulation

SHEPHERD, Transcript, 466

- Financial markets

SHEPHERD, Transcript, 131-132

- Outsiders' Perspective

- Unblemished by insight into electrical utilities generally or the modern history of rate regulation in MB

SHEPHERD, Transcript, 131-132; MCCALLUM, Transcript, 434-435; SHEPHERD, Transcript, 435; SHEPHERD, Transcript, 322-323; MCCALLUM, Transcript, 463-464

- Morrison Park on Manitoba Hydro

MR. CHRISTIAN MONNIN: *And why – why have you used those words arbitrarily setting?*

MR. PELINO COLAIACOVO: *The explanations given in the application by Manitoba Hydro use the terms "financial strength" repeatedly and use the terms "unacceptable risk," but without providing numerical demonstration that, you know, what the probability of the occurrence of that unacceptable risk is, that would require such an extraordinary rate increase and – and certainly such an extraordinary repetition of rate increases.*

MONNIN & COLAIACOVO, Transcript, 4967-4968

Judgements Regarding Credibility

- Confidence displayed of Mr. Shepherd and Mr. McCallum should be weighed carefully against their level of experience and their performance under cross examination and through the testing by recognized experts

Judgements Regarding Credibility

- Other Hydro Witnesses
 - Hydro's evidence in this hearing impeached by analysis in NFAT and by its statements to the NEB in August 2017
 - Hamstrung by policy decisions including policy to bias export revenue results
- No External or Independent Witnesses called by Hydro
 - Failure to call witness from Province of Manitoba
 - Failure to call independent witness from financial markets
 - Failure to call KPMG
 - Failure to call witness from Credit Rating Agency
- Hydro's statements in this hearing should be weighed carefully against their evidence in other proceedings and by their failure to call external or expert oral evidence in support

Insights from the Competitive Marketplace have something to offer to MB Hydro – BUT MB ratepayers are not analogous to all other utility customers

- Contrast MB Hydro's perception of Ratepayers

- *No, and – and I think that the – in – in all utilities the owner and the customer are – are different entities.*

MCCALLUM, Transcript, 1554

- With Mr. Colaiacovo's

- *Equity in a private-sector corporation is the ownership position of the shareholders. Who are the shareholders, in Manitoba Hydro's case? Manitoba Hydro has no shareholders to whom it pays dividends. Manitoba Hydro has no shareholders who can sell their shares and recoup their investment. Manitoba Hydro's shareholders, if you will, are really the customers that it has; it's the people of Manitoba.*

COLAIACOVO, Transcript, 4857

- Manitoba Hydro has an explicit export mandate with ratepayers taking the risk. “It's a pure customer risk” unlike jurisdictions like Quebec and Newfoundland where risk is borne by government.

COLAIACOVO, Transcript, 4855-4856

- A fundamental flaw in the Hydro Application is the failure to apprehend and to honour the unique role played by MB ratepayers.

Ratepayers Money is Not Free Money

- Retained Earnings are Consumers Capital – They are not free
- [...] even though the return on equity, in Manitoba Hydro's financial statements is zero, that doesn't mean that equity in Manitoba Hydro's case, what they understand as equity, is free. In actual fact, it's a customer contribution, and every customer has a cost of capital that they face. For some customers, it's going to be extremely high. For low income customers, the cost of capital is potentially defined by credit card statements or check-cashing services. For other customers, it's going to be – for a business customer, it's going to be their own cost of capital facing their business. For high-income residential consumers who have significant discretionary in – you know, wealth, potentially the cost of capital for them is quite low.
COLAIACOVO, Transcript, 4865 (emphasis added)
- MS. MARLA BOYD: Thank you. Ms. Bright, you appear to manage your expenses very carefully. Would you recommend that any business or per – a person adopt a plan that would require them to borrow money to make interest payments?
MS. LYNDIE BRIGHT: I wouldn't necessarily recommend it, because the interest rates on borrowing are quite high. On my credit card, might be 19.9 percent, and I tried to pay the credit card in advance so I don't feel guilty about using it, but there's no way I can influence the rate offered by banks or credit card companies.
BOYD & BRIGHT, Transcript, 3490-3491
- In the context of a cost recovery Crown monopoly with consumers assuming primary risk for export market adventures, any analysis of a rate that does not take into account the ratepayer's cost of capital is unbalanced and unreliable.

There also are risks in simplistically applying insights from other Canadian Crowns to MB Hydro

- BC Hydro, SaskPower, Hydro Quebec, NB Power and NALCOR are structured as a private investor-owned utility and have a requirement to pay dividends to their respective shareholders

COLAIACOVO, Transcript, 4852

See also SHEPHERD & MCCALLUM, Transcript, 485-486

- In contrast:

- Manitoba Hydro is pure cost recovery publicly owned vertically integrated provincial electricity utility – the last one left in Canada.

COLAIACOVO, Transcript, 4854

- Approaches that simplistically look to Canadian precedents and which ignore the precedents of pure cost recovery, publicly owned vertically integrated US utilities such as Tennessee Valley Authority and Bonneville Power Authority should be weighed with care

COLAIACOVO, Transcript, 4854-4855

Recognizing that every utility has a story – what weight can we give to a debt/equity target in isolation

- Boston Consulting Group, Slide 28, CC Supplemental Book of References to Closing Argument, Tab 1, p 7.
- **MR. JAMES MCCALLUM:** *So the – the other four (4) here are – are all – or five (5), I guess, including Manitoba Hydro all enjoy the credit rating of their provincial owner. These aren't credit ratings that are necessarily established on their standalone financial strength. They're – they're – it is true that some of the rating agencies award a credit rating to Manitoba Hydro. Specifically, should we issue debt in our own name, but are credit rating is – is entirely determined by the credit worthiness of the province.*
THE CHAIRPERSON: *So they're – they're – notwithstanding the difference in equity, theirs are tied to their – if I could call it provincial masters?*
MR. JAMES MCCALLUM: Yes.

MCCALLUM & CHAIRPERSON GABOR, Transcript, 495-496

Recognizing that MB Hydro has its own unique regulatory history - what weight can we give to a debt/equity target in isolation

- PUB MFR 14, CC Supplemental Book of References to Closing Argument, Tab 2, p 11-12.
- From 1960s to 1996, Manitoba Hydro's equity was consistently less than 10 percent

OSLER, Transcript, 6028

While Bond Rating Reports are Relevant – it is the Perception of the Marketplace that is critical

- Mr. Colaiacovo and Mr. McCallum agree that the key issue is the capital markets
 - *And I just want to stress that markets are not ratings, and ratings are not markets. The two (2) are related, but they're not the same thing. Capital markets in Canada, practically speaking, for provincial debt, are really a hundred and fifty (150) to two hundred (200) institutions, financial institutions, and these consist of banks, insurance companies, pension funds, and other very large pools of capital.*
- *credit rating agencies are an important player but – but bond investors, they're also a really important player. Ultimately, they are the folks that decide how creditworthy you are and what - what price they're going to charge you to take – loan you their money.*

COLAIACOVO, Transcript, 4885

MCCALLUM, Transcript, 550

While 75/25 provides the comfort of familiarity to the financial markets – it is hardly determinative of affordable access to credit

- 75/25 has the comfort of familiarity

COLAIACOVO, Transcript,4906

- MPA Slide 11 from PowerPoint, CC Supplemental Book of References to Closing Argument, Tab 3, p 16.

- *So in this analysis, using long-term debt and PPE, we see that Manitoba Hydro is neither at the top nor at the bottom of ranges. There are utilities that have a lot more debt relative to their utility assets, there are utilities that have a lot less.*

COLAIACOVO, Transcript, 4861

- *Some of these utilities are quite comfortable in – in their circumstances, and some of them are very worried about their future. And there is no correlation between their debt ratios and that comfort or worry. Each utility has a different story. And each utility also faces other things that don't show up on these numbers, like concern around nuclear risk, or environmental risk, or failed projects's, right.*

COLAIACOVO, Transcript, 4861-4862

The Real lessons from a Peer Analysis and Market Analysis

- Some level of reserves is required

- Every utility has to manage risks and needs reserves to manage its risks.

COLAIACOVO, Transcript, 4863-4864

- But there are trade-offs

- *[...] it's almost a trade-off. The higher your reserves, the less often you need to adjust your rates to manage risks if they materialize. On the other hand, if you have very low reserves, you may have to adjust your rates more often if bad things happen and you need to raise rates to cover those costs. It's a choice that utilities make: reserves or amendments to rates at need.*

COLAIACOVO, Transcript, 4864

- The Key is to be Transparent

- *[...] as long as you make clear what your choice is and stick to it and come through on that choice, so either use your reserves or change your rates when you need to, if you need to, capital markets are going to be satisfied.*

COLAIACOVO, Transcript, 4865

Key Factors in Market Analysis

- *utilities and utility economics are different from typical economics*

COLAIACOVO, Transcript, 4890

- **1) Debt/Guarantee**

- *But number 1 is the debt guarantee. Manitoba Hydro is a provincially-guaranteed entity. All of its long-term debt is guaranteed by the Province. That's incredibly important. In fact, it's so important, it puts Manitoba Hydro into a different category of issuer, right?*

COLAIACOVO, Transcript, 4889-4890

- **2) Regulatory Regime**

- *Secondly, there is the regulatory regime. Again, incredibly important. Utilities are treated by credit-rating agencies as a special category, right? So there is a – a category for normal corporates, and a special category for utilities.*

COLAIACOVO, Transcript, 4890

- *And the reason why low interest rates are attached to utilities and especially public utilities that are government – government-guaranteed is that the markets expect to get paid.*

COLAIACOVO, Transcript, 4894

Key Factors in Market Analysis

- 3) Ability to Raise Rates

- *Then the third item is their ability to raise rates. In other words, the ability to control their own cash flow. [...] It's also their relationship, their relationship with the regulator, their relationship with government, their standing in their community, you know, and – and it has a lot to do with the risks that they face, right, and being able to manage those risks. What's the history of rate increases? What's the pattern? How are they decided on?*

COLAIACOVO, Transcript, 4891

Weight placed on financial reserves is very different than for a private sector corporation that is not a utility

- 4) Financial Reserves

- *then finally, financial reserves [...] That's a resource in managing your relationship with the capital markets. Clearly, if a company has what are often called strong fundamentals, they're going to be well-regarded. It's – it's another ingredient, but very different from a typical corporate. Because we're dealing with a subset of a subset of a specialized corporation, those financial fundamentals are actually, relatively speaking, a lot less important for Manitoba Hydro than they are for ABC Corporation that competes in the general market selling widgets, all right, because it is a special category.*

COLAIACOVO, Transcript, 4891-4892 (emphasis added)

Has Hydro demonstrated that Rate Shock to Avoid Potential Rate Shock is Necessary to Access the financial markets over the next few years

- Are these Hydro's argument in support of rate shock to prevent potential rate shock?
 - A healthy retained earnings cushion would allow Hydro to operate without sudden rate shocks in the event of financial challenges.
 - The lack of this healthy equity cushion would create risks for the Province
 - Rate shock level rate increases provide a cushion in and of themselves beyond the target
- MR. PATRICK BOWMAN: *Oh, your suggestion is – is that if you have rates high enough that your net income is large, then if adverse events happen, all you do is end up with lower net income. Is that –*
MR. MATTHEW GHIKAS: *Correct.*

Lest you doubt the assertion of Mr. Ghikas

- Ms. Carriere

- Under 7.9% path, during a 5 year drought, MH still has positive net earnings

CARRIERE, Transcript, 1232-1233

- And Mr. Colaiacovo agrees

- *Right. And – and so I think that begs a bit of a question, because if the point of having reserves is to withstand a drought, why are you actually – why are your rates so high that during a drought, you're still building your reserves?*

COLAIACOVO, Transcript, 5162-5163 (emphasis added)

- Reserves under a 7.9% rate path would grow even in the event of a severe drought

A Deft Dissection of Rate Shock to avoid Potential Rate Shock

- *by doing eight (8) years of increases at, you know, for a total of 70 percent, are you actually doing a rate shock to prevent a rate shock, or to ensure against a rate shock? Well, doing something with certainty in order to avoid its potential in the future, at some level of probability, is a questionable action to take.*

COLAIACOVO, Transcript, 4907 (emphasis added)

Why do you need reserves if your rates are so high you don't need reserves

- *if the purpose of reserves is to withstand droughts, and you're not actually ever using a reserve during a seven (7) year drought, then how is that the purpose of the reserve? I mean, your – your rates are so high that a drought becomes irrelevant.*

COLAIACOVO, Transcript, 5166

The Claims of Risk to Manitoba Appear Overstated

- *Do capital markets actually care that you necessarily recover that enormous capital contribution over the course of five (5) years after Keeyask is done?*

COLAIACOVO, Transcript, 4907

- Ms. Stephen and Mr. Colaiacovo agree that to date - access to capital has not been imperilled by Keeyask and Bipole III

- **MR. BOB PETERS:** *Ms. Stephens, has Manitoba Hydro experienced any difficulty in having the province borrow money that is ultimately provided to Manitoba Hydro for Bipole III and Keeyask?*

MS. SUSAN STEPHEN: *Not to this point, no.*

STEPHEN, Transcript, 938

- *Is there any practical risk that Manitoba Hydro could not get the long-term debt money that it needs? And I think the only short answer to that question is no. [...] is there a practical risk that Manitoba Hydro cannot get that? No, there is not, because its debt comes from the Province, and the Province raises money week in and week out on the capital markets.*

COLAIACOVO, Transcript, 4883-4884

Is there evidence on the record that the 7.9% rate path is necessary to satisfy financial markets?

- No evidence of adverse reaction after 3.36% interim
 - DR. BYRON WILLIAMS: *And, sir, on August of 2017, interim rates were issued by this Board at 3.36 percent; agreed?*
MR. JAMES MCCALLUM: *I agree.*
DR. BYRON WILLIAMS: *And there was no run to the barricades in terms of the spread between Canadian long bonds and Manitoba bonds, sir?*
MS. SUSAN STEPHEN: *No.*

WILLIAMS, MCCALLUM & STEPHEN, Transcript 1537-38.

See also MCCALLUM, Transcript, 476 for the importance of Long Canadas

See also Exhibit CC-17 at page 31 for Morrison Park Advisors on spreads following the S&P downgrade

MB Hydro Maintained Exceptional Ability to Attract Debt Capital after 3.36 Interim Rate Application

- *Ability to Attract Capital: Manitoba Hydro is viewed by the Credit Rating Agencies as being able to meet its financial obligations without support from the tax-base of the Province of Manitoba. However, since Manitoba Hydro is a provincial Crown corporation, its financial strength is supplemented by receiving a flow through credit rating from its owner, the Province of Manitoba. The Province of Manitoba currently has a long-term credit rating of AA-2 by Standard and Poors, A (high) by DBRS, and Aa-2 by Moody's Investors Service. Manitoba Hydro's long-term debt is predominately provided through advances from the Province of Manitoba. Therefore, the Province of Manitoba's strong credit rating and capital market liquidity provide Manitoba Hydro with an exceptional ability to attract debt capital. Manitoba Hydro's financial strength and ability to attract capital is not expected to be affected by the borrowing requirements of the MMTP.*

Manitoba Hydro's Application to the NEB re MMTP (August 2017), Exhibit CC-47 at page 83 (emphasis added)

Markets did not react adversely to NFAT vision of 75/25 in 20 years

- *in the NFAT, as I – as I mentioned earlier, the preferred development plan that Manitoba Hydro strenuously supported through that whole hearing process, in fact, appear to include an assumption that achieving 75 percent would only be done after the passage of approximately twenty (20) years under a reference scenario. And the outcome of the NFAT process was approval of the Keeyask project going forward. Markets did not react badly to that, in fact, there was no real market reaction.*

COLAIACOVO, Transcript, 4981-4982

Markets did not adversely react in 03/04 Drought

- *In the early 2000s, there was a year of significant drought, and Manitoba Hydro's financial performance suffered dramatically that year. Its cash flow dropped far below its desired levels. The credit-rating agencies did not respond. There was no change to Manitoba Hydro's credit rating, despite the fact that they had one (1) very bad cash flows year because, in fact, the next year was much better.*

COLAIACOVO, Transcript, 5016-5017

- And rates can always be increased during a drought as they were in early 2000s

- **THE CHAIRPERSON:** *These numbers don't preclude the Board from either providing an increased rate when a drought happens, or a rate rider to – to address the issue of a drought?*

MR. PELINO COLAIACOVO: *No. Both of - both of these figures are done on the assumption that the Board makes no changes to rates while the drought is happening.*

CHAIRPERSON GABOR & COLAIACOVO, Transcript, 5168-5169

Markets have not punished Hydro for reality that it rarely met 75/25

- *[...] that target has been very loose over the past twenty-two (22) years. The target was developed in 1995 when, in fact, the Company had 95 percent debt. It did achieve the 75 percent debt metric for a couple of years in the early 2010s, and since then, it has not achieved that metric, and it's – it's going the other way in the context of a major capital expenditure. So what exactly in that twenty-two (22) year context of history does that 75 percent target actually mean?*

COLAIACOVO, Transcript, 5064-5065

There is an Opportunity Cost to Manitoba Consumers from Rate Shock to Prevent Rate Shock

- High cost money from ratepayers instead of low cost money from capital markets
 - *There's an opportunity cost to customers and that opportunity cost to customers is actually higher than the cost of debt to Manitoba Hydro. Manitoba Hydro because it gets its debt from the province of Manitoba is getting much cheaper debt than virtually anyone else in the economy can get. And so what you're doing is you are **taking high-cost money from ratepayers instead of getting low cost debt through the capital markets.***

COLAIACOVO, Transcript, 5115 (emphasis added)

Remember the Little Old Lady on Agnes Street

- *So when I look at that, and look at it in the sense of the little old lady on Agnes Street who is now going to carry the risk, and she's going to carry the cost for a decision she wasn't involved in, and was done without her encouragement, in any event. So when I look at it, then, who is the person who should be carrying some of this risk and the costs associated with some of that risk?*

FORREST, Transcript, 6439

Rate Shock to Prevent Rate Shock unduly punishes consumers who have borne above inflation rate increases since the great recession

- *[...] there have been some statements made over the course of – of this hearing so far that customers weren't putting in enough money for the basic operations of the company. And I think the financial statements don't support that, particularly when you normalize for the accounting standards*

COLAIACOVO, Transcript, 4882

- While MB Hydro sought to rebut this allegation on the last day of oral evidence its claims were refuted by the recognition that its analysis did not account for a very significant value of accounting changes

- *MR. BOB PETERS: All right. So if we take the 62 million and the 37 million, that's an additional \$99 million of accounting changes that have resulted in higher rate increases, correct?*

MR. JAMES MCCALLUM: I'm – maybe – I'm not in a position to –

MR. BOB PETERS: Let me – let me ask it this way. That \$99 million of adjustments has flow-through to net income, whereas previously, it – it did not?

MR. JAMES MCCALLUM: Subject to check, I'll accept that

PETERS & MCCALLUM, Transcript, 7596

- Rate Increases since the Great Recession significantly higher than inflation

BARNLUND, Transcript, 2858-2859

So what would be an appropriate target?

- *And then a broader question is: Is the debt ratio target actually the right kind of target for a pure cost recovery public utility that's going through a major investment period? Maybe it's the right kind of target to have when you're not in a major investment period. Maybe it was the right kind of target – target to have in 1995, when they came up with the target.*

COLAIACOVO, Transcript, 4902-4903

So how would one set an appropriate target?

- One approach may be akin to the dynamic capital adequacy approach used with regard to MPI

See PUB Order 130/17 at 70-71.

- What magnitude of smoothing reserve might be required based upon:
 - What risk tolerance does one have?
 - What type of risks should you be protecting against with a smoothing reserve?
 - What types of risks are less appropriate for a smoothing reserve?
 - Risks (if any) of moral hazard (incenting risky or imprudent corporate behaviour)
 - What is an appropriate period for smoothing?
- Questions cannot be answered definitively in the course of this proceeding and it may be appropriate for additional consideration in a technical conference if it is led by the PUB and not by Manitoba Hydro.

Insight into acceptable risks levels would improve the regulatory dialogue

- *Now in the application, Manitoba Hydro has asked for four (4) times the rate of inflation because the previous paths were unacceptably risky. But what does that actually mean? And it – it doesn't appear from the material that we read that they've provided any clear logical links between the data and the request other than – than using terms like "unacceptably risky." What threshold of probability is unacceptably risky? What threshold of consequences are unacceptably risky? Yes, there are cases where 4 percent, for example, two (2) times the rate of inflation is not enough. But how many cases, under what scenarios and what is the likelihood of those occurring and should you be raising rates by four (4) times the rate of inflation because there is, for example, a 5 percent probability of that scenario arising? Should you raise rates if there's a 10 percent scenario? Should you raise rates if there's a 20 percent probability? They haven't talked about any of that. They've simply said, we want to raise rates at four (4) times the rate of inflation to achieve this target by 2027, because the alternative is unacceptably risky. To me, if you don't provide the data, if you don't provide thresholds, if you don't provide analysis, it's arbitrary.*

Mr. Osler and Mr. Colaiacovo agree that the starting point is the need to manage drought

- *[...] have to be able to demonstrate in no uncertain terms that you're managing your hydrological risk.*

COLAIACOVO, Transcript, 4908

- Osler also considers MRET for drought as a key reserve requirement:
 - *We were looking at it as the highest single risk as it was back then redefined with modern parameters and numbers and the key thing that you want to make sure that you're paying attention to, in that context, in terms of financial strength of the Company*

OSLER, Transcript, 6123

- But you don't need 25% in retained earnings to do that.

COLAIACOVO, Transcript, 4915-4916

- Cost of a 5-year drought has decreased because of lower export prices.

CARRIERE, Transcript, 1542

Interest Rate Fluctuations Should Not be Managed by Reserves

- Manage them prudently in the short term through tools that you have such as robust treasury practices to do that, and over the long term you pass through things like interest rates or inflation.

COLAIACOVO, Transcript, 4912-4913

Export Prices as a middle ground

- *Exports in the short term, you may need to smooth, but not in the longer term. You can't. There's no practical way to do it.*

COLAIACOVO, Transcript, 4915

How might the rule assist rate setting?

- *I would suggest because you have a history of looking at five (5) and seven (7) year droughts, that you may choose to – to use one (1) of those time horizons. And – and so you would ask yourself, in – in a very challenging drought scenario, a five (5) or a seven (7) year drought, if our rates were 'X' percent over that seven (7) years, would the Company continue to be self-supporting, perceived as self-supporting through that entire period?*

And if the rates are high enough, well, then, that helps guide you to a – a decision that those rates are sufficient. Then, you would also ask yourself, if water was at more typical levels over that period, over that five (5) or seven (7) year period, what would be the effect? Would it be – would we be making progress on our financial targets more broadly? Would be – we be repaying capital? Right?

COLAIACOVO, Transcript, 4941-4942

Simplistic Propositions versus Analytic Rigour

- A higher sawtooth may not make sense
 - [...] *the taller you make the sawtooth the lower your nominal dollar expenditure is going to be, but that doesn't make it fair or sensible from an inflation-adjusted or a discount rate adjusted basis.*

COLAIACOVO, Transcript, 4948

Simplistic Propositions versus Analytic Rigour

- Magnitude of debt in isolation is just a fact, not a critical issue

- *I don't think magnitude of debt in isolation has any relevance. Debt in relation to assets so, you know, if your assets are highly leveraged it wouldn't matter but if you have \$50 billion of assets and \$25 billion of debt is 25 billion an important number? I don't actually think so. So the magnitude of the debt in isolation is just a fact.*

COLAIACOVO, Transcript, 4991

- *No, it isn't. And actually, I – when I was looking at this, I was looking at the Manitoba Hydro's application in the discussion of the various financial metrics, that particular tab, there's lots of graphs on debt equity ratio, there's lots of graphs on EBITDA, there's logs [sic] of graphs on cash flow. I don't recall there being a graph in there on – on debt level*

HARPER, Transcript, 5396

Hydro's new CAPEX focus does not accord with its presentation to rating agencies or with realities of capital markets

- New cash flow measure not shared with credit rating agencies

STEPHEN, Transcript, 907

- *Yeah, the – the reporting agencies will typically look at cash flow to debt, and they'll look at the financial structure, and they'll look at liquidity, and a whole bunch of other metrics, but cash flow to Capex is not on their list.*

COLAIACOVO, Transcript, 5146

Cash flows will rebound after construction finishes

- **MR. BOB PETERS:** [...] – *the Board will notice that at least until 2023, Manitoba Hydro has cash flows that are less than their property, plant, and equipment expenditures, correct?*

MR. PELINO COLAIACOVO: *That's entirely consistent with their Major Capital Expenditure Plan.*

PETERS & COLAIACOVO, Transcript, 5148

- **MR. BOB PETERS:** *And because, Mr. Colaiacovo, the cash flow exceeds the property, plant, and equipment starting in approximately 2023, that tells this Board that all of those business operations capital expenses, or what we've called sustaining capital, those are already being paid for by the cash flow from operations?*

MR. PELINO COLAIACOVO: *Yes.*

PETERS & COLAIACOVO, Transcript, 5151

What are the broader implications of 7.9 % proposal (plan) for the public interest?

The Assertion

- *[...] what we know for certain is that Manitoba Hydro has an enormous amount of debt and has no path forward that does not include significantly adding to that debt. The risks and consequences of this debt, if left unchecked, for Manitoba Hydro and its customers, could impair not only the electrical utility, but also the financial well-being and competitiveness of our customers in the broader Manitoba economy for years if not decades to com. [sic]*

SHEPHERD, Transcript, 133

- The real issue is whether a case has been made that the rate shock is the preferred response to protecting the MB economy or whether there are superior alternatives?

PS – where is Hydro's evidence in support of the assertion that the 7.9% rate increase will strengthen the MB economy

- Manitoba's low cost of electricity is cited as a strong advantage
 - DR. BYRON WILLIAMS: [...] you'll see one (1) of the strengths flagged by DBRS is Manitoba's low- cost hydroelectric based generating capacity; agreed?
MS. SUSAN STEPHEN: Agreed.
DR. BYRON WILLIAMS: And towards the middle of that paragraph DBRS flags Manitoba's distinct competitive advantage when competing for new business investment in some industries; correct?
MS. SUSAN STEPHEN: Correct.
DR. BYRON WILLIAMS: In the last sentence, obviously, it observes that significant rate increases might diminish this advantage though Manitoba will still have competitive rates; agreed?
MS. SUSAN STEPHEN: Correct.

WILLIAMS & STEPHEN, Transcript, 1536-1537

PS – where is Hydro's evidence in support of the assertion that the 7.9% rate increase will strengthen the MB economy

- Economic Impacts of rate increases on customer classes not analyzed by Manitoba Hydro
SHEPHERD, Transcript, 347
- No overall attempt to quantify the economic impact of rate increases on Manitoba
SHEPHERD, Transcript, 348
- No assessment of the opportunity cost for ratepayers in original application
MCCALLUM, Transcript, 1468
- No assessment of the effects of rate shock on economy, jobs or labour income

If it walks like rate shock and it talks like rate shock – then its rate shock

- While Hydro refuses to admit its application constitutes rate shock
BARNLUND, Transcript, 1469-1470
- Dr. Yatchew moves beyond semantics
 - *So let me move away from those semantic kinds of debates. The reason I used this language here is because I'm really thinking of the projected rate increases cumulating to 50 percent. That's a big change. We can discuss whether that – the word "shock" should be used or not, but a 50 percent real increase in the price of electricity, even if it's entirely justified and that's – it could be justified on the basis of financial racial arguments, that still is a very large increase and in that sense, it is a shock. I mean, if you're in business and 15 percent of your costs are electricity costs, and there are few instances of industries where that's the case, you're taking a significant hit. It's – you're going to go back to your spreadsheets and look at your business plans and think about what your capital investments are going to be in the coming years. So that's why use the word "shock."*

YATCHEW, Transcript, 4458-4459

Low Income Consumers are highly vulnerable to rate shock

- **Energy poverty rises faster and stays higher under 7.9% rate path**
 - *So even looking almost twenty (20) years ahead the current scenario is dramatically higher impact on energy poverty than the original scenarios that were looked at in the report. And energy poverty not only grows for a longer, but assumes a permanently higher level. In the short-term the increases are more than a 50 percent increase in energy poverty, but in the long-term, there are still increases of more than one-third in the rate of energy poverty in the province.*

SIMPSON, Transcript, 4672-4673
See also, SIMPSON, Transcript, 4774-4775

A 7.9% Path is likely to Slow Growth

- A sustained path of 7.9% rate increases is likely to slow economic growth, growth in labour income and growth in jobs as compared to inflationary increases

COMPTON, Transcript, 4641-4643

- *At the end of the seven (7) years, the – we would expect GDP to be 2.6 percent lower than it would have otherwise, or 3.4 percent lower if we're looking at the full effect with the total multiplier. Job – the decline in jobs would be approximately three thousand (3000) to thirty-eight hundred (3800) after the seven (7) years.*

COMPTON, Transcript, 4641-4642

- *The decline in GDP suggests that over seven (7) years the rate increases will create a loss of approximately one (1) year's growth in the Manitoba economy relative to where the economy would be absent the rate increases – or I should – absent the rate increases above inflation.*

COMPTON, Transcript, 4643

A 7.9% Path is likely to Slow Growth

- A sustained path of 7.9% rate increases is likely to slow economic growth, growth in labour income and growth in jobs as compared to the 3.95% path

Exhibit CC-43, Simpson and Compton Presentation at slide 15

- Relatively less tax revenues as a result of relatively slower GDP growth

COMPTON & SIMPSON, Transcript, 4815-4817

- Not a worse case scenario

- Accounting for use of savings or EI payments is unlikely to have a material effect on calculations

Exhibit CC-51, Response to Undertaking #51 given to Dr. Grant

See also SIMPSON & COMPTON, Transcript, 4795-4798

- *I don't see it as the weak - the – the worst case scenario. I think this is the – the effect the Manitoba Hydro rate increase will have on the economy.*

COMPTON, Transcript, 4659

Dr. Yatchew suggests rate smoothing would be preferable to rate shock

- While Dr. Yatchew did not model the impact of the rate increase on the economy, he suggested the steepness of the increases will impose significant burden that in the interim it could impose significant costs in some locations, especially industry sensitive to electricity prices

YATCHEW, Transcript 4456, 4438-39

- **He noted that pricing electricity higher than necessary leaves assets under-utilized and that increase in period of excess capacity are suboptimal because they erode revenues when marginal cost production is low**

YATCHEW, Transcript, 4462–4466

- Dr. Yatchew also flagged the carbon leakage problem

- *Yes, sir, that's correct. Yes, and – and we do have this carbon leakage problem. You increase the price of – of, let's say, a clean fuel, you're going to very likely cause migration, and that migration may be to less - less environmentally-friendly fuels.*

YATCHEW, Transcript, 4471

Small Business, Industry and Municipalities reject the 7.9% rate path

- *Our members have made it clear that the electrical rate increases of 7.9 percent annually until 20 – 2023/'24, would severely impact the businesses and their employees. In fact, energy costs are already among the top three (3) cost pressures identified by the Manitoba small business owners in CFIB's December 2017 business barometer, as well as in November.*

ALWARD, Canadian Federation of Independent Businesses, Transcript, 3464

- **Impact of cumulative rate increases could be disastrous for mining industry and for Manitoba's North more generally**

MCLANDRESS, The Mining Association of Manitoba, Transcript, 7668-7670

- *It's not a coincidence that this is Resolution Number 1. This is a – this is something that really affects all municipalities and is a very important to all of them. During the reso – resolution debate, AMM delegates voiced serious concerns when met with Manitoba Hydro's proposal of seven point nine (7.9) annual increases. If approved, such increases would have a dramatic and negative effect – effects on municipal operating budgets, particularly for recreation infrastructure.*

GOERTZEN, Association of Manitoba Municipalities, Transcript, 3458

If 7.9% is not demonstrated to be necessary, what range of alternatives should be considered?

A Rate at or Below 3.95% would be consistent with the implicit NFAT commitment

- The NFAT path is highly relevant:
 - understanding of range of risks
 - understanding of inter-generational equity trade-offs
 - recognition of the need for smoothing and relaxation of financial targets
 - set expectations in terms of reasonable rate path to accommodate anticipated scope of risks
- In the NFAT Report, in a section entitled "Impact of Development Plans on Electricity Rates", the PUB included a table that compared the rate increases, both annual and cumulative, for different development plans.

PUB, *Report on the Needs For and Alternatives To (NFAT) Review of Manitoba Hydro's Preferred Development Plan* at 171.

- In the NFAT, one of the factors the PUB was to take into consideration was: (f) *The impact on domestic electricity rates over time with and without the Plan and with alternatives.*

PUB, *Report on the Needs For and Alternatives To (NFAT) Review of Manitoba Hydro's Preferred Development Plan* at 259.

Express Consideration of Range of Risks and Trade-offs in NFAT

- Hydro asserted embarking on investment from position of strength and the “strongest financial position in its history”
CARRIERE, Transcript, 882-883
- Risks of adverse events related to droughts, exports, capital costs and load expressly contemplated in NFAT
CARRIERE, Transcript, 1500-1503
- Complex considerations of intergenerational equity including recognition that gas plan had the advantage in the medium term
CARRIERE, Transcript, 1493-1497
- Express consideration of rate smoothing
CARRIERE, Transcript, 1526-1527
- 7.9% rate increases not considered at the NFAT
CARRIERE, Transcript, 1498

Rate Smoothing Would be Consistent with Long Term Regulatory Practice and Long term industrial planning needs

- *[...] evidence that I've given over the years have always been focused on, these are long-term assets. We want to see stable and predictable rates that reflect the lives of these assets and do not get unnecessarily deviated in the short run by other issues. Now, if we have a crisis because assets run into problems, or because we have a – a very extended drought that pushes us to the limit, the regular review process that we recommend is intended to protect you against that, and to tell the financial community that we have in place a process by an independent regulatory body rather than a cabinet that's making decisions based on politics, that's based on principles, and it does have the ability to review this regularly, so you do not need to worry that we are making a decision today that we are going to live with for absolute certainty for the next ten (10) or twenty (20) years without any chance to change it, and we better get it absolutely right. [...] **There are various ways to do it, but it should be based on the assets, the life of the assets, and a consistent approach to pricing of similar assets in that jurisdiction, and not something that you change capriciously, or you don't pay attention to.***

OSLER, Transcript, 6184-6185, 6186 (emphasis added)
See also OSLER, Transcript, 6020-6021

Rate Smoothing would appear to be consistent with the advice of Dr. Yatchew

Rate smoothing is a useful tool for promoting intergenerational equity. The projected profile is more in the nature of a step function over six (6) years, followed by a rapid decline to increases close to the rate of inflation. Some would argue this isn't quite rate smoothing.

YATCHEW, Transcript, 4443

What about Hydro's assertion that its current financial situation constitutes a material change in circumstances that could not have reasonably been contemplated at the time of NFAT?

- William Harper's Analysis:
 - Starting point assumes Hydro has reasonably reliable forecasts and prudent expenditures
 - Concludes that even without testing forecasts or prudence of expenditures Hydro has not demonstrated a material change in circumstances that would necessitate a radical departure from the NFAT range
 - Implicitly calls into question the credibility of the original 7.9% rate application by noting that IFF 16 was not grounds to allege a material change in circumstances
HARPER, Transcript, 5222, 5204-5205
- With regard to IFF16Update
 - *extending the 3.95 percent increases to 2033/'34 allows for the achievement of a 75 percent debt ratio just one (1) year later than the previous plans had, i.e., 2034/2035. As a result, while there's been some deterioration, I do not see it as being – being significant, but rather one that could be managed by adjusting the existing rate plan a small amount.*

Hydro has not justified a radical departure

- **Even Adjusting for a 20 year weighted average term for maturity for new debt does not suggest Hydro has justified 7.9%**
 - *However, I'd note that to achieve the 75 percent debt ratio by 2033/'34 would require only a modest increase in the annual rate adjustment over the period to 4.34 percent per annum. Based – based on this, the proposed 7.9 percent change pro – proposed by Manitoba Hydro is – does not seem to be warranted*
- See CC Supplemental Book of References to Closing Argument, Tab 5, p 24
- Also identifies key areas for testing of forecasts and prudence of expenditures

HARPER, Transcript, 5212

Intergroup concludes that Hydro is generally right down the fairway

- *The clear conclusion from the above material is that financially, the outcomes of PUB/MH I-34 Attachment 2 represent a pathway that is sound in terms of the earlier NFAT expectations, and largely consistent with the trajectory that was acceptable to the Board in its review of IFF15, which it also parallels.*

Exhibit MIPUG-13, Pre-Filed Testimony of Mr. Patrick Bowman, page 5-10

- *We're going to have a – a debt that peaks higher than we ever expected it, and that is true because of the capital cost. But as you see from the earlier slides, despite that – that peaking higher, it has the benefit of offsetting interest costs being lower, and as a result, the cost of the plan ends up almost exactly mid – straight down the fairway for where we expected the in plan – plan costs to be.*

BOWMAN, Transcript, 6085, referring to slide 32 of Exhibit MIPUG-26

The Weighted Average Term to Maturity cannot drive cash flows

- *And Mr. McCallum spoke the other day to our debt issuance and it's probably my error. I haven't updated him on some of our recent issuances. We have done some thirty (30) year issuances this year and we have 2.5 billion in borrowings to date. Our last two (2) debt issues were thirty (30) year issues and our weighted average term to maturity is currently eighteen (18) years.*

STEPHEN, Transcript, 707

- *We manage the business in real time, and – and in fact, I believe Ms. Stephen mentioned this yesterday. As we've seen this change in the – in the interest rate environment and the term structure of interest rate, we've started – nothing to do with any expectation around rate increases or cash flows, but the – the risk/return relationship has started moving away from us, and therefore, we've started to – to, you know, signal to – to our syndicate and the Province that we're starting to tilt towards the longer term now, because there's just not that same benefit to going shorter.*

MCCALLUM, Transcript, 1044

Turning a regulatory path on a dime weakens confidence in the regulatory process

- *[...] long-term plan will change that plan on a dime without substantial change in the underlining facts but will change them on a dime would – surely, gives rise to the concern that the next time a different group of people come in, they will change it on a dime again and you have significant concerns about the stability of that – of that jurisdiction.*

BOWMAN, Transcript, 6217

See also BOWMAN, Transcript, 6251-6252 on rate instability and how political interference can go both ways

If the 7.9% Rate Path is Not Justified – What are reasonable ranges?

- What might be the range of reasonable rate increases in play?
 - *But, you know, do you – do you choose 3 percent? Do you choose 3.5 percent? Do you choose 4 percent or 4.5 percent?*

COLAIACOVO, Transcript, 4938

Recommended Findings - Overall Health of the Corporation including Necessary Reserves

- Manitoba Hydro has not demonstrated that a 7.9% rate increase is necessary to:
 - to ensure reasonable access to affordable debt in the financial markets;
 - to protect the Province of Manitoba; and
 - to respond to a material change in circumstances not contemplated during the NFAT or subsequent GRAs.
- Record demonstrates that the current circumstances of Manitoba Hydro in their totality, including the 3.36% interim rate increase, have not materially impaired current access to affordable debt.
- Greater certainty for the capital markets and for rate setting purpose would be garnered by a more probabilistic assessment of risk with a particular focus on drought which could be the subject of a technical conference led by PUB staff
- The record demonstrates that a 7.9% rate increase is more likely to harm Manitoba ratepayers and the Manitoba economy as compared to a smoothed rate increase at or below the NFAT range.
- Smoothing at or below the NFAT range makes sense given the long lived and lumpy nature of the asset and considerations of regulatory stability, intergenerational equity, risk and affordable access to the capital markets.
- Even assuming an unbiased forecast, appropriate implementation of Board Orders and prudent management, Manitoba Hydro has not demonstrated a material change in circumstances to justify a radical departure from the NFAT range.

Part II: Forecasts of Questionable Reliability & the Unreliable Results

Part II: Forecasts of Questionable Reliability & Unreliable Results

- If not rate shock, what level of rate increase would be appropriate taking into account:
 - whether the Corporation's forecasts are reasonably reliable?

Broken Trust - Forecasting

- As documented repeatedly by our clients and by the PUB in prior proceedings including the NFAT, Manitoba Hydro has long standing issues relating to forecasting as they relate to:
 - export price forecasts;
 - capital expenditures;
 - load; and
 - interest rates.
- **Manitoba Hydro has not earned the benefit of the doubt.**

Roadmap on Part II: Forecasts of Questionable Reliability & Unreliable Results

- Focus will be on:
 - Reliability of export revenue forecasts recognizing that a compelling case can be made that export market revenues forecasts over the life of the IFF are very conservative and biased downward due to a express Manitoba Hydro policy choice;
 - Reliability of load forecast; and
- **Issues related to reliability of capital forecasts (both sustaining and large) will be dealt with in next section which addresses prudence and necessity of expenditures.**

Credibility Finding on Export Revenues

- Whose opinion do you prefer?
 - Daymark as substantially supported by:
 - MISO, FERC, counter-parties and the evidence of Manitoba Hydro in this proceeding and the NFAT.
- or
 - Manitoba Hydro's policy on export revenue forecasting

A Question of Bias

- MR. BOB PETERS: *Going down to line 24, Manitoba Hydro indicates that: "The goal to have an unbiased consensus forecast is achieved by accepting the other experts' views of the future are not imposing its biases by choosing a forecast to produce a predetermined result." Do you see that?*

MR. DANIEL PEACO: *I see that.*

MR. BOB PETERS: *Do you agree with Manitoba Hydro's statement?*

MR. DANIEL PEACO: *Well, they didn't - they didn't implement that in their analysis*
PETERS & PEACO, Transcript, 4310-4311

The Source of Bias

Well, I – I think the decision to remove the capacity revenue is a policy decision, and maybe Mr. McCallum could speak to that.

CORMIE, Transcript, 1271

Very Conservative Assumption not consistent with a P50 forecast for export revenues

- *And Manitoba Hydro, they do their forecast, which we'll talk more about later this afternoon, they do forecast significant surplus dependable energy for most of the twenty (20) year forecast. And so it's in terms of how much volume they have potential to sell into this market. There's – there's a substantial amount of that they are over most of the – over the twenty (20) year period. So we feel like based upon – particularly based upon the capacity and premium assumptions that this is a very conservative view relative to the expectation that this is a P50 forecast.*

PEACO, Transcript, 4197-4198 (emphasis added)

- *The – the – our – our public findings on the ref – on the reference case, we - we've concluded that the – the reference case is not a P50 case. The energy market price forecast, we believe, is – is a – is a very conservative representation of – of the value that they could extract from the market from these things. [...] But the real problem is that they've assigned zero value to capacity and energy, which essentially means that they've assumed that they're – they're going to have no new firm energy contracts for the twenty (20) years. A zero capacity revenue for surplus dependable energy over twenty (20) years for – for all of their volume, I – I would consider as something close to a P100, which basically, it's virtually certain that it's going to be that or higher.*

PEACO, Transcript, 4205-4206

- *Overall, the – the entirety of the forecast is very conservative, primarily because of the capacity premiums.*

PEACO, Transcript, 4207

The benefits of improved transmission into the United States also do not appear to have been factored into Manitoba Hydro's estimates

- *MR. DAVID CORMIE: [...] And conversely, the same thing happens when we're exporting because you have now a larger transmission network delivering electricity in Minneapolis, the price at the MISO node, the pricing note at the border, goes up and approaches the price that you would receive at the market. Right now there's about a – on average, a 2 to 5 percent difference in those prices and so they'd be price improvement for exports and price reductions for imports which add value to all of Manitoba Hydro's exports and reduces the costs for all our reports.*

MR. BOB PETERS: Has that 2 to five percent difference in the value that that spins off, Mr. Cormie, been included in Manitoba Hydro's export price forecasts?

MR. DAVID CORMIE: I don't believe so. I believe that we are still relying on the historical ratio between – that exists on the existing interconnection. We have not yet reflected in the IFF the additional revenue that would be associated with that improvement.

CORMIE & PETERS, Transcript, 5825-5826

Key conclusions of Daymark are strongly supported by recent FERC decisions and EIA reports

- Daymark

- Very substantial amount of coal retirement largely age-driven and less so policy driven.

PEACO, Transcript, 4211

- FERC

- Unanimous January 8, 2018 decision to recognize dynamic change in market place and reject subsidy for aging coal and nuclear

PEACO, Transcript, 4233-4238

- CC Supplemental Book of References to Closing Argument, Tab 8, p 32–53

- See also CC-40 Energy Information Administration, Dec 2018 report

- **Apart from Policy Prescription – Key Observations of Daymark appear to be consistent with many of Hydro's observations**

CORMIE, Transcript, 1657-1662

The dual role of Load Forecast in revenue setting and in planning

- Necessary for the planners and the decision-makers at Utilities throughout North America:
 - where to invest and to make trade-off decisions among those investments
 - a basis for predicting the revenues for the organization

KELLY, Transcript, 3874

- Particularly for modern resource planning increased use of both alternative scenarios and stochastic modelling

KELLY, Transcript, 3880-3881

Load Forecasting

- Our clients have observed that since the NFAT, there has been significant effort to improve forecasts consistent with a number of the recommendations of Dr. Gotham and Dr. Simpson, including efforts to estimate a price response.
- However there are still grounds for concern especially as it relates to large industrials where there appears to be evidence of conservatism in terms of longer term load coupled with countervailing impact of significant uncertainty relating to the magnitude of rate increase proposed and the relative mobility of these customers

Over the long term, Daymark identifies conservatism in large industrial load

So it's – it's an approach issue that we're identifying that that method is much more conservative, maybe over conservative.

KELLY, Transcript, 3926

Large industrial load highly elastic and lumpy

- Large industrial load highly elastic and lumpy

Exhibit CC-37, Carvallo et al & KELLY, Transcript, 4000-4003

- *It's – it's a very difficult job to predict, as pointed out earlier in some of the work that the Consumer Coalition was - was showing us. They are very large consumers. They are very lumpy. They have their own business plans and they – they are driven by their own business indices. It's very difficult to forecast.*

KELLY, Transcript, 4036

- Compounded by reality that 7.9% path does not appear to have been the subject of conversations with large industrials in preparing load forecast:

- **MR. BOB PETERS:** *And, Ms. Morrison, did Manitoba Hydro and their key account representatives tell these top consumers that Manitoba Hydro was embarking on a campaign to increase rates by 7.9 percent for at least five (5) years when this forecast was being prepared?*

MS. LOIS MORRISON: *No, we did not have that information at that time. And when we collected the information it was based upon the prior projection of 3.95 percent over twelve (12) years. So that was the information that was known in the marketplace.*

PETERS & MORRISON, Transcript, 1117-1118

Core short-term uncertainty is the magnitude of price response to unprecedented level of proposed rate increase

- Daymark no recent experience with the magnitude of 6 consecutive 7.9% increases

KELLY & GAUTAM, Transcript, 4023

- *[...] this is a large increase over a number of years that hasn't – hasn't occurred previously in the recent history. So it's hard to tell exactly what people will do. How soon will the large industrial say, I'm going to vote with my feet.*

KELLY, Transcript, 4035-4036

Multi-Collinearity

- **Daymark concerns regarding presence of multi-collinearity are less relevant for revenue requirement purposes but of concern for future scenario planning**

Elasticities are Reasonable

- Recognizing uncertainty associated with mobile large industrial load.
- Elasticities within zone of reasonableness albeit lower than Dr. Yatchew's estimates

KELLY, Transcript, 3934-3935

- With regard to price responsiveness, multicollinearity – doesn't put overall predictive power of the regression calculation at risk

KELLY, Transcript, 3934

- Multicollinearity can pose problems with choosing the correct predictors, and challenges in determining the precise effect of each explanatory variable, but it doesn't often affect the overall fit of the model or produce bad predictions – and as long as the explanatory variables are consistent, it doesn't result in a bad model.

GAUTAM & KELLY, Transcript, 3969-3971

Multicollinearity a more significant issue when undertaking stochastic alternatives analysis

- Multi-collinearity is a red herring when it comes to predictive value of model or to any claim that elasticity is unreasonable.
- Multi-collinearity may be a material issue if Manitoba Hydro goes to stochastic modelling for alternatives analysis.
- To the extent that stochastic analysis as opposed to scenario analysis is employed in an effort to predict disruptive events, the multi-collinearity issue will need to be addressed.

Alternatives analysis particularly important in a disruptive world

- Significant value identified in terms of alternatives analysis especially in disruptive climate.

KELLY, Transcript, 4005

See also YATCHEW, Transcript, 4414-4416 more generally on disruption

- *There are many - we've – we've done a report for a major association client in the US looking at the current status of IRPs, and there is significant evidence that there are a lot of utilities heading in the direction of using stochastic analysis, of using more scenario analysis, and of embedding the integrated resource planning proc – planning process more into their corporate decision planning and making it a part of their business 18 decision-making.*

KELLY, Transcript, 4010

Accept Daymark Conclusion that overall may be somewhat conservative based on large industrials

- DR. BYRON WILLIAMS: *I'm trying to pin you down directionally.*
MS. KATHLEEN KELLY: *Agreed, and we - as I said earlier, I think it may be a little conservative based on the magnitude of the difference in the top consum – consumers' PLIL.*
DR. BYRON WILLIAMS: *Thank you.*
MS. KATHLEEN KELLY: *But I can't be completely certain*

KELLY, Transcript, 3952-3953

Recommended Findings Forecasting

- Hydro has not earned the benefit of the doubt.
- While Hydro has improved its load forecast methodology, there is little basis in this proceeding for confidence in forecasts as they relate to export prices and continuing uncertainty with load especially given rate shock level increases proposed.
- Export revenue forecast is very conservative and likely biased low.
- Load forecast may be biased low but there is significant uncertainty in the short to medium term given rate shock level increases proposed.
- Interest rate methodology – while there is significant uncertainty relating to interest rates – IFF16U includes recent updates

Recommendations

- Export Revenue Forecasting methodology to be revised to avoid policy bias and to provide more transparency regarding assumptions of purchased forecasts.
- Load Forecast:
 - revise methodology for top consumers; and
 - after consulting with stakeholders, provide advice on providing alternative scenarios.

Part III: Prudent and Necessary Expenditures

Part III: Prudent and Necessary Expenditures

- If not rate shock, then what level of rate increase would be appropriate taking into account:
 - whether the Crown Monopoly has demonstrated prudent and reasonable management of expenditures.

Who should be accountable?

- *I would like more accountability and transparency from Manitoba Hydro. As a consumer what I still have trouble with is why am I, as a consumer, being held responsible for the financial resp – irresponsibility or the mismanagement of a – another company?*

MAYHAM, Transcript, 3444

Rate Shock is compounded by the reality or perception of poor management

- *Customer tolerances for high rate increases are influenced by a number of factors, including **their expectations regarding inflation**, their experience regarding past rate increases, and to be quite honest, their perceived understanding of the reasons for the proposed rate – rate increases. To some extent, this is part of the problem that – that Ontario has been having. We've been having large rate increases, but the perception is that a lot of the reason for those large rate increases are **fundamentally problems with the management of the system** as opposed to cost drivers, and that's what's led to a lot of the outcry there.*

HARPER, Transcript, 5266-5267 (emphasis added)

How can Manitoba Hydro be held accountable?

- In competitive environments, when a company mismanages or is financially irresponsible and their prices are raised as a result, customers could go to competitors for the same service at a better price.
- In a monopoly environment, customers have no other choice – how can Hydro be held accountable?

Roadmap and Recommended Findings - Prudent and Necessary Expenditures

- No evidence in this hearing to suggest that treasury function is not well exercised.
- Assuming a duty to provide reliable, economic and efficient services - current evidence is that while Manitoba Hydro provides reliable service, it has failed to demonstrate that it offers economic or efficient services.
- Core indicia that raise concerns that Hydro's expenditures are not demonstrably prudent and reasonable:
 - benchmarking undertaken by BCG and LEI raise concerns that Manitoba Hydro is not generally a top quartile or second quartile performer;
 - suggestion by Hydro that it has found an ability to reduce over 1100 operational positions over recent years while continuing to claim that it can provide reliable, quality service;
 - notwithstanding longstanding PUB requests to modernize asset management process, process benchmarking concludes that management of day-to-day capital expenditures is not competent:
 - conclusions of UMS and METSCO that sustaining capital expenditures are not optimized (UMS suggests savings – METSCO cannot conclude that they are spending right amount or in the right places)
 - substantial weight METSCO
- Slow pace of acting on key sustaining capital management milestones
 - To the extent that improvements in capital asset management exist, many were not employed for the purposes of CEF16

Roadmap and Recommended Findings - Prudent and Necessary Expenditures

- The Keeyask contract was highly unusual and based on the MGF evidence there are grounds to conclude that Manitoba Hydro may not have been sufficiently vigilant in the 2016 year
- A commitment to cost effective demand side management is essential to defer load, reduce customer bills and enhance energy efficiency
- However, there is a demonstrable failure to undertake post-NFAT integrated resource planning stemming in part from uncertainty relating to Efficiency Manitoba which raises serious questions about the reliability of projected DSM expenditures.
- No demonstration by Manitoba Hydro of scalable, optimized DSM spending given excess load, reduced marginal cost thresholds and flexibility under *The Efficiency Manitoba Act* to make recommendations regarding appropriate targets.
- Importance to invest more in accessibility related to DSM for vulnerable communities including all electric, low income and on reserve (see discussion under Part IV – Rate Design and Energy Poverty).

Recommended Findings – Reliability of Capital Expenditure Forecasts

- Sustaining capital – little grounds for confidence in initial project estimates or estimated ISA – on test year basis recent experience suggests more likely to be over-estimated than underestimated – potentially compounded by staffing reductions.
 - ISA in each particular year appear to be overstated
- Large capital costs:
 - Keyask - the most critical issue is the significant risks associated with the control budget relying on significant productivity improvement.
 - Hydro appears unlikely to meet revised target of \$8.2B
 - some uncertainty whether \$8.7B is indeed P50
 - MGF estimates \$9.5B – \$10.5B with \$9.8B being best estimate
 - Bipole III – unreasonable conclusions underlay NFAT budget
 - current budget on track
 - GNTL
 - likely overstated
 - MMTPL
 - some grounds for concern understated
 - SaskPower
 - current budget on track

See MGF-4-1

High level benchmarking results of BCG and LEI suggest need for further investigation

- BCG results suggest tendency not to be in first or second quartile
 - for operational activities such as maintenance, monitoring, scheduling, station operations, telecommunications, tariff services and scheduling, or transmission services and scheduling, Manitoba Hydro ranks in the fourth quartile
SHEPHERD, Transcript, 502
 - full-time equivalent positions benchmarking in 88th percentile
SHEPHERD, Transcript, 503
 - Despite suggesting that one has to go beyond the benchmarks to understand the true opportunities, no formal written response or follow up to BCG re benchmarking
SHEPHERD, Transcript, 504
 - No invite to Boston Consulting Group to perform future benchmarking exercises
SHEPHERD, Transcript, 504

LEI results suggest need for further investigation

- *Measures of partial efficiency suggest that additional efficiencies can be gained*
Exhibit GSS/GSM-9 – London Economics evidence, 44
- *Illustrative analysis suggests that other utilities have maintained service quality with fewer resources*
Exhibit GSS/GSM-9 – London Economics evidence, 48
- *While Manitoba Hydro has announced steps to reduce its operating costs, further evidence is necessary to determine whether these steps are sufficient.*
Exhibit GSS/GSM-9 – London Economics evidence, 43
- *UMS highlights that “some of the key elements of an Asset Management System are missing... these include audits, controls, and performance metrics...” UMS also highlights that Manitoba Hydro has not focused on “driving improvement” in asset management.*
Exhibit GSS/GSM-9 – London Economics evidence, 43-44

Benchmarking is a useful tool to address information asymmetry and might be undertaken on a timely, relatively cost effective basis

- Due to information asymmetry, regulators often may face challenges in determining the appropriate level of a Utility's costs

GOULDING, Transcript, 6783

- Benchmarking coupled with quality of service indicators may assist in incenting productivity and ensure that utilities are pursuing real efficiency improvements rather than seeking to reduce service quality

GOULDING, Transcript, 6795-6797

- Estimates of cost and time

GOULDING, Transcript, 6797, 6877-6878

- **Benchmarking may be especially important given Hydro's allegations it can maintain services while shedding 1100 positions over recent years**

What can we infer from the alleged ability of Manitoba Hydro to maintain service quality while eliminating over 1200 positions including 1100 operational positions?

- Between 2014/15 – 2016/17, Manitoba Hydro reduced approximately 429 positions leaving aside the voluntary departure program

BAUERLEIN, Transcript, 1195

- Seven hundred (700) operational positions that will be out by the end of January of 2018 on top of the four hundred (400) plus operational positions that were reduced over the last several years.

MCCALLUM, Transcript, 2063

- Reinforces need for awareness:
 - of potential additional efficiency;
 - of quality of service; and
 - of risk that in-service amounts for sustaining capital will again be materially over-estimated.

Asset Management

- *[...] create a transparent system for all the engineers in the company, and not just engineers but the financial people and other people in the executive management team, to ensure that those decisions are made from the same ground, with the same risk failures that the company develops and creates in its entire risk management system to make the proper prioritization [sic] choices comparing apples to apples*

BAKULEV, Transcript, 6935
See also, WORTLEY, Transcript, 1327-1328

Decade long effort by PUB and Intervenors to incent modern asset management at Hydro

- PUB efforts to Modernize Asset Management at Manitoba Hydro date to 2008
BARNLUND & WORTLEY, Transcript, 1343-1356

Far Below the Competence Level in Asset Management

- Notwithstanding efforts by PUB and Intervenors over past decade, UMS ranked Manitoba Hydro as a one point five (1.5) out a scale that runs between 0 and 4
WORTLEY, Transcript, 1329-1330
- Somewhere between the awareness and developmental scale
WORTLEY, Transcript, 1329-1330
- Far below the maturity level 3 ranking for competence
WORTLEY, Transcript, 1330

But UMS ranking does not apply to CEF16

- *And actually, I believe that in the report we mentioned that we think it may be overstated by UMS, just due to the fact that they greatly rely on the tools and frameworks to be considered implemented by Manitoba Hydro, such as C55 to incorporate value framework and RCM.*

BAKULEV, Transcript, 7081

- **But UMS had stated that this:**
 - *[...] assessment has been largely granted on the basis of the analytical tools and frameworks that have being implemented. And the point that we think is important in the context of this proceeding, looking at the two (2) test years is that the Utility that has been granted one and a half out of five (5) is not the same Utility that prepare – has those plans. We believe that that Utility is less mature, given the weight that UMS has placed on these particular initiatives and where the Company is.*

BAKULEV, Transcript, 7082-7083

Credibility - METSCO is internationally known for high quality asset management practice and relied upon by regulators and industry

- Worked with among the largest generators in Russia and among the largest distributors in Europe (65 M customers)
- Relied upon by the Ontario Energy Board
- Cutting edge work for EPCOR filed in this proceeding is a sterling example of unrealized potential to optimize decision-making
- MH engineers know their system and deliver good reliability results but they have not demonstrated that they do so in a cost effective manner that prioritizes the right expenditure at the right time

Exhibit CC-32-1, p 10, 20 - 23

No demonstration of systematic way to plan sustainable asset expenditures – the exception does not prove the rule

- *What we have not seen is the consistency of methodology, how to prioritize and pick and choose projects between different areas. We don't see that methodology. We don't see evidence of it. We don't see evidence that this is the right amount of project. There may be more project that need to be done because reliability needs it. Then you may be doing the wrong project. So that's what we're basically trying to say. We don't see that justification for why these projects or these programs.*

HJARTARSON, Transcript, 7040-7041

This is not the way to manage hundreds of millions of dollars in sustaining capital expenditures

- No systematic and consistent way that would allow Manitoba Hydro to plan and prioritize across the different business lines, across the different geographical area.
BALASHOV, Transcript, 6988-6989
- [...] *no evidence on the record that would show that they have tools to understand the impact on availability based on the different scenarios that they – they could have analysed on the sustainment capital and system renewal.*
BAKULEV, Transcript, 7100
- Not just about whether they should have increased their spending or decreased it, but is the spending the actual right spending, are they overemphasizing a special, specific portfolio or missing some very high risk assets?
HJARTARSON, Transcript, 7100-7101
- *Manitoba Hydro does not currently employ defined quantitative thresholds.*
BALASHOV, Transcript, 6963
- Generally, unable to validate the methodologies that Manitoba Hydro has employed, and also to verify the types of computations that they have employed
BALASHOV, Transcript, 6963
- No consistent definition of risk
BALASHOV, Transcript, 7114

No clear and consistent maintenance execution

- See BALASHOV, Transcript, 6958-6959
- Front Line Staff Echo the Concerns of METSCO of lack of quality maintenance procedures
WORTLEY, Transcript, 1360-1361
- See Coalition/MH II-68, CC Supplemental Book of References to Closing Argument, Tab 9, p 74.

Estimates cannot be relied upon for rate setting purposes

- There are issues with estimation rigour as things are being presented to the Board and approved for rate setting.
- Original estimates consistently lower than actual costs
BALASHOV, Transcript, 6979-6980
- In service addition actuals significantly lower than estimates
BALASHOV, Transcript, 6981
- Between the 2014/15 and 2016/17 plans, Manitoba Hydro came short of its forecasted ISAs by the weighted average of 11% within the Major Generation and Transmission category, and 18.4% for the Business Operations Capital projects
Exhibit CC-19, METSCO Written Submissions, 41
- *The estimates of ISAs, in-service additions, that go into the rates are – are higher than the actual work that the Utility can do.*
BALASHOV, Transcript, 6981
- Over a three year period, 18.4 percent of the Business Operations Capital project budget is unspent at the end of the year
BALASHOV, Transcript, 7143

Gillam is an emblem of questionable estimates informing rate setting processes

- MR. ANTOINE HACAULT: *And the initial budget here for this project was 366 million, as we can see, from 2012?*
MR. LORNE MIDFORD: *Yes.*
MR. ANTOINE HACAULT: *And you've told us that's now gone down to 225 million; correct?*
MR. LORNE MIDFORD: *Correct.*

HACAULT & MIDFORD, Transcript, 5940

Good Practice Utilities such as EPCOR and Toronto Hydro Employ Alternatives Analysis

- Other utilities use capital scenario analysis and other best practices (benchmarking) to assess overall portfolio and the appropriate place in que for specific investments
WORTLEY, Transcript, 1383
- Exhibit CC-32-1 - Book of Documents 1 on Sustaining Capital
 - Tab 1, pages 10-16, EPCOR Distribution & Transmission Inc - Model and Representative Scenarios Considered
 - Tab 1, pages 20-23, EPCOR Distribution & Transmission Inc - Investment Scenario Analysis
 - Tab 5, pages 76, Toronto Hydro Reliability Forecast - Long-Term System Review process as part of capital expenditure plan in order to.... *“(iii) compare the reliability outcomes of this approach against the "do nothing"/"run to fail" approach”.*
 - Tab 5, page 85, Toronto Hydro Reliability Forecast - *"While Toronto Hydro does not set specific reliability targets as part of this process, it does project and track the reliability outcomes of its plan and considers adjustments to the prioritization of projects within and across programs if reliability outcomes are tracking below forecasts."*
- Encourage the PUB to review to see what regulators and good practice corporate boards should be entitled to and to contrast with the evidence filed by Manitoba Hydro in this proceeding

Alternative Analysis not employed by MH for CEF16

- For the test years, did not explicitly evaluate alternative investment scenarios for to determine relative performance outcomes for different levels of investment.
WORTLEY, Transcript, 1381
- Corporate value framework not used for capital expenditure forecast 2016
WORTLEY, Transcript, 1377

Other Important Findings

- [...] *limited evidence of reliance on asset health and risk data in preparing the current plan in this filing.*

HJARTARSON, Transcript, 6923

- [...] *longer, on average, asset degradation timeline – timelines than those of industry peers.*

HJARTARSON, Transcript, 6923

- **Inconsistent quality of maintenance records underlining sustainment budgets.**

HJARTARSON, Transcript, 6923

- **Inconsistent cost estimation practices and a history of cost underestimation coupled with an overestimation of in service additions**

HJARTARSON, Transcript, 6923-6924

BALASHOV, Transcript, 6981

- [...] *no external evidence to support the reasonable of proposed capital costs*

HJARTARSON, Transcript, 6923

- [...] *favourable reliability performance relative to industry peers.*

HJARTARSON, Transcript, 6924

A less than heroic pace in addressing capital asset good practice

- METSCO's concerns about the unreliable pace of implementation
 - *[...] those documents while they were planned to be developed last year have not been developed. So, meaning that we honestly don't see the confidence that the Company while competing to the plans actually is able to follow these plans on the asset management journey and that's one of the concern that we mentioned in the report.*
BALASHOV, Transcript, 7050-7051
 - Corporate dashboard for 2017/18 was not yet established during the IR process
BALASHOV, Transcript, 6975-6976
 - When it comes to the UMS recommendations, it does not appear that Manitoba Hydro has developed a formal stance on the twenty (20) recommendations, nor has it requested the detailed information that underlies the assessments.
BALASHOV, Transcript, 6977

Implementing a Key Software Tool before the Roadmap

- *And our concern and worry was that the tool is being implemented companywide even prior to the roadmap being developed. And we try to test, in a few IRs, understanding of the terminology that is being used in the tool, or the corporate value framework that comes along the too – the – the tool. And we were not sure that the understanding was there. That's a concern that basically, the tool is being implemented prior to the – to the clear vision of what are the benefits and what of - - of the future tool implementation, how the tool we will keep actually the asset management principles selected by the Company in the future.*

BAKULEV, Transcript, 7117-7118

Hydro's own statements have not alleviated the pace concerns

- *[...] the corporate asset management initiative and the three (3) phases as you've described, until we roadmap that out I don't really know how long that's gonna take, and I don't really know how far we're going to go*

WORTLEY, Transcript, 1418

- *The schedule for Phase 2 has not been fleshed out or adopted yet, so we will have to do the plan and determine the schedule as – available to resource it.*

WORTLEY, Transcript, 1421

We don't have to wait 3 – 5 years to see material progress - Much more Hydro can do with what it has

- DR. ALEX BAKULEV: *Sorry, I believe that based on the projects that they put forward, you have gathered the data and you have these data to be able to make the decisions. So I'm not sure if there is any need to gather additional data and if it's so it would be real great to see what kind of additional data you're thinking to gather to make those decisions. And our particular concern would be not to make the engineering decisions but rather the investment prioritization decisions and locate the options analysis in the future. What if Company spends that money? That's the outcome that would be given to the – to the customers. I honestly believe based on the depth of some of the analysis that we have, you have all the data to be able to develop those tools and to be able to predict, let's say, availability for your distribution systems.*

MR. THOR HJARTARSON: *Maybe just to add to that, the processes and the tools and the implementation, they should help with driving the data. Don't fall in the mistake of collecting data first and then implement because you get less quality data. It is really important to have that process drive so that the correct information is being collected.*

BAKULEV & HJARTARSON, Transcript, 7053-7054

Need for Oversight Tools to Hold Hydro Accountable

- [...] *absent some milestones, it is quite difficult to keep track of the progress as well as the value that it ultimately delivers to Manitoba's ratepayers.*

BALASHOV, Transcript, 6883

- At risk revenue requirement might be another tool

Benchmarking can add value

- *This is precisely why benchmarking studies that are well done have a set of adjustment factors that account for the particular conditions that you have outlined and/or other conditions that might be unique, for example, strategic choices that utilities make in terms of letting equipment run to failure or replacing it in advance of certain times in large urban utilities, things of that nature.*

BALASHOV, Transcript, 7065

Asset management applies to all companies who manage assets

- *ISO 55000 applies not only to Utilities, it applies to anybody who manages assets, and that's about that – that's talked about details of best practices.*

HJARTARSON, Transcript, 7073

If Capital Asset Management Processes are this challenged for day to day expenditures what can we infer about greenfield project management?

- *The utilities, as a rule, do sustainment work on a constant regular annual basis, and as such, we would expect them to have a better command and control in terms of the things that – that they do.*

BALASHOV, Transcript, 6951

Distressing Pattern of Cost Underestimation of major capital projects

- History of CEFs quite distressing for major projects such as Keeyask, Bipole III and MMTP

WILLIAMS, FOGG, & STRONGMAN, Transcript, 5879-5881

Significant NFAT under-estimate for Bipole III based on High Risk Rejection of Long Standing Classic Technology in CEF11–CEF13

- Line commutation converter technology including synchronous condensers
 - *It would be considered the classic or long-standing technology that exists in the marketplace and is the same approach or technology on our current HVDC system.*
FOGG, Transcript, 5884
- Yet voltage source converter technology (VSC) included in estimates for CEF11-CEF13, notwithstanding VSC considered additional risk factor
 - *I would say that the assumption of a voltage source converter technology represented risk from the standpoint that it was a new technology that hadn't been executed at that time.*
FOGG, Transcript, 5886-5887

In estimates received by Hydro during the course of the NFAT, the market voted in favour of LCC

- DR. BYRON WILLIAMS: *And the marketplace, sir, spoke overwhelmingly in favour of line commutation converter technology?* MR. ALISTAIR FOGG: *To clarify. the marketplace in – in this instance, there are really only three (3) vendors in the world who can construct this type of equipment. All three (3) of those vendors elected to bid the LCC technology versus VSC technology.*

WILLIAMS & FOGG, Transcript, 5888-5889

- *The largest contributing factor to the increase in the budget was the ultimate pricing, fixed pricing, received for that – that contract, the HVDC converter equipment and together with the inclusion then of synchronous condensers.*

FOGG, Transcript, 5889

- High risk estimating behaviour to reject classic technology in CEF11–CEF13

General Civil Contractor A Key Factor in Keeyask Cost Overruns

- Main driver of Keeyask budget going from \$6.5B to \$8.7B was general civil contract

BOWEN, Transcript, 5661

- Expected productivity in earthworks and in particular concrete never materialized

BOWEN, Transcript, 5675-5676

Low Productivity Compounded by Perverse Incentive in Contract

- MR. BOB PETERS: *Once the target price has been exceeded, and the profit margin has disappeared for the general civil contractor –*
MR. JEFF STRONGMAN: *Yes.*
MR. BOB PETERS: *– is there any incentive for BBB – BBE to actually perform the work?*
MR. JEFF STRONGMAN: *No. The incentive perversably (sic) flips. In other words, there – there appears to be more incentive to drag it out as opposed to finishing, subject to limitations on the GA & O cap.*
MR. BOB PETERS: *And that perverse incentive is because by dragging it out, BBE would be paid their actual costs of construction?*
MR. JEFF STRONGMAN: *Correct.*
MR. BOB PETERS: *They wouldn't be getting additional profit at that point in time?*
MR. JEFF STRONGMAN: *That's correct.*
MR. BOB PETERS: *But they would be getting paid their actual costs of their workers?*
MR. JEFF STRONGMAN: *Yes. They would also get an – a GA & O markup until that ran out, as well.*

Keeyask control budget can and should be reviewed at end of current construction season for rate setting purposes

- The most critical issue is the significant risks associated with Keeyask with the control budget relying on significant productivity improvements:
 - Hydro appears unlikely to meet revised target of \$8.2B;
 - Some uncertainty whether \$8.7B is indeed P50;
 - MGF estimates \$9.5B – \$10.5B with \$9.8B being MGF best estimates.
- Big construction season coming up so better information about stretch target in fall of 2018 with opportunity to revised Hydro estimates upwards at that time

BOWEN, Transcript, 5874-5875

An ongoing focus on Demand Side Management and Modern Integrated Resource Planning is Critical to MB Consumers

- Integrated resource plan determines what supply-side and demand side resource mix is in the best interests of utility customers and the utility
MILES, TRANSCRIPT, 2942-2943
- Best practices for integrated resource planning involves placing every resource option on an equal footing
MILES, TRANSCRIPT, 2943
- The innovation and thinking that integrated resource planning represents is putting demand-side resources on an equal footing with supply-side
MILES, TRANSCRIPT, 2944
- Proper integrated resource planning should lead to optimized outcomes to lowest overall cost for the system taking into account other policy objectives
BOWMAN, Transcript, 6126-6127
MILES, TRANSCRIPT, 2945
- Cost-effective DSM would have benefits for consumers over the long run, including the potential to defer new load
BOWMAN, Transcript, 6126-6131
- For individual consumers who are able to benefit from programming, cost-effective DSM has the potential to mitigate bill impacts
BOWMAN, Transcript, 6131

Integrated Resource Planning at Manitoba Hydro is effectively in limbo pending the development of Efficiency Manitoba

- The 2016 DSM plan was based on an estimated marginal cost of electricity in the range of 7.7 cents/kwh

MORRISON, Transcript, 1563, 1569

- Hydro has not updated that 2016 DSM plan in the last year because it is awaiting Efficiency Manitoba to begin

MORRISON, Transcript, 1569

- *From a planning perspective, Manitoba Hydro hasn't conducted a formal integrated resource plan, or hasn't prepared one since NFAT. And in part, it's because of looking at the options that might be available, one (1) of them being demand-side management.*

MILES, Transcript, 3714

Declining Marginal Costs may leave some DSM uneconomic under the Total Resource Cost Assessment

- An average levelized marginal value of less than 7.7 cents, would lead to the inference that there may be programs that would no longer be economic under a lower marginal value.

MORRISON, Transcript, 1571

- Hydro's estimate for marginal costs already have dropped substantially from 7.94 cents a kilowatt hour to 5.75 cents per kilowatt hour.

MILES, Transcript, 2949

- There are issues relating to methodology suggesting it is more likely than not that marginal costs are still overestimated.

See PETERS & MILES, 2922-2923
See WILLIAMS & MILES, 2957-2960
See MILES, 3173-3175

The new marginal cost calculation may affect cost-effectiveness of DSM programs

- *The five point seven (5.7) value would mean that if you were looking at individual programs and reassessing their cost effectiveness on an individual basis, some of those programs would possibly no longer be cost-effective under the total resource cost test. But as I mentioned, we aren't looking at that right now. We aren't assessing programs at this point in time, because until the Efficiency Manitoba begins and then the regulations that describe how they will be measured and what their success factors will be, we aren't reassessing programs. As I mentioned, we're in care and control until they come back with their plans as to how to pursue the targets that have been outlined in the Act.*

MORRISON, Transcript, 2621

From the perspective of cost effectiveness a review of DSM targets may be required

- DSM putting upward pressure on rates, to the tune of \$4.2B by 2036, \$1.157B by 2027.

MORRISON, Transcript, 1148-1150

- *But in the present context, when you've got lots of excess capacity and the marginal cost of producing electricity from that source is low, is very low, then it's hard to justify reducing consumption, expending expenditure – having expenditures on – on reducing consumption when the environmental consequences of that consumption are minimal.*

YATCHEW, Transcript, 4569

It is difficult to reconcile the current approach to DSM planning with an integrated resource planning framework

- *And I would say DSM plans that don't change with changes in assumption in their marginal value, and don't change with changes assumptions about when your next plant is needed are not driven by an integrated resource planning framework, which is what this Board recommended. Sticking to 1 1/2 percent is – is not a responsive approach to reflect what – what would what would be arising from a resource planning framework.*

BOWMAN, Transcript, 6099-6100

Overall Revenue Requirement Recommendation

- Our Zone of Reasonableness
 - Colaiacovo: 3%–4.5%
 - Harper: 4.34% upper bound assuming Hydro's estimates reasonable and management prudent
 - Bowman: 3.36%–3.57%
- Plus ratepayer panel message of the need for accountability
- Consumers Coalition working range 2.95% for accountability reasons to 3.5% recognizing risks related to ongoing capital cost over-runs at Keeyask
- **Path to actual recommendation – CC Supplemental Book of References to Closing Argument, Tab 11, p 103**

Recommendations

- PUB have oversight of capital projects & sustaining capital

FORREST, Transcript, 6124-6125

- METSCO recommendations sustainment including public participation and including range of scenarios:

- short term portfolio scenario and balanced score card;
- long term competent;
- public participation in choice of scenarios.
 - Benchmarking

- Benchmarking working group for 2019/20 and 2020/21

- DSM and Integrated Resource Planning

- Working group on IRP involving stakeholders, Efficiency Manitoba and Manitoba Hydro

PART IV: A Just and Reasonable Rate Design

PART IV: A Just and Reasonable Rate Design

- How should the overall revenue requirement be reflected in rates for different classes of consumers?

Recommended Findings – A Just and Reasonable Rate Design

- Should there be differential rates by class or inverted rates for residential?
- **Embedded Costs/Marginal Costs/Reliability Premium – countervailing signals**
 - **Cost of Service – cost causality (revenue requirement other) – to the extent there are departures from cost causality for policy reasons should be expressly articulated**
 - **Cost Causality – limits to precision**
 - Joint costs, data limitations, etc.
 - **Embedded Costs**
 - **Zone of Reasonableness – reflects imprecision**
 - 90 – 110 or 95 – 105
 - Res 94.8 will be within ZOR with BP3 over 96%
 - given current standing and BP3 coming no basis for disproportionately higher
 - **Marginal Costs**
 - from an efficiency perspective no basis to impose differential rates
 - GSS and Res tend to be above
 - no basis for inverted rates for residential from an efficiency perspective
 - **Reliability Premium**
 - reliability tends to be more highly valued by GS than residential
 - residential may be paying a premium that would be valued less by them than others
 - NOT TESTED IN CROSS BY ANYONE

Recommended Findings – A Just and Reasonable Rate Design

- Energy Poverty
 - Ample grounds to conclude that the best defence against energy poverty is lower overall rate increase and effective social benefit programs
 - Mason, Green, NEB, Simpson
 - Rate increases of 7.9% or 3.95% or 3.0% will tend to increase energy poverty
 - 7.9% far greater implications energy poverty
 - There are reasonable grounds to conclude that the Board has jurisdiction to implement a bill assistance program (See CC Supplemental Book of References to Closing Argument, Tab 10, p 66)
 - A bill assistance program would benefit those who are eligible and who participate
 - It is highly unlikely that bill assistance will reach even half of the population eligible to participate
 - PEACO, Mason, Raphals, Harper
 - target market in MB likely to be more challenging given support to energy poverty through EIA and Band Assistance – low hanging fruit for participation being served to significant degree by another program
 - to the extent that those who are eligible do not participate their risk of energy poverty will be increased
 - in the event, there is a bill assistance program paid for only by the residential class, the risk of energy poverty for those who are eligible and do not participate will be materially exacerbated (Harper)
 - Bill assistance also will tend to harm those who are not eligible including those who lie just outside the line
 - in the event, there is a bill assistance program paid for only by the residential class, the risk of energy poverty for those who are not eligible will be exacerbated
- There are important design considerations for bill assistance that will require a number of months to implement including:
 - treatment of those in receipt of government assistance
 - participation rates and program delivery
- If BA should be GS and Residential not just Residential

Coalition Rate Design Witnesses – Presented a Diversity of Experiences and Views

- Ratepayer panel
 - Lived experience from rural and urban setting (unfortunately Ms. Scott from PCN could not attend).
 - Important insights on rate impacts, smoothing and bill assistance (highly nuanced).
- Mr. Harper
 - Over two decades of experience rate design inside a major utility – familiarity with administrative challenges
 - Experience in the challenges in delivering rates that inspire public confidence and that achieve objectives
- Dr. Simpson
 - Gifted economist and policy analyst
- Witnesses did not always agree
 - Either with each other or ultimate position of Consumer Coalition.
 - Consistent with objective of bringing forward diversity of opinion from diversity of geographic, social and economic experiences.
 - Consistent with mandate and practical realities of clients serving array of Manitobans from all regions (none means tested) from those on assistance – to newcomers - to seniors and families with employment income and collaborating closely with schools, day cares and donors (urban and rural).

There is growing recognition of the need for greater consumer engagement by utilities

Ontario Energy Board expects utilities to be communicating more with their customers about what the customers want and what the customers expect and what the customers are willing to pay for before they bring an application before the Board – including mandatory town halls on application

HARPER, Transcript, 5250-5251

Absence of Consumer as Opposed to Stakeholder Voices

- Neither Manitoba Hydro nor Prairie Research Associates surveyed Manitobans with regard to energy poverty.

MASON, Transcript, 2839

- Summary: We confirmed with Dr. Mason and Mr. Barnlund that neither Manitoba Hydro nor Prairie Research Associates surveyed Manitobans with regard to energy poverty, including:
 - the merits of different approaches to addressing energy poverty,
 - whether households believe they are energy poor,
 - how they would define energy poverty,
 - whether they believe there are regional differences in energy poverty,
 - how much maximum income Manitobans should spend on energy expenditures,
 - whether there should be a program to assist low-income Manitobans in paying their energy bills,
 - whether they would be prepared to spend more on their bills to support low-income Manitobans,
 - whether they would consider participating in an energy affordability program,
 - factors that would make it easier to participate in a bill affordability program.
- See Transcript, pages 2839-2844 for a full discussion

When Bipole 3 comes on line – it is reasonable to conclude that no major class will lie below the lower bound of the Zone of Reasonableness

- *So that if I set up – if I try and achieve the Holy Grail, as it's been defined right now, and set a plan over three (3) years, once Bipole III comes into play, the Holy Grail has moved. It – it's now some – some – it's now somewhere else. And as I try to move through that, Keeyask is going to come into service, and it's going to move one (1) more time again.*

HARPER, Transcript 5295

- **DR. BYRON WILLIAMS:** [...] *Hydro estimated at a high level that when Bipole III is in service, residential would be at 96.7 percent, sir?*
MR. GREG BARNLUND: Yes.

WILLIAMS & BARNLUND, Transcript, 2997

At a time when any rate increase is likely to be significantly above inflation – interclass revenue adjustments would compound consumer challenges

- *DR. BYRON WILLIAMS: And notionally, sir, approval of the 7.9 percent, plus the alternative rate design proposal for residential customers, plus acceptance of Mr. Bowman's time-of-use proposal could place residential standard clo – customers very close to or above the 10 percent benchmark; agreed?*
MR. GREG BARNLUND: It – it is possible because I would have to take a look at the – the math of adding one and a half million dollars to that revenue requirement, but it would definitely move it above 9.7.

WILLIAMS & BARNLUND, Transcript, 2968-2969
See also HARPER, Transcript, 5239-5240.

No Case for Inverted Rate in the Current Proceeding

- *[...] As we saw in slide 32, and you don't necessarily have to – have to return there right now, the marginal cost of serving the residential customers is in the order of seven (7) cents a kilowatt hour, well below the current energy rate of approximately eight-point-two (8.2) cents a kilowatt hour. Furthermore, this difference is likely to in – grow in the future, if future rate increases exceed the rate of inflation. As a result in the current circumstance, there's no need for conservation or inverted rates as it would only increase this differential further, and therefore widen the differential between what – what rates customers will be charged for their incremental use and the actual marginal cost of using that electricity.*

HARPER, Transcript, 5245-5246

- Mr. Chernick's estimate of marginal costs is difficult to reconcile with Dr. Yatchew's commentary regarding carbon leakage.

YATCHEW, Transcript, 4471

Important to understand that if rates for all electric or low income rates are introduced there can be significant implications for residential recipients who do not benefit

- Our clients have never taken issue with uniform rates but have suggested all ratepayers should share the burden through export revenues.
- General principles of public policy and acceptance are the main basis for implementing rate design proposal there's little rationale for recovering it just from the other residential customers, and widening the customer base would reduce the impact of any level of recovery

HARPER, Transcript, 5255

Hydro's Alternative Rate Design Proposal Can Not be Justified on Cost Causation or Efficiency Reasons

- Overall the justification for lower rates for electric heating would appear to rest almost entirely on its merits with respect to public policy and public acceptability considerations

HARPER, Transcript, 5246-5248

- Revenue to cost ratio for non-heat customers is higher than that for the electric heat customers, reasonable to conclude that the electric heat customer's cost on the marginal basis will be higher

HARPER, Transcript, 5246-5247

- [...] if public policy and acceptance are the main basis for implementing electric rate then there's little rationale for recovering it just from the other residential customers, and widening the customer base would reduce the impact of any level of recovery.

HARPER, Transcript, 5255

Hydro alternative rate design raises some troubling trade-offs

- DR. BYRON WILLIAMS: *Would it be fair to say that the illustrative rate structure would also serve to shield higher usage middle and high income customers from a portion of the proposed rate increase, sir?*

MR. GREG BARNLUND: *It would. It would have that effect as well because we're not taking income into consideration here. I was just – we were just reporting that this is one (1) of the outcomes.*

DR. BYRON WILLIAMS: *And, sir, if we think of the all electric cust – a category of Manitoba Hydro consumers, it's not all low income, sir?*

MR. GREG BARNLUND: *No, it's not.*

WILLIAMS & BARNLUND, Transcript, 3022 (emphasis added)

- DR. BYRON WILLIAMS: *And when we look at the standard category of – of Manitoba Hydro consumers, you'll agree with me as well that that category, sir, are not all high income either.*

MR. GREG BARNLUND: *Correct.*

DR. BYRON WILLIAMS: *And indeed, there's a substantial population that is low income; agreed?*

MR. GREG BARNLUND: *I assume that, yes.*

WILLIAMS & BARNLUND, Transcript, 3024 (emphasis added)

Low income persons in standard residential class could pay higher under alternative rate design filed by MH

- DR. BYRON WILLIAMS: *And so, sir, if we think through the alternative rate scenario, would it be fair to suggest that absent other action, low income persons in the all – in – in the standard residential class could see themselves paying higher rates to support all electric customers, including a majority who are not low income, sir?*

MR. GREG BARNLUND: *They would see higher rates, definitely.*

WILLIAMS & BARNLUND, Transcript, 3025

- DR. BYRON WILLIAMS: *I understand the nuance in your answer, sir. But you're – you're certainly not meaning to suggest that a 9.7 percent rate increase for a low income person using electricity is standard – is – is necessarily inconsequential?*

MR. GREG BARNLUND: *No, I would agree that it – that it – it would, you know, it is something that is – that, you know, has – carries an impact, definitely.*

WILLIAMS & BARNLUND, Transcript, 3026

Rate Application – Significant Impact on Manitoba Consumers

- Mr. Barnlund of Manitoba Hydro agreed that energy poverty exists and that it can lead to difficult choices, such as taking money from food budget, keeping thermostat at an uncomfortable temperature, considering going on or going back on social assistance

See BARNLUND, Transcript, 2793-2795 for further discussion.

- Costs for social programs will similarly be affected as costs for EIA and INAC social assistance will increase with electricity rate increases

MASON, Transcript, 2879

The Ratepayer Panel

- The ratepayer panel testified eloquently to these impacts whether for the tenants of Mr. Mazier, a single parent in Winnipeg, retired persons in rural and urban Manitoba or a young working woman struggling to pay her bills and support her parents

- They also testified that they were making hard choices:

- *[...] And I have cut back on Hydro sufficiently by lowering the heat. The apartment would be 65 and this room would be 74 Fahrenheit. I have not used things like cable or television or videos. The only thing that runs continuously would be refrigerator, freezer, stove for cooking and lights.*

BRIGHT, Transcript, 3421

- *I will be forced to further dig in deeper into my food budget, decreasing the amount of groceries I am able to buy per month. And in terms of food I will be looking at alternatives, cheaper, unhealthier alternatives in order to make my groceries last. It will reduce the amount – it will reduce the amount that I'm able to engage in social activities with my children, social outings. It will negatively impact us.*

MAYHAM, Transcript, 3438-3839

While there is disagreement on Bill Assistance there are General Areas of Strong Agreement Around Energy Poverty

- **Energy efficiency is a key tool to address energy poverty**

SIMPSON, Transcript, 4684

- **Recognition that low-income persons, tenants and Indigenous persons living in remote communities face disproportionate barriers in accessing energy assistance programming**

SIMPSON, Transcript, 4689-90, 4696, 4745

- **There is recognition that persons living on reserve are disproportionately exposed to energy poverty risk due to substandard housing, a lack of substitutes and vulnerable economic circumstances**

SIMPSON, Transcript 4689-90, 4694-95

MORRISON, Transcript, 2688-2690

SHEPHERD, Transcript, 573-574

YATCHEW, Transcript, 4432

While there is disagreement on Bill Assistance there are General Areas of Strong Agreement Around Energy Poverty

- **Many witnesses expressed theoretical support for government action as opposed to utility action but doubts that it would actually occur:**

- *I would observe that other income security programs that deal with poverty – general poverty to provide the basic necessities. Things like the Employment and Income Assistance Program of Manitoba, which is our social assistance program, but other programs, say, the federal government's Canada Child Benefit. These are financed from general revenues. And a program to provide energy security as a basic necessity funded from general taxation would ensure that the burden of support would fall on higher income households as in Ontario. And I think that's an advantage of funding it out of the from taxpayers rather than ratepayers.*

SIMPSON, Transcript, 4682
See also CHERNICK, Transcript, 3723

- **But there has been little examination of the situation of Indigenous persons living adjacent to reserve or other vulnerable communities**

See RAPHALS, Transcript, 6644 – 6648

Multiple factors in energy poverty, but increases in energy costs are a main driver of energy poverty

- *I would agree that poverty is driven by multitude of factors. I mean, I think energy poverty is primarily driven by increases in costs, so I mean, if you want to isolate energy poverty, but poverty is driven by multiple factors, income deficiency, and rising prices across a spectrum of things that consumers need to pay for.*

MASON, Transcript, 2818

- *Green et al. suggest that the relatively low levels of energy poverty and – in Quebec and – and British Columbia are likely, to some extent (sic), to be the result of comparatively low electricity prices*

MASON, Transcript, 2886

- Interestingly, there has been no analysis presented in this hearing considering whether ratios of energy poverty are lower in jurisdictions with bill assistance as compared to similarly situated jurisdictions without bill assistance

A core barrier to our clients' endorsement of bill assistance is unacceptably low participation rates

- PRA report finds that participation rates for bill assistance programs are low:
 - MS. KATRINE DILAY: *However, if we look at this paragraph, your report also finds that in reality, it appears uncommon for bill affordability programs to reach more than half of those who might benefit from participation, correct?*
DR. GREGORY MASON: *That's correct.*
DILAY & MASON, Transcript, 2802-2803
- We asked Dr. Mason to confirm that the PRA report found that there are low participation rates in most bill affordability program (page 58 of Appendix 10.5 of the filing), and took him to two reports in the Exhibit CC-32-3, the Coalition's Book of Documents 3, that show that participation rates are less than 50% in Pennsylvania .
See Transcript, pages 2802-2809 for a longer discussion
- For the Pennsylvania program, lowest income customers have lowest participation rates:
 - MS. KATRINE DILAY: *So we'll agree that overall, the lowest income consumers had the lowest participation rate, at 25 percent?*
DR. GREGORY MASON: *That's correct.*
DILAY & MASON, Transcript, 2806
- Participation Rates in Ontario appear to be less than 50%
HARPER, Transcript 5265-5266 (although this is anecdotal evidence)

Mr. Harper explains some of the challenges relating to participation

- *Reference has been made to adopting the same approach as used for Manitoba Hydro's low income DSM programs. However, annual participation in those programs is less than 5 percent of the total number of low income customers in Manitoba.*

HARPER, Transcript, 5260

- *And there would also be issues about having to re – regularly re-qualify all of those customers on an ongoing basis, whether it be every one (1) or two (2) years.*

HARPER, Transcript, 5260

- *However, issues arise if the social assistance being received also include some support for – for electricity bills, and careful consideration would have to be given as to what types of – of social program qual – eligibility on one (1) side would allow you to participate in the low income rate. In other cases, maybe it would – it would disqualify you from participating. I think, again, some consideration of that would need to be made.*

HARPER, Transcript, 5260-5261

As Dr. Mason and Mr. Chernick said there will be collateral cost for those who are not eligible of who do not participate

- Customers who are not eligible or who do not participate will pay for those who do participate

MASON, Transcript, 2812-13

- Costs for EIA and INAC social assistance will increase with electricity rate increases

MASON, Transcript, 2879

- Mr. Chernick's proposal would mean a rate increase to residential of about 1 cent per KHW, and if spread across residential and general, 0.24 cent per KHW.

CHERNICK, Transcript, 3706-07

- Low income persons who do not enroll in the program would pay higher rates, and if program rolled out quickly, a lot of low income consumers would pay a higher rate – would expect low participation in first year.

CHERNICK, Transcript, 3709-11

The Ratepayer Panel did not achieve consensus on Bill Assistance Issues

- MS. KATRINE DILAY: *Should there be a program to assist low income Manitobans in paying their electricity bills?*
MR. GORDON BARTON: *That I'm not sure of. I'm – I'm sorted of divided on that.*
MS. KATRINE DILAY: *Would you be willing to pay more on your energy bill to support low-income customers; and if so, how much?*
MR. GORDON BARTON: *Probably up to 2 percent.*

DILAY & BARTON, Transcript, 3415

- MS. KATRINE DILAY: *And do you believe there should be a program to assist low-income Manitobans in paying their electricity bills?*
MS. LYNDIE BRIGHT: *That would be a very good thing.*
MS. KATRINE DILAY: *Would you be willing to pay more on your energy bill to support low-income customers; and if so, how much?*
MS. LYNDIE BRIGHT: *On my energy bill I believe I cannot pay more. I'm willing to donate money to individuals who need help, and I have done so this on a monthly basis.*

DILAY & BRIGHT, Transcript, 3430

- *But I would like to see energy efficient programs geared more toward renters.*
MAYHAM, Transcript, 3441

The Ratepayer Panel did not achieve consensus on Bill Assistance Issues

- *MS. KATRINE DILAY: And would you – sorry, do you believe there should be a program to assist low-income Manitobans in paying their electricity bills?*

MS. EMILY MAYHAM: Well, yes and no. Yes, on the one hand, yeah, there should be more programs to assist people in paying their bills. But at the same time no, because whose definition of poverty are we going to be using.

MS. KATRINE DILAY: And would you be willing to pay more on your energy bill to support low-income customers; and if so how much?

MS. EMILY MAYHAM: Yes. In terms of how much, I can't answer that question right now.

DILAY & MAYHAM, Transcript, 3443-3444

- *MS. KATRINE DILAY: And would you be willing to pay more on your energy bill to support low income customers, and if so, how much?*

MR. DAN MAZIER: Only if it was transparent, and I can't emphasize that enough. Where is the money going? How do you follow this money? Even these proposed rate increases, we don't know if that's going to be paid out to the debt. We don't know where this money is going. We're trusting Manitoba Hydro. So I – I think before we have that conversation, we've got to know the transparency and how we're going to follow this money

DILAY & MAZIER, Transcript, 3384

- *Ms. Trudeau was very positive in her support of bill assistance*

Is there enough flexibility in existing social programs to respond to more of the energy poverty issues?

- *[...] my view is that much closer cooperation with the provincial government and the existing programs, rent assist, social assistance or income assistance would be the smart way to go. I think if the Board were to kind of direct or sort of suggest that these programs be adjusted and accommodate energy increases in the same way they accommodate inflationary increases that would be, I think, the most direct way and cost efficient way to actually provide assistance.*

MASON, Transcript, 2526-2527

Is there a need for a coordinating body for energy poverty issues including energy efficiency?

- **MS. KATRINE DILAY:** *So in essence, once the Power Smart Program moves to Efficiency Manitoba, the oversight of key energy poverty tools will be split between Manitoba Hydro, Efficiency Manitoba, the Government of Manitoba, and the Government of Canada, correct?*

MR. GREG BARNLUND: *Yes, I think that will be the situation, and – and I think that potentially contributes to an issue of – of possible either overlap or – or gaps emerging in terms of programming.*

MS. KATRINE DILAY: *And it's fair to say that there is no coordinating body in terms of efforts to address energy poverty?*

MR. GREG BARNLUND: *I'm unaware of any.*

DILAY & BARNLUND, Transcript, 2829

PUB - Conflict or Balance

- Board may be under misapprehension in terms of input and role rural organizations play in deliberative functions of Consumers Coalition
See GRANT & HARPER, Transcript 5308-5309
- To the extent there is a misapprehension, cannot properly address based on evidentiary record
- Will write to Board Secretary outside hearing process and after deliberations are made public
- Before you draw any conclusions on whether you think our clients bring a disproportionate focus on Winnipeg issues or suburban issues
- Take judicial notice of the role that the Consumer Coalition takes on payday lending issues including rural payday lending issues
- Consider the Institutional Make up of our client's Boards and Stakeholder groups including whether there is provision for rural representation
- Consider what you know about food banks and the relationship of Winnipeg Harvest with food banks across rural, Northern MB and on First Nations
- Consider what you know about the relationship between Winnipeg Harvest with food support programs in schools and day cares
- Consider ties to food banks, schools all over rural MB including on reserve
- Consider what you know about the reliance on generous donations from rural Manitobans
- Reliance on town halls, on line forums, review of consumer inputs, focus groups, research for other bodies such as OCA on energy poverty

Recommendations

- The Board should be asked to reconfirm its findings in Order 164/16 that other ratemaking principles, such as efficiency and public policy considerations, will be taken into account for setting just and reasonable rates and that COSS is not determinative of the revenue by customer class but rather assists in rate setting and in evaluating whether customer classes pay their appropriate share of costs through rates.
- The PUB should recommend to Government that a portion of capital taxes, water rentals, debt guarantee fee be redirected toward extensive DSM programs for vulnerable populations.
- Recommendation re: Zone of Reasonableness – either 95–105 or 90–110 are reasonable.
- Inverted Rates are not justified.
- PUB has jurisdiction to introduce inverted rates but this is not recommended.

Final Recommendations to the PUB of the Consumers Coalition

Final Recommendations to the PUB By the Consumers Coalition – Revenue Requirement

- **Forecasting**

- **Load Forecast**

- Revise methodology for top consumers.
 - Report back on alternative scenarios or stochastic methods to address disruptive futures.

- **Export Forecasts**

- Export Revenue Forecasting methodology to be revised to avoid policy bias and to provide more transparency regarding assumptions of purchased forecasts.

- **Prudent and Necessary Expenditures**

- **PUB should have oversight of capital projects & sustaining capital (Forrest 6124-125)**

- **METSCO recommendations sustainment including public participation and including range of scenarios**

- short term portfolio scenario and balanced score card;
 - long term competent and milestone reporting;
 - public participation in choice of scenarios.
 - Benchmarking.

- **Benchmarking working group for 2019/20 and 2020/21.**

- **DSM and Integrated Resource Planning.**

- Working group on Integrated Resource Planning involving stakeholders, Efficiency Manitoba and Manitoba Hydro.

Final Recommendations to the PUB By the Consumers Coalition – Revenue Requirement

- **Overall Health of the Corporation**

- **Overall Rate Increase**

- Rate increase range considered **2.95% - 3.5%**.
- **Approved rate increase 2.95%**.
- Technical conference on risk scenarios modelled on DCAT process for MPI.
- Evidence of IFF scenarios to be provided (i.e. not a binary choice).

- **Regulatory Deferral Accounts**

- Adopt Manitoba Hydro's proposed treatment, except
 - Deferred DSM Costs – not currently amortized – will need to be addressed.
 - Ineligible Overheads (\$20M) – Adopt PUB directed treatment (30 years with no cessation) but via net income
 - ELG/ASL Depreciation different (\$40M) – no amortization pending MH report and resolution of ELG vs. ASL use issue.
 - Conawapa costs should be amortized over 30 years.

Exhibit CC-46, Bill Harper Presentation, slides 20-21
HARPER, Transcript, 5219-5221

Final Recommendations to the PUB By the Consumers Coalition – Just and Reasonable Rate Design, Bill Affordability and Cost of Service

- Cost of Service

- PUB should reconfirm its findings in Order 164/16 that other ratemaking principles, such as efficiency and public policy considerations, will be taken into account for setting just and reasonable rates and that COSS is not determinative of the revenue by customer class.
- Zone of Reasonableness at either 90-110 or 95-105 is acceptable.

- Bill Affordability and Rate Design

- Rejection of Hydro alternative rate design.
- Rejection of inverted rates proposed by Green Action Centre, both for low-income and all-electric (consideration of efficient price signal).
- Rejection of bill assistance for only First Nations customers, as proposed by AMC and MKO (too many vulnerable customers are left out of such a program).
- Rejection of a ratepayer-funded bill assistance program.
 - PUB should recommend to government that a taxpayer-funded program to address energy poverty be established.
- The PUB should recommend to Government that a portion of capital taxes, water rentals, debt guarantee fee be redirected toward extensive DSM programs for vulnerable populations.

Thank You.