



COMMISSION OF INQUIRY RESPECTING THE MUSKRAT FALLS PROJECT

Transcript | Phase 3

Volume 1

Commissioner: Honourable Justice Richard LeBlanc

Tuesday

16 July 2019

CLERK (Mulrooney): All rise.

This Commission of Inquiry is now open.

The Honourable Justice Richard LeBlanc
presiding as Commissioner.

Please be seated.

THE COMMISSIONER: All right.

All right, good morning and welcome to Phase 3 of the Muskrat Falls Inquiry. This morning we have a panel so I'm going to call upon Ms. Ding at this stage.

MS. DING: Good morning, Commissioner.

To kick off Phase 3 we'll be hearing from a panel –

THE COMMISSIONER: Okay, just a –

MS. DING: Sorry?

THE COMMISSIONER: I'm just going to have to take a second. There's feedback coming, so we need to sort of figure out how that's going to work.

All right, go ahead now, Ms. Ding.

MS. DING: Thank you.

To kick off Phase 3, we'll be hearing from a panel of experts and representatives who will be speaking on the financial impacts of the Muskrat Falls Project, particularly on people of the province, the ratepayers and the taxpayers. Our focus with this panel and other witnesses in Phase 3 is to look ahead at the implications of the project, exploring what issues are going – we'll have going into the future.

Keeping in mind the PUB's current review of electricity rate mitigation options and rate impacts, our intention with this panel is to provide a broad understanding of the possible implications of the ways we can pay for the project, whether it's via increasing power rates, increasing taxes and fees, increasing the provincial deficit, or decreasing government salaries and service levels.

We have invited a number of experts and representatives today to discuss those questions. By way of brief introduction, starting on the left we have Dr. Brandon Schaufele from the Ivey school of business at Western University; Peter Alteen from Newfoundland Power; Kevin Fagan from Newfoundland and Labrador Hydro; Dennis Browne, the Consumer Advocate; Denise Hanrahan from the Department of Finance; Lorraine Michael, former MHA; Jerry Earle from the Newfoundland and Labrador Association of Public and Private Employees; and Bernice Hancock from the Community Education Network.

And Commissioner, if I could, I would like to start by proposing our plan for presenting the panel evidence today. I'll ask each panelist to swear or affirm their testimony, provide you with a brief description of their education and experience and then provide a brief 20-minute presentation that they've prepared for this panel today. And once all the panellists have presented, I'd like to follow with direct examination and cross-examination from counsel with parties with standing.

I would request that the questions from counsel be directed to specific panellists. And for the sake of time I'd also like to request that we avoid any direct exchanges between panellists; however, if a panellist believes that they can contribute to an answer that another panellist has given, they can offer to do so. And if that's acceptable for you, Commissioner, I'll introduce the exhibits.

THE COMMISSIONER: Okay.

So, first of all, let me just say to the panellists how much I appreciate the fact that they're giving – you're giving us your time. It's very much appreciated. There are a number of you here. This is a large panel, larger than I had initially wanted, but the more we looked at it the more I realized we needed to fill out the panel with this sort of representation.

So there are a few rules to the game that have just been explained to everybody here. I am going to try to follow this as much as is possible but, you know, I'm not going to be an autocrat with regards to that. If somebody feels they have something worthwhile to offer, please feel free

to jump in if you feel that there is something you want to offer.

So we're going to proceed now with either swearing in or, alternatively, affirming; either one is equally acceptable.

So I'll start with you, Professor Schaufele, if you could stand, please, Sir. Do you wish to affirm or do wish to swear?

MS. DING: Okay.

DR. SCHAUFELE: I will affirm.

THE COMMISSIONER: Affirm?

CLERK: Do you solemnly affirm that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth?

DR. SCHAUFELE: I do.

CLERK: Please state your name?

DR. SCHAUFELE: Brandon Schaufele.

CLERK: Thank you.

THE COMMISSIONER: And can you spell your last name, Sir, please?

DR. SCHAUFELE: S-C-H-A-U-F, as in Frank, elephant, lion, elephant.

THE COMMISSIONER: Okay.

And so what's going to happen, too, where – because of our microphone arrangement, when you speak, obviously, the microphone will have slip down that way a bit or in front of you. Is your microphone on, actually? It's not right now.

DR. SCHAUFELE: No.

THE COMMISSIONER: Okay, so that explains it. I'm going to turn mine off so that everybody's on the table will be on in a moment.

All right, Mr. Alteen, if you could stand, please? And do you wish to be sworn or affirmed?

MR. ALTEEN: I'll be sworn.

THE COMMISSIONER: Sworn? Okay.

CLERK: Do you swear that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth, so help you God?

MR. ALTEEN: I do.

CLERK: Please state your name?

MR. ALTEEN: Peter Alteen.

CLERK: Thank you.

THE COMMISSIONER: Mr. Fagan, do you wish to swear or do you wish to –

MR. FAGAN: Swear.

THE COMMISSIONER: Swear? Okay.

CLERK: Do you swear that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth, so help you God?

MR. FAGAN: I do.

CLERK: Please state your name.

MR. FAGAN: Kevin Fagan.

CLERK: Thank you.

THE COMMISSIONER: Mr. Browne. Sworn?

CLERK: Do you swear that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth, so help you God?

MR. BROWNE: I do.

CLERK: Please state your name.

MR. BROWNE: Dennis Browne.

CLERK: Thank you.

THE COMMISSIONER: All right. Ms. Hanrahan, do you wish to swear or do you wish to affirm?

MS. HANRAHAN: Swear.

THE COMMISSIONER: Could you pass the Bible, please, right there.

UNIDENTIFIED MALE SPEAKER: Pass the Bible.

CLERK: Do you swear that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth, so help you God?

MS. HANRAHAN: I do.

CLERK: Please state your name.

MS. HANRAHAN: Denise Hanrahan.

CLERK: Thank you.

THE COMMISSIONER: Ms. Michael. Do you –

MS. MICHAEL: Affirm.

THE COMMISSIONER: Affirm.

CLERK: Do you solemnly affirm that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth?

MS. MICHAEL: I do.

CLERK: Please state your name.

MS. MICHAEL: Lorraine Michael.

CLERK: Thank you.

THE COMMISSIONER: Mr. Earle.

CLERK: Do you swear that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth, so help you God?

MR. EARLE: I do.

CLERK: Please state your name.

MR. EARLE: Jerry Earle.

CLERK: Thank you.

THE COMMISSIONER: Ms. Hancock.

MS. HANCOCK: Affirm.

THE COMMISSIONER: Affirmed.

CLERK: Do you solemnly affirm that the evidence you shall give to this Inquiry shall be the truth, the whole truth and nothing but the truth?

MS. HANCOCK: I do.

CLERK: Please state your name.

MS. HANCOCK: Bernice Hancock.

CLERK: Thank you.

THE COMMISSIONER: Okay. All right.

MS. DING: The exhibits we would like to enter today, Commissioner, are P-04430 to P-04436, P-04442 to P-04444, P-04446 to P-04456, P-04459, P-04460, P-04462 and P-04463.

THE COMMISSIONER: (Inaudible) will be marked as numbered.

MS. DING: Just have to – yeah.

The first panelist to present today is Brandon Schaufele. Dr. Schaufele is an assistant professor in business, economics and public policy at the Ivey Business School at Western University. And, Commissioner, we would like to present Dr. Schaufele as an expert witness today. I would like to have Dr. Schaufele take you through his CV, and then give an opportunity for other counsel to pose questions to Dr. Schaufele regarding his qualifications.

I'll be seeking to qualify him as an expert in the area of energy economics and applied microeconomics and public policy. And assuming his qualifications are acceptable to you, I will request to enter his slideshow presentation as an exhibit.

Madam Clerk, please go to Exhibit P-04433, please, tab – and that’s tab 4 in your binder, Dr. Schaufele.

Thank you.

Dr. Schaufele, I’m going to ask you to – if you could go through your CV for the Commissioner, highlighting your education and experience that’s most relevant to your presentation today.

DR. SCHAUFELE: Okay, so I’ll start with my experience.

I’m an assistant professor at the Ivey Business School. Prior to joining Ivey, I was a professor in the Department of Economics at the University of Ottawa. That appointment was joint with the Institute of the Environment, where we specialized in energy economics and environmental policy within Canada.

My education involves an undergraduate, a master’s and a Ph.D. in economics, specifically resource economics. My specialties are in agriculture, environmental and energy economics. I have written peer-reviewed articles on taxation and energy within provinces. I have consulted with the Ontario government on electricity pricing, specifically on rates. I’ve written a number of environmental economic – peer-reviewed environmental economic pieces that have been published in top-tier journals and I’m a research fellow with the Ivey Energy Consortium.

I can go through the CV at greater length, if you like, but I think that covers the highlights.

MS. DING: (Inaudible.)

THE COMMISSIONER: (Inaudible.)

MS. DING: Thank you.

Just going through your publications, Dr. Schaufele, are there any in particular that you would like to highlight?

DR. SCHAUFELE: So one of the publications I think is useful for today’s proceedings would be the publication number 6: “Taxes, Volatility and Resources in Canadian Provinces.” This

looks at the relationship between oil prices, government revenues and the economy for Canada – for all of Canada’s provinces but focuses on resource-dependent provinces, including Newfoundland and Labrador.

A few of the policy briefs that I think are particularly important for today’s proceedings are – so this is in the Non-Peer-Reviewed Publications, including Research Papers, Op-Eds, Technical Reports and Policy Briefs section on page 3 – policy brief number 1, policy brief number 4, policy brief number 7 – or that’s an op-ed – policy brief number 8, op-ed number 9 and policy brief number 10. These are all policy briefs or technical reports focusing on different dimensions of electricity and energy policy within Canadian jurisdictions. That includes, I think, two op-eds that I highlighted there.

I have also testified at Senate committee meetings and at legislative procedures in other provinces.

MS. DING: Okay, thank you, Dr. Schaufele.

I’m satisfied to go forward with your CV as presented. Other counsel may have some questions for you. And, again, Commissioner, the area of expertise is energy economics and applied microeconomics of public policy.

THE COMMISSIONER: All right. Is there anyone that would – any counsel like to question Dr. Schaufele on his CV?

All right. In the circumstances, I’ve had an opportunity to review the CV of Dr. Schaufele. I’ve also had an opportunity to look at some of his work in the past. I am satisfied that he has some expertise in this area that would allow him to provide objective evidence, opinion evidence with regards the issues of energy economics, applied microeconomics and environmental policy. And, as a result, I will allow him to give that evidence before the Inquiry.

MS. DING: Thank you, Commissioner.

We would like to enter Dr. Schaufele’s presentation, which is Exhibit P-04461.

THE COMMISSIONER: I think we will enter both his – so is 04433 already entered as an exhibit, his ...?

MS. DING: Correct.

THE COMMISSIONER: Okay. All right.

So 04461?

MS. DING: Yes.

THE COMMISSIONER: All right. So we will enter P-04461, which is Dr. Schaufele's presentation.

MS. DING: Madam Clerk, please bring up Exhibit 04461, please.

Dr. Schaufele, can you take us through your presentation, please?

DR. SCHAUFELE: Sure.

So I was invited here to talk about – to comment on the balance of interests for paying for the Muskrat Falls Project in terms of ratepayers and taxpayers. My focus will be on the high-level issues. I do have a few comments on specific policies. I understand that the PUB and the government have proceeded on a number of policy initiatives, but this presentation does not dig into the details of those policy initiatives, per se, other than to offer a few examples. I could do my best to field questions after the fact, but I am not amongst the expert consultants that were commissioned by the PUB to look at these issues.

The structure of my comments will be as follows: I am going to offer three very broad, high-level comments that I think the Inquiry should, you know, consider when preparing its report. I will then dig into a few of the details about the basic economics of electricity pricing and the cost of taxation and how they applied to the Muskrat Falls Project. And – so let's proceed.

So my first comment is "There is no perfect prescription to pay for the Muskrat Falls Project." This seems obvious, but I think it's important to state that good decisions consider all of the costs – not just the accounting costs.

And that there is no single silver bullet to pay for this project. However, there are some policy decisions that are worse than others, and I think the Inquiry and the government should consider the merits and demerits of all the policy options on the table when pursuing – or when deciding how to pay for the Muskrat Falls Project.

My second comment, then, is "Mitigating electricity rate increases is not necessarily a welfare maximizing objective." The objective of the Government of Newfoundland and Labrador should be to maximize the overall benefits to the province's residents under the condition that they need to pay for the Muskrat Falls Project. This does not necessarily imply that electricity rates should be kept as low as possible or at what they are now.

"Paying for Muskrat Falls – *and maintaining current electricity rates* – entails a foregone opportunity to allocate funds to potentially other worthwhile" initiatives. Now, this doesn't mean that keeping rates at a reasonable level isn't a worthwhile policy objective; it simply means that the government should consider both the tax and the rate implications of their decisions. Given the scale, the scope and the size of the Muskrat Falls Project, it's impossible to treat it as an independent utility. It is inherently linked to government finances, and I think that needs to be kept in mind.

My final comment – my final broad comment then is "Paying for the Muskrat Falls Project introduces a trade-off between efficiency and equity." I'm using the terms efficiency and equity in the economic sense. Efficiency means economic efficiency or the size of the pie. The total economic value that's available to residents of the province of Newfoundland and Labrador. Equity then means who gets that pie, how is the value created in this province distributed amongst different stakeholders – whether they're households, high income or low income; industrial consumers; or residential consumers? Paying for Muskrat Falls has implications for both equity – the total value available in the province and who gets a share of that value.

The trade-off means that often, by increasing total value, we're going to – it's going to be disadvantageous for certain groups in society. If we have a more equal distribution, that the costs

are borne more equally in society, there's often inefficiency or a total-value loss in pursuing these metrics. This type of trade-off – this trade-off between efficiency and equity – is not unique to Muskrat Falls; it is typical of most large-scale utility projects.

And so those are my three opening comments. That, you know, this is a challenging situation. There is no perfect prescription. That the government and the regulator should consider both the rate and the tax implications of their decisions and that there is likely a trade-off between the value of Muskrat Falls and the equity.

Now I'm going to get into a few of the details of electricity economics and paying for our electricity pricing. Economics has a very clear prescription on an ideal way to price electricity. The ideal pricing – way to price electricity is referred to as a marginal cost pricing rule, that "Volumetric rates should be set to maximize ... the total value of electricity to the economy" to maximize economic efficiency.

Severin Borenstein, who's a professor at the Haas School at Berkeley, you know, has this quote, that the "retail price of a kilowatt-hour ... should reflect society's full short-run marginal cost of supply" Even though economics is a very clear approach to ideal electricity pricing, there is a significant challenge involved with this rule that "Setting the price of electricity equal to its ... marginal cost" will not "raise sufficient revenue to cover fixed costs." This is the reality for Muskrat Falls and this is the reality for many utility-scale generation projects.

This means that we need to depart from marginal cost pricing. We need to depart from this ideal pricing rule and pursue other pricing options. As soon as we depart from the marginal cost pricing rule, we get something that's called a dead-weight loss. A dead-weight loss is an economic term that essentially means that there is forgone economic value in the economy due to artificial scarcity in this context; that prices have to increase above what would be optimal to allocate resources, but – and because of that, we're going to forgo some economic benefit to the province. This dead-weight loss is common in utility-scale projects, it's just it's a little bit

larger than expected with the Muskrat Falls Project.

A corollary of this fact that we're going to have a dead-weight loss means that we have to address this critical question, and we've got to balance the efficiency and the equity considerations of raising additional revenue, that we need more revenue than the economic ideal. And so the two most common ways to raise additional revenue through electricity pricing are known as average cost pricing and Ramsey pricing.

And so I'm an economist, so I'm going to walk you through a supply-and-demand graph next. Bear with me, I'll try to highlight the salient features of these, but I think this figure shows one of the key challenges involved with departures from marginal cost pricing.

And so this graph has a lot going on. There's really only three things you need to pay attention to; one is that point where the red demand curve intersects the marginal cost curve. There's an arrow point to that point. This is the value maximizing pricing quantity. In a perfect world, it's at this point we'd want to set electricity prices, where demand equals the cost for electricity prices; however, if we set prices at this level, there will be insufficient revenues to pay for the project. This is common amongst utility projects.

And, as a result, we need to increase prices under an average pricing rule. These prices increase until demand equals the average costs. And so this is shown – this point where demand intersects the average cost is shown at this break-even pricing quantity point. And so those are the two points we need to keep in mind.

What's important about this figure is that green triangle. That green triangle we can turn into dollars and cents. That green triangle represents dead-weight loss or the foregone economic value for the province. And so we care about the size of that triangle. You know, that's the thing we care about.

There's another feature of this particular figure that we can pay attention to: That average costs are decreasing. And so if we think about some of the policy options that the province has pursued,

we can look at, say, what happens when we increase electrification. Electrification involves shifting that red curve to the right. And so if we shift that red curve to the right, we can see where the red curve and the two blue curves intersect.

And we see a number of outcomes; the first one is that the price per kilowatt hour goes down. You know, that's important, that's interesting. Revenues go up but, most importantly, that green triangle shrinks. You know, what we want to do is we want to make that green triangle as small as possible. So by increasing load, by having additional electrification, we can make that green triangle a little bit smaller.

Now, average cost pricing has implications for both equity and efficiency. Average cost pricing is usually seen as a very equitable way to approach utility pricing; every customer pays the same rate. And if you're a high user, you pay a – you have a larger bill than if you're a low user. And so this is seen as being very nice on equity grounds, but the magnitude of that green triangle depends upon what's called the elasticity of demand; you know, how much consumers and businesses are going to respond to an increase in electricity rates.

And so if we take this figure again and we explore another option, that we think that demand is less elastic or more inelastic, all this means is that red curve is steeper. This means that consumers of electricity in Newfoundland and Labrador are less sensitive to increases in electricity rates. This means that we've got a new break-even price and quantity, we can set a lower average price and the dead-weight loss, this foregone economic surplus in the economy, is smaller. Of course, the opposite holds as well, that if consumers in Newfoundland and Labrador are very sensitive to electricity prices, that dead-weight loss, that foregone economic value, will increase in size.

And so this raises the question: Well, how sensitive are consumers in Newfoundland and Labrador? And my answer is I don't know. I think it's very challenging to determine that. I don't think Synapse Economics, the consultant that the PUB commissioned, has a good sense of how sensitive consumers are in Newfoundland and Labrador. But we can see, just based upon

the sensitivity of consumers, which is plotted along the horizontal axis in this figure, the foregone surplus in the province can go from a fairly small amount – tens of millions of dollars – to an extremely large amount – hundreds of millions of dollars.

And this really depends upon how sensitive consumers are, whether they're industrial or residential consumers in this province. And determining what the elasticity effects of higher rates are is a key feature in any decision going forward. This then shows what the expected change in annual – should be megawatt hours at the proposed price for different elasticities would be.

And so I want to sort of sum up this brief part on – make a few comments on the price elasticity of demand. There have been many studies that have estimated the price elasticity of demand in jurisdictions in North America and the rest of the world, especially Europe. There's a wide range of potential estimates; some of them very small, some of them larger.

In general, industrial and commercial consumers tend to be more sensitive to electricity prices than residential consumers. But one of the unique features of the Muskrat Falls Project is there are very few jurisdictions that proposed as large an increase in electricity rates as would be needed here to cover all fixed costs. A large increase is usually on the scale of about 25 per cent, whereas the increase here is more on the scale of 80 per cent. And so this takes us outside of the standard sort of parameters that we're familiar with and so this is a little bit different.

We also need to consider the differences between short-run responses and long-run responses, because these tend to be quite different. That it takes a few years for firms and households to fully adjust to higher electricity prices, but in the long run, the adjustment may be larger.

The other way to address electricity pricing is sometimes called the Ramsey pricing rule. The Ramsey pricing rule is just a rule that says we want to minimize dead-weight loss no matter what. And this involves charging different customer groups different rates. This is the efficient way to raise revenue, given a particular

cost that you need to cover. However, it tends to be disliked with voters and citizens because it has very disadvantageous equity considerations; that it advantages industrial and commercial consumers at the expense of residential consumers.

The other thing I was asked to comment on was the economics of taxation; the economics of using tax revenue to pay for the Muskrat Falls Project. To start, I think it's important to emphasize that governments need to balance a number of features. They need to balance the overall level of taxation, the overall level of services provided and the mix of taxes used. And when I say mix of taxes, I refer to corporate income taxes, personal income taxes and sales taxes.

Moreover, just like deviating from marginal costs introduces a dead-weight loss, there's a cost to raising a dollar of tax revenue. That a dollar of tax revenue raised through a personal income tax imposes a larger cost on society than one dollar. We refer to this cost – the technical term for this cost, is the marginal cost of public funds. The marginal cost of public funds measures the losses incurred from raising money from a particular tax base, whether it's the corporate income tax base, whether it's the personal income tax base or whether it's the sales tax base.

We need to use the marginal cost of public funds to evaluate both public expenditures – and this means whether funds are going to be allocated towards paying for lower rates, because of the Muskrat Falls Project, or whether these funds are going to be allocated towards providing other government services. We need to consider the economic costs of taxation in these decisions.

It turns out that Newfoundland is particularly sensitive to taxes. These estimates are a little bit dated; they're from a paper that was published by the C.D. Howe Institute in 2011. But it suggests that corporate – the cost of raising one dollar of corporate income taxes in the Province of Newfoundland and Labrador is \$30, which is a very large number. Personal income taxes, then, is \$2.50. Sales taxes are the most efficient tax at \$1.15.

Now, I want to put these numbers into some sort of, you know, context for you. This means that if you're going to use taxes to pay for rate mitigation – electricity rate mitigation, you need to value that tax revenue at a larger multiple than you would typically use. And the example I put up here is that if you are going to divert the \$200-million Nalcor dividend from general revenues to electricity rates and you wanted to replace that \$200 million via higher taxes, you cannot just say we are going to get \$200 million higher taxes. What you need to do is you to consider the cost of taxation with that.

So in order to replace that \$200 million via if you add in personal income tax rate increases, it would cost – using these estimates – \$500 million. If you increase the sales tax, it would cost \$230 million. What this means is that if you are going to divert funds from general revenues to mitigate rates, you need to value that diversion in terms of the cost of replacing those revenues. Likewise, you can do a similar exercise by, you know, devaluing the benefit side of the equation.

Now, what does this mean for rates and taxes in Newfoundland and Labrador? And I want to sort of highlight a couple of points. The first one is that Newfoundland pays below average rates compared to rest of the country. The black line in this figure shows the average residential electricity revenue per kilowatt hour in real dollars, real 2010 dollars, in Newfoundland. The other lines, then, show the other provinces. And so Newfoundland and Labrador's electricity rates are below average and importantly they're below the average of their Atlantic provincial peers. That rates in this province are below rates in Nova Scotia, they're below rates in PEI and they're below rates in New Brunswick.

What this means is that rate mitigation, such as has been pursued by the province and the PUB, is not free. That maybe – so rate mitigation is not free and there are costs to increasing taxes to pay for government services. What the government needs to consider is the cost of both taxes and the implications of rates. And so my recommendation, from the very high-level review, is that the government should allow for slightly higher rates to offset some of the potential costs of needing to increase taxes. What you want to do is you want to balance rate

mitigation against the implications of reduced expenditures; that rates – increasing rates is costly for the province. At the same time, increasing taxes is costly for the province. There is no easy answer. You want to balance these costs.

When we come back to thinking about the differences between equity and efficiency, I think it's important to emphasize that by diverting funds from general revenues to mitigate rates, we may also be shrinking expenditures that often flow to the most – to low-income households or those in the greatest need in society. And we need to sort of balance these equity and efficiency considerations of whatever policy the government or the regulator is going to pursue.

A couple of final factors to consider on this particular context: the first one is that Newfoundland and Labrador, unlike other provinces, has a declining and aging population. This means that the labour force is going to be eroding, health care costs are likely to increase and the economy is going to struggle to grow at the same rate as other provinces. This has implications for load; this is implications for the tax base. And so this needs to be front of mind when the Inquiry is making its recommendations.

The other point to keep in mind – and this builds on some of the research I've done and highlighted when I was introduced – that Newfoundland and Labrador's government revenues and its economy are more sensitive to oil prices than any other province in this country, and that includes Alberta and that includes Saskatchewan. That as oil prices go, the Newfoundland and Labrador economy goes. That there's a disproportionate influence of oil prices on government revenues and the economy in this province, which poses challenges for public budgeting and poses challenges for figuring out what's going to happen in this economy.

And so I'll close with this – you know, this is a quote from Severin Borenstein (inaudible): "In the end, there is no good answer to the question of how a utility should recover fixed costs, but there are less bad ones." And so you're going to

want to try and pursue as few of the bad ones as is possible.

Thank you.

MS. DING: Thank you, Dr. Schaufele.

There may be some questions for you this afternoon.

Commissioner, our next panelist is Mr. Peter Alteen, who is the president and CEO of Newfoundland Power.

Now, Mr. Power [sp. Alteen] did testify at the Inquiry in December of last year, so I'm not going to ask him to go through his background again, but I'd note that his CV has been provided at Exhibit P-04436.

Madam Clerk, if you could please go to Exhibit P-04446. And that's tab 11 in your binder, Mr. Alteen.

And, Mr. Alteen, I'll ask you to go ahead and do your presentation, please.

MR. ALTEEN: Thank you.

Commission, Newfoundland Power delivers electricity to the majority of customers on the Island of Newfoundland. We're essentially a poles-and-wires utility. Over 90 per cent of the power we deliver to our customers we purchase from Newfoundland and Labrador Hydro.

We are very much on the customer interface with the electrical system. So every year we typically will have millions of customer interactions with individual customers. For decades now we've had independent, quarterly customer satisfaction surveys so that we can monitor customer sentiment about the service that we are providing. And each and every week, our employees are out meeting the various groups of customers to understand their service needs and what we can do to serve them better.

So, we've got a fair idea of what –

MR. COFFEY: Commissioner, if I could.

Mr. Alteen, could you move your mic?

MR. ALTEEN: Oh.

MR. COFFEY: He's difficult to hear down here, Commissioner.

MR. ALTEEN: Yeah.

MR. COFFEY: Thank you.

MR. ALTEEN: No problem.

MR. COFFEY: Thank you.

MR. ALTEEN: Our customers tell us what their sentiment is about the electric service we're providing, and that includes what their sentiment is about the Muskrat Falls Project. And I'm going to share a little bit of that with you here today, and I'm going to cast my remarks in terms of what our customers tell us are their two highest priorities in terms of expectation of the service we provide. One is that the cost be reasonable; and, two, that the service be reliable.

First, on the cost issue. Right now, our customers are telling us that they have concerns that the Muskrat Falls Project will render electricity service in this province unaffordable for many of them. And we take their concerns along those lines very seriously and we share them.

So now let's unpack a little bit about the source of those concerns. Newfoundland Power delivers service to 92 per cent of the customers served by the integrated grid on the Island of Newfoundland. Newfoundland and Labrador Hydro serves the remaining 8 per cent. All of the customers served on that grid pay the same rates. The combination of legislation, Cabinet orders and contracts which support the Muskrat Falls Project clearly require these customers to bear the burden of Muskrat Falls.

When we break down our 268,000 customers, it's easy to see that the vast majority of them are residential customers – households, families. They may be in apartments, they may be in single-family homes, whatever. They are essentially households.

About 24,000 of our customers are a commercial-institutional mix of customers. They predominantly serve the service sector. So they

are purveyors of goods and services, including government services. And then we have about 11,000 lighting customers, and they're concentrated heavily in the 600 municipalities that we serve in our service territory.

When we look at the usage of those customer groups, we can see that the residential sector, or households, use over 60 per cent of the energy that we deliver. Commercial and institutional customers – and that includes some manufacturing and some fisheries customers, too, and some mining customers – use about 38 per cent, and our lighting customers use 1 per cent.

So, if I could flash back to mid-year of 2017, when Nalcor energy did the update which increased the cost of the Muskrat Falls Project to \$12.7 billion, they had indicated that electricity costs would have to rise to an average of about 22.9 cents a kilowatt-hour to recover those increased costs at Muskrat Falls. Our customers' reaction to that was pretty immediate. We heard it on the phones and through the various digital channels that our customers choose to contact with us. We heard it in our survey results that we regularly do. We heard it in focus groups in which we engaged four months after the announcement to get a sense where customers' sentiment was on the Muskrat Falls Project.

And even at that early stage, that would've been about 18 months ago, Mr. Commissioner, fully 84 per cent of Newfoundland Power's customers had indicated that they were very concerned with where electricity price was going in this province. So, what are they concerned about? What do the impacts look like for our customers?

What this data tells us is that at existing rates, about 61,000 households served by Newfoundland Power have annual electricity bills exceeding \$3,000. To give you some sense about what that is in a residence, that would be typically something that looks like a single family home, maybe 1,500 square feet of electrically heated space. They would have average monthly billings of something that looks like \$250. That's the cut-off point.

But, fully, 61,000 of our customers, upon receiving the news that rates had to increase to

22.9 cents to recover the cost of Muskrat Falls – and at the time that was a 95 or 96 per cent increase. They – all they saw was a doubling of their household energy cost. That was the general perception that we were receiving from our customers, but that wasn't the only impact that our customers understood that they would face by the general increase in electricity rates to a level, like, 22 or 23 cents a kilowatt hour.

Twenty-five hundred of our commercial or institutional customers have annual electricity bills exceeding \$10,000. We have some that have annual electricity bills in the millions. In an environment where rates have to be increased by virtually 100 per cent, it's fair to assume that these customers, who are heavily in the goods and services producing sectors – that these customers would be passing on some of those increases to the households that are going to experience the higher energy cost.

Our customers are very alive to the fact that the impacts that they will bear in respect of Muskrat Falls are not restricted to increased energy costs, but they are inclusive of knock-on effects that will come from the general economy, Mr. Commissioner.

The relationship between price and usage is a key consideration for the Inquiry in determining where we might go with respect to pricing. There's no doubt that the relationship between electricity pricing and its usage is real. And it's in its most elemental form, as price rises, usage tends to fall from what it would otherwise be, and the vice versa is also true. If price is lower, then we generally see sales volumes increase from what they would otherwise be. This is just simple price elasticity, and, yes, it applies to electricity.

This relationship is the strongest when customers have choices. For the household markets we serve, we see that in the heating sector. Fully, one half of Newfoundland Power's annual deliveries to customers are used for heating purposes; 70 per cent of our customers choose to heat with electric heat, space heat; 90 per cent of our customers use electricity to heat their water. So, we see these sales, about 3,000 – or three billion kilowatt-hours to put it in customer terms – as particularly vulnerable to

elasticity of the effects related to the Muskrat Falls Project and pricing that'll come out of it.

There's some emerging issues within the current electricity marketplace which should influence the Commission's view of what are the better answers in respect of where we go from here; one of them is that sales are already in decline. Newfoundland Power sales have declined in each of the last three years, Mr. Commissioner. We don't have the Muskrat Falls cost incorporated in rates, but we've seen small declines in each of the last three years.

Part of those – part of that, we believe, is related to customers exercising their choices. We believe that customers are getting more conservatory in their use of electricity, particularly in heating markets. And we think that part of that is related to their view of where electricity prices may be going. Last year, 12,000 of our customers elected to install a heat pump to more efficiently use their – the electricity that they do for space heating.

That type of investment makes sense if you believe that the price of electricity is going up. That – those installations last year were a 57 per cent increase in the total stock of heat pumps in this province, so that's a pretty big shift by our customers. When you – this type of market condition has implications for the recovery of a large amount of fixed costs associated with Muskrat Falls.

The Muskrat Falls costs, once they're incurred, are fixed. And if we think that the solution to recovering those costs is simply to raise rates to 22 or 23 cents a kilowatt hour until we get to the math that works, we're going to find, I suspect, that demand is going to drop significantly. And to make up the additional amount of fixed costs associated with the reduced demand, we'll have to increase the price again. That will cause a further reduction in demand.

That type of cyclical effect is a well-known phenomenon in the electricity sector. Some dramatically call it the utility death spiral. The point here is that the dynamics of pricing are not easy to predict, particularly when you're talking about huge increases, the magnitude of which are – come up in the discussion about Muskrat

Falls, but the system impacts are clear and well understood.

The Dominion Bond Rating Service, which rates our credit, has indicated that these dynamics are the singular biggest challenge facing Newfoundland Power today. What these market conditions and dynamics tell us is that the solution to Muskrat Falls costs and how they're recovered will inevitably be a matter of some delicate balance. And I suspect that we're going to hear a lot of that today, but that's crystal clear to Newfoundland Power at point in the game.

There's significant excess energy that will be available once Muskrat Falls is commissioned, Commissioner. And government has indicated that the value of the revenue associated with those – that additional revenue will be available to defray some of the costs of Muskrat Falls. And that's a potential benefit for our customers and taxpayers, no matter where the line is drawn on who has to pay what.

Over the last three years, Nalcor Energy's sales into export markets have yielded something that looks like three to four cents a kilowatt hour. The excess energy we're talking about here looks to be about 2 terawatt hours, or 2 billion kilowatt hours. To give you a sense, that's more than a third of the deliveries Newfoundland Power makes to its customers in a year, so it's a substantial amount of power.

So there is an opportunity here, perhaps, to locally find more lucrative uses for the power than export markets that are yielding three or four cents a kilowatt hour. And, right now, there are studies underway to try to improve the understanding of how that might be practically achieved: You know, obvious things like attracting new businesses or things of that nature suggest themselves; so do, perhaps, a potential stimulation of new markets like electric vehicle markets. But that's all underway and it falls under a broad rubric that's being called publicly, electrification.

That's out there and that's a good thing from Newfoundland Power's perspective and our customers' perspective. To the degree it involves changing behaviour it's good to think that that's something that isn't going to happen overnight. Customer behaviour is something you can

influence, but it's something that you typically can't influence fast.

The long and the short of this issue is that we see it as an issue providing substantial potential benefits for our customers, though those benefits may take a little while to realize. This is not such a bad thing when we think about the lifespan of the Muskrat Falls Project.

You know, the government has announced its plan to hold electricity rates at an average price of 13.5 cents a kilowatt hour, Mr. Commissioner. A lot of our customers appear to take comfort in that. I know we at Newfoundland Power take some comfort in the government's efforts towards mitigation. But as we look forward, one of the biggest public policy issues that we're going to have to wrestle with is: How do we determine reasonableness further down the road?

The current arrangement supporting the Muskrat Falls Project basically placed Nalcor in the position of determining what our customers will have to pay. Now, the government has intervened and said that it'll be 13.5 cents a kilowatt hour from the outset, but we have to actually canvass what is the better way to achieve the determination of reasonableness as we go forward.

Because pricing associated with Muskrat Falls is not going to end the day that we've commissioned the plant and our customers start using the power, this will be a continuing issue. And whether we want politicians to do it, bureaucrats, Nalcor Energy, whether we want to involve regulators is, to our mind, one of the pre-eminent public policy decisions that lies before us.

I said from the outset, Mr. Commissioner, that our customers have a significant expectation in reliable service provision. Reliability has come up within the context of the Muskrat Falls Project, but it's not a new issue. It was first flagged by the Public Utilities Board in 2012 when they did their initial review of the project. And after the events that are dark – now called DarkNL, the Public Utilities Board entered onto an inquiry where it sought to review the reliability situation going forward, post-Muskrat

Falls commissioning. That review is still underway.

I'll tell you where it is in a nutshell. The real issues associated with LIL reliability come down to first, is the – how resilient is the facility? What can we expect? Is this a facility that we can expect will resist a one-in-50-year weather event, one-in-150-year weather event, one-in-500-year weather event? That's an issue that the Public Utilities Board is considering now.

And regardless of what the determination on – is on that, there are two dimensions of what if it does fail? Where are we on the total Island system in terms of reliable resourcing? Once you decommission the Holyrood thermal plant, there are not enough resources on the Island of Newfoundland to meet customer demand. And that's part of the plan, there's nothing sinister or wrong in that.

But if you have the LIL out of service, then you have to say what if. And that requires us to rely on imports over the Maritime Link, rely on interruptible customers, which Hydro has arranged for and which is sound public utilities practice. And it relies us to look long and hard to make sure that we've got enough, because if you have that event occur, you can't get it like that. So that's one dimension of the reliability issue. That's a generation resource adequacy issue.

The second dimension has to deal with even if we have adequate resources on the total Island, are we able to transfer those resources to the Avalon Peninsula for the use of customers? This is important to Newfoundland Power because more than half of our customers and over 60 per cent of our power delivery is to the Avalon Peninsula. And there are well-known limitations in ability to transfer power over transmission systems when key components of the utility infrastructure are down. That applies to when Holyrood is down now, and it will apply to the Labrador Link if that is out of service.

The Public Utilities Board is reviewing both of these issues to make sure that what we're doing is the most appropriate from the consumer-reliability perspective. Newfoundland Power is a participant in that proceeding, as are our friends at Hydro, as are the Public Utilities Board's consultants.

We believe that our customers have a right to expect that the utilities that serve them will exercise all due diligence to ensure that the service that our customers ultimately receive is reliable. And that due diligence is being exercised now down at the Public Utilities Board. I have every confidence that it will reach a resolution. It may involve additional costs for transmission or backup generation facilities, but we're unable to put a figure on that at this stage in the proceeding. But what we can say is that the interests of our customers will be protected by this, and we think that is a good thing.

And with that, I'll conclude my remarks, Mr. Commissioner.

MS. DING: Thank you, Mr. Alteen. You may have questions this afternoon.

Our next panellist is Mr. Kevin Fagan, who is the director of Regulatory Affairs at Newfoundland and Labrador Hydro.

Madam Clerk, could you please bring up Exhibit P-04431, please. And, Mr. Fagan, that's at tab 2 of your binder.

Mr. Fagan, could you provide a brief description of your education and work experience to date?

MR. FAGAN: Sure. I'll start from the back.

So I went to university at Memorial, graduated in 1982 with a degree in mathematics with a concentration in statistics. Later on in my career, when I was working at Newfoundland Power, I did a diploma in business administration at MUN.

So I left Newfoundland when I graduated in '82 and went working in Calgary. So I worked at the Calgary Electric System from '82 to '86 in their rates department; into some costs of service issues; rate design issues.

Fortunately, I got an opportunity to move home in '86. Went to work with Newfoundland Power as a statistical analyst. And also in working in statistics with Newfoundland Power in econometric modelling, weather analysis of data. Moved into the rates area. Moved over into a position of rates analyst for a number of years. Then in the late '90s, moved over to customer

service, working in policy and regulation development and administration of policy with customers, and back over to regulatory for a period of years in the early 2000s. I became director of rates, 2011, for a few years, and I moved to Hydro in 2014 as a manager of rates and regulations.

My role was expanded a couple years later to manager of Regulatory Affairs and then further expanded to director of Regulatory Affairs. So my current role as director of Regulatory Affairs, I'm responsible for interactions with the Board of Commissioners of Public Utilities, planning and developing our proposals for general rate applications, capital budget applications.

We've currently got a proceeding ongoing called cost of service methodology proceeding, which determines the sharing of costs among customer classes, in particular the current proceedings about Muskrat Falls costs and how it should be shared, for example, between Newfoundland Power Island industrial customers, operation of rate stabilization plan – or in the past, we had a rate stabilization account that deals with fuel cost variances; in the future, we'll be looking at Muskrat Falls costs and variability in costs. So I'm involved in developing proposals for those types of things. So that's my current position.

MS. DING: Thank you.

THE COMMISSIONER: Can you speak up just bit?

MR. FAGAN: Oh, sure. Sorry.

MS. DING: Thank you, Mr. Fagan.

Madam Clerk, can you please bring up Exhibit P-04455? And that's tab 21 in your binder, Mr. Fagan. And I believe that's your presentation. And once that's brought up, could you take us through your presentation, please?

MR. FAGAN: Sure.

That's the button for the slide is it? Okay, thank you.

Okay, my presentation – okay, thank you – is entitled, Muskrat Falls Project & Customer Rates.

UNIDENTIFIED SPEAKER: (Inaudible.)

MR. FAGAN: Oh, okay. Thank you.

So, initially I'll go a brief summary of the Muskrat Falls contracts, then I'll talk a bit about Hydro's customers, the cost to serve including the Muskrat Falls Project and the potential customer rate impacts, and then get into discussions of rate mitigation.

So the Muskrat Falls Project contracts, they're not established, we'd say, in the normal practice with regard to regulatory contracts. The – if it was a Hydro development in the past, say for example Bay d'Espoir, it would have been developed as Hydro ownership and so, from a regulated perspective, the way this contract is set forth is somewhat different – I think the objectives at the time were more about maximizing value for the province and not necessarily least-cost rates for customers. It was a different angle, so some of that will be seen in the contracts, so ...

So Hydro's customers – Island Interconnected customers are required to pay 100% of the Muskrat Falls Project cost, regardless of how much energy they consume; includes the capital and operating costs, sustaining capital and a rate of return for the Muskrat Falls Project over a 50-year term.

Now, if this was a Hydro asset, in the regulatory environment, the costs are recovered over the life of the assets. It matches costs and benefits. So in a Hydro facility, you may be talking 100-year assets. Transmission assets could be 65 to 70 years. With respect to the Muskrat Falls Project, the costs are being recovered over a 50-year term. It puts more pressure on ratepayers 'cause recovering in on an accelerated cost period.

Hydro's got no ownership of the Muskrat Falls Project assets nor any right to output at the conclusion of the 50-year term. So in return – so Hydro receives energy to replace the Holyrood thermal generation and supply load growth into the future on an energy basis. Now, Hydro's

entitlement under the agreement is presented in schedule 2 to the Muskrat Falls purchase power agreement.

The way schedule 2 is developed, it's not based on the generation availability of the Muskrat Falls generation. It's based on Hydro's customer load requirements. There's a load forecast that was prepared at the time of sanction of the project and it would – it looked at all the generation available on the Island to serve existing customers and took Hydro's load forecast going out 50 years and said, okay, the extra energy required to serve Hydro's customer growth over those 50 years, taking into account the retirement of, I believe it's the Corner Brook Cogen facility and wind turbine generation is expected to be retired in 2028, taking it into account how much energy does Hydro need to serve its customers.

So that's Hydro's allotment under the Muskrat Falls agreements. So that's schedule 2. So the Muskrat Falls Project also provides capacity to replace the Holyrood thermal generation. So current capacity of the Holyrood thermal generation is 490 megawatts; the capacity of Muskrat is 824. I think we consider the firm capacity 790. Then when you move the Emera allocation as well as losses, we're down to about, I think, it's 552 megawatts of the capacity available to serve Island customers.

So it's slightly more than the Holyrood Thermal Generating Station. It's about 3 per cent of the existing generation capacity on the Island. And as a result of the Labrador-Island Link and the Maritime Link, Hydro also received access to additional supply that may be available in Labrador or imported from external markets.

So some other contract terms – so if Hydro doesn't require as much energy specified in schedule 2, Hydro has the opportunity to export that energy – the remaining energy and get the proceeds to benefit its customers to reduce rates.

Since the project was originally sanctioned the load forecast hasn't materialized with regard to the degree of load growth that was expected, so it's currently anticipated that there's material

energy available under a – relative to schedule 2 from what's currently projected in 2021.

Now, the available energy in excess of the schedule 2 allotment for Hydro is not owned by Hydro. It's owned by Nalcor. Okay, government has indicated that the value of that energy that's exported would be provided to benefit Hydro's customers, but contractually it's not Hydro's.

And if Hydro needs additional energy in excess of schedule 2 to serve customer load growth, Hydro can access that energy at no additional cost. However if Hydro requires additional energy beyond schedule 2 for reasons other than load growth on the Island – for example if we got an extended Hydro plant outage or let's say several dry years, Hydro would be required to purchase the additional energy based on market value, even though customers are paying 100 per cent of the cost.

And now I'll talk somewhat about Hydro's customers. So Hydro's largest customer is Newfoundland Power. And the cost of purchases from Hydro represents about two-thirds of Newfoundland Power's costs to serve its customers. Newfoundland Power's cost on average based on its most recent rate application excluding purchases from Hydro is approximately 4.4 cents per kilowatt hour.

And their average rate currently paying Hydro is around 7.9 cents per kilowatt hour. So Hydro filed – it's been – had its general rate application ongoing now since 2007. We recently got the general rate application order from the board about 2½ months ago. And we were required to file compliance filings. We filed our compliance filing late Thursday night proposing a rate increase October 1 reflecting the general rate applications (inaudible).

So that's providing the forecast for an increase to 8.8 cents per kilowatt hour in the wholesale rate in October 2019. And includes 1 cent per kilowatt hour to meet the legislative requirement to subsidize Hydro's rural customers. I'll touch a little bit more on this Hydro rural customers later on. So the current average residential rate including Newfoundland Power cost is on average 12.3 cents per kilowatt hour. And it's

forecasted to increase to 13.2 cents per kilowatt hour in October 2019.

So residential rates in Canada, it's mentioned, current Island rates are below the average across Canada. They're materially less than PEI and Halifax and Atlantic Canada. But we are slightly above New Brunswick and with the rate increase – the rate increase that's to be implemented in October will move us above average and further above New Brunswick.

Our industrial customers, so we provide service to five Island industrial customers. So it's not a large Island industrial base on the Island. NARL Refining Limited Partnership, Vale Newfoundland and Labrador, Praxair, Corner Brook Pulp & Paper. Teck Resources is still considered an Island industrial customer, technically, as such. But they're currently in operational shutdown and doing environmental cleanup. So on a perspective basis, Teck Resources will be leaving the system fairly soon I think.

So the existing Island industrial rates is approximately 5.5 cents per kilowatt hour and in our compliance application we filed, the average would increase to 6.2 cents per kilowatt hour in October. We've got two Labrador-Island industrial customers: Iron Ore Company of Canada and Tacora Resources. And rates for these customers are not regulated by the Board of Commissioners of Public Utilities, but established based on the Labrador industrial rates policy, which is a – and it's filed with the provincial government annually for update.

There is a slight – a portion of the transit – the Labrador industrial rates, which is subject regulation of the Public Utilities Board, but it's only the transmission costs. So about, I think, 90 per cent of the costs are within the non-regulated rate and about 10 per cent with regard to the regulated.

So industrial rates in Canada – oil rates in Canada are well positioned with regard to industrials, but with the increase that current – that's shown in the graph there, it doesn't reflect the increase in October, which would get it closer to British Columbia's rates, still below the Canadian average. So from a rates perspective currently, things are actually fairly good when

you look across Canada, for both industrial, I think, and residential.

So our hydro rural customers – and I have to apologize. The picture that was given me cut off a fair bit of Labrador, so I'm missing Labrador West and the North Coast, Hopedale and Nain, Rigolet may be missing there too, but the – so on the – I'll start with the Labrador system. Our Labrador systems, the Labrador Interconnected system, which we – I touched on, which is Happy Valley, Sheshatshiu and the east, go over – move over to Lab City and Wabush in the west. That's the Labrador Interconnected system.

Then we've got the L'Anse-au-Loup system, which is down along the South Coast, southeast there on the map, which is Red Bay, L'Anse-au-Clair. Those customers, we supply those primarily from purchases from Quebec on a secondary purchase agreement, but we also require the main diesel – maintain diesel systems for supply and capacity. So their rates are set separately.

The other diesel systems in Labrador and the Island, primarily diesel systems in Labrador – there's some on the Island – those rates are established. They've got a lifeline block, which is priced at the same rate as Newfoundland Power's rates that provide affordable energy – electricity for customers. And anything above, say, 1,000 kilowatt hours in winter would have an escalating price, more consistent with the cost of fuel to serve the customers.

So, Mr. Alteen indicated that all the customers on the Island Interconnected system pay the same rates, and it's also the same for L'Anse-au-Loup. The Island Interconnected system, the practice with the same rates, is established based on, really, government policy over the years. When rates – Newfoundland Power's customers changed, rates for the Island diesel customers change as well. So while the customers on the isolated diesel systems may not be paying for the cost of Muskrat Falls, their rates can certainly be impacted, depending on what happens with Island rates for the cost of Muskrat Falls. And the rates of the Labrador Island Interconnected system are calculated through a separate cost of service study and not materially impacted by Island rates.

Now I'll just touch on the cost to serve customers and potential customer rate increases, including the Muskrat Falls Project. So I wanted to – I started out, I said, well, okay, how big a surprise is it with respect to what's going to happen with rates? So I wanted to look at, well, if Muskrat Falls Project had been on budget at \$6.2 billion, what would the impact have been? So this was considered Decision Gate 3.

So I've used – in 2019, I'm showing the Island costs as 829, which would be our costs and Newfoundland Power's costs coming out of our current general rate application and Newfoundland Power's costs coming out of their most recent. And I looked at 2021 costs, if Muskrat Falls will include it in the cost and then on the budget. So what we're seeing there is a 20 per cent increase in rates relative to current rates, or relative to our projected rates in October, if the project had been on budget.

So I think the rate at the time when this was prepared was an average residential rate of around 15.1 cents per kilowatt hour, so a material increase from where we are now. However, at the time, the load forecast was projected to be higher, particularly for industrials. I think Vale was anticipated to be more in the neighbourhood of 80 megawatts relative to 40 currently, and I think Corner Brook Pulp and Paper may have been around over 30 megawatts at the time and is probably only 4 megawatts currently.

So – and with residential customer usage not growing as fast as when we projected. Now if the 20 per cent increase would – if it had been on budget, you'd be projecting a residential rate in a neighbourhood of around 15.6 cents per kilowatt hour. So when we're before the regulator, a rate shock that's often discussed before the regulators, anything excess of 10 cents would – 10 per cent.

So when Hydro presents a proposal in excess of 10 per cent – but the board will always come ask us questions, well, what can you do to mitigate the increase? So 10 per cent has been viewed as rate shock from one of our regulators. So while 20 per cent compared to what we're projecting with the updated costs may seem low, 20 per cent is extremely high given past practice before the regulator.

So I would – the next slide moves into the updated costs, like this was as of October. So we see the – still got the \$829 million per year, this is the annual revenue requirement, for customers. Compared to the 2021 with the Muskrat Falls update, would be \$1.3 billion. So that difference of \$477 million, an increase of 58 per cent relative to our projected rate in October. So that's an extra \$306 million compared to the previous slide, which is almost 5 cents per kilowatt hour extra costs for customers, on a retail level. So the growth in the costs is a material – a very, very large increase in customer rates, if unmitigated.

So I've only talked about costs. So the question is how does it move to rates? And now government direction is really requiring all these costs that we're talking about to be recovered from customers, and approved by the regulator without this allowance. In the past, if it's a large project coming before the board and the costs are very high, the board usually looks at approaches to how can we phase this in or look – let's look close at the costs and determine if any of them are prudent.

In this case, the board's required to flow it through. They may have some flexibility in a phasing approach, but ultimately have to provide recovery of the costs. The order-in-council, 2013, 343, requires that the full costs be recovered from Island customers, as mentioned by Mr. Alteen. So given that the requirement of legislation is that the full costs that I've presented earlier are required to be recovered from customers, now look at what the projected rates would be.

Before I jump into the numbers, I've presented a range of numbers here, and I mentioned earlier, cost of service methodology hearing that's ongoing before the board. And depending on the decisions of the board, it can materially impact the rate differential, primarily for industrial customers. Because Newfoundland Power is 90 per cent of the pie as such, a cost of service decision could impact rates like 0.3 of a cent, but that 0.3 of a cent – I think, one cent is equivalent to about \$66 million – so 0.3 of a cent, say it could be \$20 million. And this shift of \$20 million from Newfoundland Power to industrial results in this 2.6 cents per kilowatt-hour range for industrial customers.

So in the table there, which lays out the Newfoundland Power's customer rate of 13.2 and the Island industrial rates of 6.2 coming out of our general rate application, we now – we impose the costs that I presented earlier on a cents-per-kilowatt-hour basis, and we come up with forecast rates for Newfoundland Power's customers in the 20.6 to 20.9 range, or between 7.4 and 7.7 cent per kilowatt hour increase, Sir, between 56 and 58 per cent. And for all industrial customers the range could be between 9.9 cents per kilowatt hour and 12.5 cents per kilowatt hour, or an increase between 3.7 and 6.3 cents per kilowatt hour. So industrial customers are looking at rates – on the low side they could go up 60 per cent and on the high side they could double to just over a hundred per cent.

Now I'll touch on rate mitigation. So government has indicated rate mitigation will be provided to reduce the customer rate impact of the Muskrat Falls Project. So I've got a table here which computes how much rate mitigation is required to reduce the rate by one cent per kilowatt hour from the projected costs coming out of the project. So, I'd earlier presented a table which shows that \$1.306 million in total annual revenue requirement.

So I look and say, okay, Newfoundland Power's and Hydro's rural customers got \$1.223 billion and divide that by the projected rate that I presented of 20.7 cents and determined that, okay, about \$59 million, or almost \$60 million for one cent of rate mitigation for retail customers. And for industrial customers, because there was such a range on what the rate could be, I used a midpoint of an average of 11.2 cents per kilowatt hour and an average cost to serve between the ranges and come up with an average mitigation cost of \$7.5 million for a one cent reduction in costs.

So I'll use these numbers now and move forward and come up with an estimate of what the total costs required for mitigation. I just want to be clear in the dollars that we're presenting here. We're including Hydro's costs to serve, as well as Newfoundland Power's costs to serve, and allocated costs for Newfoundland Power because of the rural deficit.

So if that estimates rate mitigation on this slide, depending on the price chosen or target price chosen, I call it the illustrative rate because I think there's a lot of work to be done yet to determine what's a real target moving forward. But I think Mr. Alteen mentioned that 13.5 cents, so of the 13.5 cents, if we took the difference between the 20.7 cents per kilowatt hour that I presented and the 13.5 and I get 7.2 cents, times the \$59 million per one cent, I derive \$425 million of annual rate mitigation required if rates didn't go up beyond the 20.7 cents. And, of course, as the illustrative rate increases, the amount of rate mitigation declines by \$59 million per one cent.

I've got a similar table on the next slide. There's one thing I want to mention: These numbers are estimates and I was doing some work on it this morning and realized that depending on how it impacts rural deficit, the numbers could increase. So that number of 425 could be up to 460, okay?

It depends if the increased rural costs are viewed as rural deficit costs or treated as rate mitigation. It's like a chicken and an egg, you almost need the decision on where rate mitigation is first before you determine whether it's rural deficit costs for recovery from Newfoundland Power or whether rate mitigation deals with it.

So for the Island industrial customers, the current rate – or the projected rate coming out of our filing for October of 6.2 cents per kilowatt hour. I know the residential rate, the projected rate is 13.2 and government has targeted 13.5. So if we assume a similar change for industrial customers of 6.5, assuming the government was going to provide rate mitigation for Island industrial customers – I haven't specifically heard any target, but I'd assume the same difference. I'd come up with about \$35 million of rate mitigation required for all industrial customers, which is basically the difference between the 11.2 cents versus the 6.5 cents, times the \$7.5 million per one cent.

Of course, as the target rate increases, the rate mitigation required decreases; however, that's fairly simple math. Not so simple with regard to in reality what may happen. If the target rates, or if the rates go up materially above current rates, you've got to revisit the rate mitigation math

because the load changes from customers depending on the price of elasticity discussions earlier. So, it's not a simple equation as these tables indicate. And I will touch a little bit later with regard to potential impacts on customer usage.

So – I was going to say more bad news. The cost of service, looking out, is projected to continue to increase. So with regard to the Muskrat Falls Project, the contract provides for escalation of rates in the – Muskrat Falls PPA with regard to the generation of 2 per cent per year. That, in combination with investment, projected investment in the electrical system is resulting – is contributing to rates further increasing looking forward.

So this table presents projected rates, projected – okay, projected unit costs with no mitigation if those costs were flowed through to customers. So in 2024, 21.9 cents. Now, all my numbers are before taxes, okay. So there's been some discussion of the 22.9. Mine are before taxes, okay. So I just want – I should've mentioned that earlier, I'm sorry.

So the further it goes up in 2027, 22.9; 2031, 25 cents; 2035, 26.7; and 2039, 29.7. So this isn't a short-term problem. The – Mr. Alteen was right, a decision on where it will be in 2021 is important, but we need a long-term plan.

Customer load requirements; so it's quite clear that customers already have called the fear of Muskrat Falls with respect to customer rates, and it's influencing customers' decision making and usage. Of course, the degree of the impact on customer usage depends on a number of factors, but the health of the provincial economy is an important one. Income levels, and the electricity price competitiveness with alternative sources.

So electric heating, as Mr. Alteen indicated, is approximately 50 per cent of their load. The affordability of electric heating is what's really what we're talking about here with regard to residential customers. With regard to industrial customers, it's really survival.

So I've got an example here, a 5 per cent reduction. If we had a 5 per cent reduction in customer usage as a result of a price increase – I

haven't done any math with regard to the rate increase which would drive a reduction of 5 per cent; however, but based on past analysis on price elasticity, I think for each 1 per cent increase in customer rates, historically, we had, like, a 0.3 per cent reduction in customer usage, which is based on the historical analysis. And some might say not relevant to the increases that we're talking about here, but at least it would give you an indication that a 15 per cent increase in rates, you'd come up at about a 5 per cent reduction in energy based on historical patterns. So we're well beyond that.

The – so if we get a reduction in usage, our payments under the Muskrat Falls Project do not decline, so it's fixed costs. However, we got reduced revenues from the sales reductions for Hydro, so what can we do with the sales? So we have the opportunity to export those sales; however, the value on the export market is not very high right now and so it's materially less than if you sold it on the Island.

So we did some preliminary estimates and we determined that if we had a 5 per cent reduction in sales, it would require a further 4 per cent increase in customer rates. The – now, if there's rate mitigation being provided, that effectively would increase the amount of rate mitigation required. So it's either from the customer or from the provider of rate mitigation. And without rate mitigation, electric heat may no longer be an affordable heating source for many customers, and uncertainty considering future electricity rates may already be influencing customer behaviour, as discussed by Mr. Alteen.

So pricing considerations; so there's been a shift – works back to our incremental costs as applied for customers than in the past when Holyrood was our source for serving load requirements. So, currently, with Holyrood in service, if customer energy use increases and Holyrood provides that increased energy use, based on our current rate application – or compliance application that we filed last week, we concluded at a price of \$105.90 per barrel, based on the official forecast that's been historically used for providing updates to the board. That converts to about 18 cents per kilowatt hour for 2019.

So if the costs were increasing this usage, it's 18 cents per kilowatt hour increased costs. Fuel price varies up and down. That's why we have something called a Rate Stabilization Plan, which allows prices to go up and down every July 1, depending on how costs change. And once the Muskrat Falls Project is in service, these increased customer energy requirements – they're not going to change Hydro's costs for the Muskrat Falls Project. All will be – all will happen is that there'll be increased energy available for export and the marginal cost of the value of exports is in the range of two to four cents per kilowatt hour. So we've changed from a marginal energy cost perspective of approximately 18 cents per kilowatt hour, down to in the range of between two and four cents per kilowatt hour.

I mentioned earlier that the Muskrat Falls Project provides some additional capacity, but not a lot. Hydro is also planning to retire two gas turbines – Hardwoods in Stephenville in 2021. So, while we've got somewhat of an abundance of energy available to serve customers, we have limited capacity available to serve customers on peak days. So we've moved to a place where we're a low marginal cost of energy and a high marginal cost of capacity and that has some implications for customer pricing going forward.

So, we'll be – we've been discussing with Newfoundland Power with regard to doing a retail rate review. We haven't automatically decided on what we need. We note dual-fuel, maybe, options. We've got to look at time-use rates and determine if it's the right thing to do. There's material costs incurred to move to a full-time use rate. I think there may be \$70 million of capital investment required for metering if you move down that road. So we've got to review these rate designs and consider the marginal costs in establishing rates.

We're currently doing a review of our wholesale rate design for Newfoundland Power and Island industrial customers. We've been meeting – met with all the Island industrial customers on the Island talking to them about their rates. It's a real struggle to talk to them about their rate design and type of rate design you want when their whole focus is on Muskrat Falls and how – whether the rates are going to double or not. So, we're trying to come up with a rate design that

promotes efficient usage beyond Muskrat Falls, but it's very difficult for anybody to agree or come to a conclusion on recommendations without knowing where rate mitigation is and where overall rates will go.

If government – well, once we know what government decides with respect to rate mitigation, we then need to consider if our industrial rates are really too high and could prompt the closure of customer facilities. From discussions with – I think it was one particular customer, they looked at alternative generation rather than purchasing from Hydro. And in that particular case that would just result in maybe – could result in savings for that customer, that industrial customer, but would result in increased rates for all of Hydro's other customers because the fixed costs got to be covered from those customers.

So we may need to review whether we need to look at a load retention rate, which moves away from recovering the average cost from customers – from some industrial customers, but charging them a rate, which keeps them on the system, which – and at the same – and, also, keeps rates lower for everyone else than if they shut down.

We're also doing a – it's historically called CDM or conservation and demand management, and updating the potential study – Newfoundland Power and Newfoundland Hydro partner in doing this – reviewing opportunities for demand management initiatives with the limited capacity available on the system. So, that's actively being pursued and will be concluded fairly soon.

There's other processes by the board as ongoing currently. The government has requested the board to undertake a review of the electricity rate mitigation options and impacts on the Muskrat Falls Project. Hydro is participating in that as well. There's a separate – Peter mentioned there's a separate proceeding regarding the in-service of the Muskrat Falls Project on reliability. So it includes determining a reasonable balance between system reliability and customer cost. Reliability is, obviously, really important for our customers; however, we've got to look at both affordability and reliability. It's a real challenge in balancing right

now. So there's – that process is still moving along.

And we're working with the government on the development of an electric vehicle charging network. Phase one was put in the most recent budget and I think there's currently – I think there's about 400,000 vehicles on the Island, so there's a potential for electrification – additional electrification with regard to charging stations, but – with regard to charging stations and electric vehicles. But most – that's going to take time for developing a revenue stream.

In the short term, I think it'll benefit the economy with regard to attracting tourism. I think – I looked at the electric vehicle network across Eastern Canada. There's been a major growth in charging stations in New Brunswick, PEI, Nova Scotia and a lot of the Eastern Seaboard. So we're almost forced to move to a developing and charging network, not just for rate mitigation, but just to maintain our tourism potential so the customers just don't stop and not come across the ferry.

But I think over the long term, the electric vehicle network can provide benefits. However, we've got – and with any of the electrification projects undertaken, Synapse is discussing with the board's consultant – as well as the charging stations. We've got to look at managing the capacity, so it has to be smart usage with regard to growth. It cannot be just energy and capacity; it has to be a focused on energy and controlling capacity. Otherwise, we're going to need to additional generation facilities and just increase the challenges with regard to customer rates.

Anyway, just in summary, it's – the increased cost with respect to the Muskrat Falls Project has created material challenges with regard to rates, but also the structure of the agreements and how they're presented is also a – I call it accelerated recovery cost period for the project – has also created additional challenges.

So, thank you.

MS. DING: Thank you, Mr. Fagan. There may be some questions for you this afternoon.

Our next panelist is Mr. Dennis Browne, who is the conservative – the Consumer Advocate for

the province. Mr. Browne has already provided testimony to the Commission in Phase 1 of the Inquiry, during an in-camera hearing for water management, but I would still like to go through his background.

Madam Clerk, can you, please, bring up Exhibit P-04454, please. And, Mr. Browne, that's tab 20 in your binder.

Mr. Browne, can you provide a brief description of your education and work experience to date, please.

MR. BROWNE: Okay. Basically, I'm a graduate of Memorial University and Dalhousie Law School. Called to the bar in 1984.

1996, I was appointed Consumer Advocate to represent ratepayers on electricity and insurance issues, and I served my role to 2004; and again, from 2016 to the present. In 1997, the report *Gasoline Pricing in the Public Interest* was commissioned by the government and a report was provided through the – through to us, in our job as Consumer Advocate.

I'm a labour arbitrator, adjudicator, mediator, service chair of the Newfoundland Labor Relations Board, 1989 to 1998.

I've been retained by the government of New Brunswick on two occasions: one, to report to the New Brunswick government, its legislative committee on amendments of that province's *Industrial Relations Act*. From 2017 to 2018, I served as chair for the New Brunswick Ministerial WorkSafeNB Task Force. We traveled the province, a group of 10, and all of the recommendations of the Task Force have been accepted by the government.

I have been counsel to the Winter Commission of Inquiry into Sexual Abuse of Children by Members of the Clergy.

And from 2000 to 2002, I was a member of the Government of Newfoundland and Labrador's Freedom of Information Review Committee resulting in the report *Striking the Balance: The Right to Know & the Right to Privacy*.

From 2010 to 2014, I was a member of the 24 lawyers' group who advocated against the Muskrat Falls development.

MS. DING: Okay. Thank you.

Just for the benefit of the public who are watching, what is the role of the Consumer Advocate?

MR. BROWNE: The Consumer Advocate is appointed under the *Public Utilities Act*, to represent ratepayers in specific applications before the PUB. It is not a permanent position, it is activated by an application to the PUB. So as applications go to the PUB, the Consumer Advocate can intervene if the application is going to affect the rates. There may be other matters which would not effect rates and would not attract the same interest.

So at this current year, I was appointed to – also, I represent ratepayers before this Commission and I've been appointed to represent ratepayers before the Inquiry – currently, before the Public Utilities Board – undertaken by the Board from a reference put forward by the government. So – and we also have rate applications on the go. So it's been a busy two years. Generally, it's not that busy. Generally, it's a rate application, application here and there, but because of all this, the last two years have been quite busy.

MS. DING: Thank you.

And, Mr. Commissioner, I propose that we go through Mr. Bennett's presentation and then take a break after that.

Madam Clerk, can we, please, bring up Exhibit P-04455, please? And that's tab 25 in your binder. Oh, sorry – P-04463, please. And that's tab 27, Mr. Browne.

MR. BROWNE: Sure.

And, Madam Clerk, I'll take use of your facilities there to move us along. So on page 1, I make reference to the Principles of Public Utility Rates which was authored initially by Bonbright who died in 1985. But Bonbright was the father of regulatory economics and his principles of public utilities rates have guided our own Public

Utilities Board and utilities boards across Canada for decades.

The purpose of Bonbright's thesis was to ensure affordable electricity based on reasonable rates. They came up with marginal price costing, which has been referred to here today, and other formula to ensure that ratepayers have the benefit of the system and are ensured lowest cost electricity.

Now if we could just go to the next slide, you'll see the *Electrical Power Control Act* reflects Bonbright's principles, because under the Act which "regulates this province's electrical resources. The Act requires that all sources and facilities for the production, transmission and distribution of the province's power should be managed and operated in the manner that would result in reliable power being delivered to consumers in the province at the **lowest possible cost.**"

Rates have to be reasonable; electricity is a necessity.

Now, in reference to Muskrat Falls, the *Electrical Power Control Act* did not apply and we were presented with two cost options and the proponents adopted the language of the least cost option. Well, not only was it grammatically correct, but it precluded all the other options that were available and if the matter had been put before the board and the board had followed its own *Electrical Power Control Act*, it's safe to say we would not be here today. But we are and we have to deal with the situation.

So the next slide, please, Madam Clerk, just refers to the service areas. You'll see in blue there is Newfoundland Power's service area. The grey is Newfoundland Hydro's. As referred to previously, there are about 223,000 residential customers of Newfoundland Power and probably about 23,000 of Hydro.

And if we can go to the next slide, you will see that I've just given some historic perspective here because our rates have been historically stable. There was misinformation put out there by the proponents to suggest our rates had not been stable, but that certainly wasn't the case. I've used 2,000 kilowatts usage, which is a bit above Newfoundland Power's average, but

Newfoundland Power's average is made up of 30 per cent of people who have other forms of heat energy other than electric. So if you're using 2,000 kilowatts, you're using electric heat.

So, if you just look at some of these figures, in August 2006 – and I've looked at a 10-year period – we had 8.9 per cent electricity, and I'm using kilowatt per hour, the amount that's reflected in your bill. Now, some of the figures here that have been referred to previously are using what's called unit pricing, and unit pricing includes the cost per kilowatt plus your basic customer charge is incorporated. So as we're – we may not be all using the same figures, but from a consumer's perspective, I've used what people see in their bills. So people in their bill see the cost per kilowatt and they see the basic customer charge.

And if you look down – forward, you can scroll down – you'll see that the variations in rates; they haven't been great. There's a cent here and there, and then rates fluctuate back to where they were. You'll see examples of that in 2010 and 2016, we had less than 10 cent electricity, and in 2018 and while we're sitting here today your kilowatt cost is 11.391 cents. So if you're using 2000 kilowatts on average that would come to 227 and your monthly charge is roughly \$16. The tax is included, that would give you a \$300, \$280 electricity bill. And that would of course be higher in the winter months where you're using more.

Now there's reference already been made to Canadian averages and to Atlantic averages. It's our position they have no applicability here. In this province, we have 70 per cent of Newfoundland and Labradorians – and Newfoundlanders because we're focused on the Island part of the province – use electric heat.

That's disproportionate to most other Canadian provinces with the exception of Quebec, and a lesser degree to New Brunswick. So we've grown the system based on electric heat. And the other interesting fact that we have which compares us in Eastern Canada only with Quebec, is we have hydrology. Over 80 per cent of our electricity comes from hydrology.

If you look at a province such as Nova Scotia, 30 per cent of Nova Scotians use electric heat.

So when you see these Atlantic and Canadian comparisons, they are not true comparisons. And from our perspective, we've had the benefit of our hydrology. We've had the benefit of growing our electricity system from heat because it's viewed as clean, and people moved away from oil for various reasons. So I think these are important factors.

Now, we're going to move ahead, just if you could scroll down further. Based on 13.5 cents and I'm talking kilowatt charge in 2021 using the same figures, the power costs will be \$270 monthly or charge or HST. So you'd move to \$328, roughly \$50 more than what you're paying in 2018. However, if charges go beyond that, 20 cents, 21, 23 cents, you come close to the so-called doubling of rates.

So if it was 23-cent electricity, your monthly bill would be \$547 including taxes. If it goes higher than that, it will be higher the bill. So, if you're – if it went to 23 cents, 21 cents, the people are paying roughly in excess of \$2000 more annually for electricity from their current budgets, and that's after-tax dollars.

Okay, we can continue to the next slide.

Now, who's paying for all of this? Well, the population figures can't be ignored. In 1989, we had 576,000 of us, and in 2019, we have 514,000 – actually, it may have been adjusted a bit upwards, to 516 by most recent figures – if in 2025 we have 513,000.

So our population is in decline, and that's an important consideration in all of this. If you can go to the next slide, and we'll see there's the – in terms of our population, our population is in an aging mode, we can see that the median population – or the median figure, the average, is 46 years old.

If we can just continue on into the next slide. So, the demographic from the last census: 519,000 of us. We had a 1 per cent growth since 2011, and that – those figures, the growth part of it don't seem to be there anymore, and decline is probably what we have to look forward to, where our median age was 46 – or is 46.

If you can go to the next slide, and that's expressed in this graph. You can see where we

came from a 580 – in excess of 580,000 right to where we are, and it shows the decline into 2018. When you go further still, the most frightening statistic is this: more of us are dying than being born. So therefore, deaths are outweighing births, and the orange line refers to the number of births, the blue line to deaths. So we're into a serious predicament.

I'd like to look at some other economic factors, which come into play with all of this. If we can go to the next slide, you'll see housing starts by province. Our housing starts were – 2013, 2,862. By the time 2017 comes around, we're into 1,400, and we're still – in 2018, 2019 – in that area. So we're not seeing a great building of houses. And, of course, that's consistent with everything else. If our average age is 46 years old, well, we can all figure it out.

So if we go to the next slide, we look in terms of household income and who's using electricity, and this is done in gigajoules, which is an energy component, and it can be converted into megawatts, but for our purpose we don't need to do any of this. We'll see electricity use in Canada – in terms of the unit as expressed, and you'll see on the left column, the Canada electricity usage and on the right, Newfoundland and Labrador electricity usage and you can see that we're way above the Canadian average.

And who is using the electricity? Well, it comes down to your – to your household income. And your household income would reflect on the house you have, or you're living in an apartment. And therefore, if you're making from \$20,000 to \$40,000, you'll use less electricity than someone who's up in the \$100,000, \$149,000 range, you'll see the bulk of the electricity is used by people who are over the \$60,000 range. This is an interesting statistic.

If we can just move on – Newfoundland Power, in the next slide. This is an interesting statistic; it comes from a Newfoundland Power rating agency's public document, the PUB. And – the president of Newfoundland Power has already alluded to the fact that they're in a no-growth situation. And you can see that reflected in electricity sales in the breakdown from 2012, the residential 3,441 and it's – it continued to increase, the residential statistics for them, but in terms of real growth, it's really not there.

It's stagnant from 2015 to 2016; 2016, the growth is in the negative, so even though the residential customers may be increasing slightly, they're not getting that growth. This is very significant in terms of Muskrat Falls, in terms of who's paying, because if there are lesser numbers of us to pay, we're in a dilemma. All these figure, these projections were available at the time Muskrat Falls was conceived. That's the sad part about a lot of this.

Okay, we can go on to the next slide. Yeah, we'll go on to the next one.

And I just want to talk about Newfoundland Power for a little bit. Newfoundland Power is a private company. It has a right to its rate of return. It gets approximately an 8.5 per cent rate of return currently. And Newfoundland Power's rate of return, by law, is mimicked by Newfoundland Hydro. Newfoundland Hydro, even though they don't earn the rate of return or it's not approved by the board, they have a right in law to mimic Newfoundland Power's rate of return. In terms of Newfoundland Power – Newfoundland Power is doing pretty good, most people would think. In 2017 their profits were nearly \$41 million and in 2014 they – their profits were \$37 million.

If we can go on to the next slide. These companies, Newfoundland Power and Newfoundland Hydro, have capital budgets. Now, the capital budget has to be approved by the Public Utilities Board. That's the law. So each year both utilities bring forward capital budget applications; this is relevant because once the board approves the capital budget the cost can effectively go into rates.

If we can just look at Newfoundland Power's capital budgets, just by way of example, in 2018 their capital budget – they differentiate among various components there, what their – what it's costing for. Distribution and general property and information systems and – that information systems one always attracts my attention because both Newfoundland Power and Newfoundland Hydro have information systems; while the ratepayers of the province should directly or indirectly be paying for both is something that is required – requires more examination, particularly, in today's environment.

In any case, in 2018 Newfoundland Power's capital budget was \$83,800,000. And we go to the next slide, we see Newfoundland Power's capital budget for 2019 and you go to the bottom line – information systems is still there because they're paying for their information systems over a four-year period, I think it's a \$25-million information system that's being improvised here. The budget goes up to \$93 million. And if we go to the next page, in 2020 the budget goes up again to \$96,600,000. So their budgets seem to be in ascendancy, in a period in which the outlook for electricity may be in a 'descendancy,' which is of some concern.

If we can go to the next page. Utilities have a way of measuring their success. How successful are they in keeping the lights on? SAIDI is an international index the – that Newfoundland Power governs itself by and it has a – it's "commonly used as a reliability indicator by electric power utilities. SAIDI is the average outage duration for each customer served," and there's a formula for that. Then they have – the other measure they use is SAIFI, "is commonly used as a reliability indicator by electric power utilities. SAIFI is the average number of interruptions that a customer would experience," and they give a formula for calculating that.

So what we've seen previously, the building of the system is built toward these components: the SAIDI and SAIFI. They try to keep it at least with the Canadian average or below the Canadian average. So if we can just go ahead to the next slide, you'll see Newfoundland Power's SAIDI in – as expressed against the Canadian average. And we're doing quite well here. If we just go to the lower part of that slide: "The average duration of outages experienced by the Company's customers has been approximately ½ the Canadian average since 2008." So Newfoundland Power is keeping the lights on, basically.

Now, what is it costing to keep the lights on? How much do we need to have a really strong system? How much are we going to pay to continue to be better than the Canadian average? That's some factors we have to look at in the future. There will be power outages. Winds, storms, things will happen. We all know that. So we can't build to perfection, but should we be going too much more than the Canadian average

in our expectation of what we can afford? What will be affordable in the future in terms of the way we're building? Are we overbuilding our systems? And that's a question that's – will have to be dealt with at the Public Utilities Board in the not-too-distant future.

Okay, we can go to the next slide, please. That, once again, shows the normal operating conditions Newfoundland Power is operating on and the duration of customer outages. How long are your lights off? And it has remained consistently – consistent since 2008 at approximately 2.3 to three hours per year. Well, that's not bad, right? If you got a system and you're – you only have to look forward to 2.3 or three hours per year, on average, of the lights going out, it would be an inconvenience but it's not a gross inconvenience.

Okay, we can continue on. I just want to look briefly at Hydro's capital budget because we have two that we're paying for. And Hydro's capital budget at 2019 total \$118 million; some of it was from previously approved projects. Hydro has to have its capital budgets approved by the Public Utilities Board. Muskrat Falls didn't have to be approved by the Public Utilities Board. And here we see generally what Hydro was breaking it down to their generation, their property and unforeseen allowances and rural transmission. So Hydro, of course, is primarily a generator, but it does have the rural transmission in the province and these are expensive systems to maintain.

Okay, if we can continue onward, please, and the next slide.

It's interesting, whereas if you hearken back to some years, Hydro is actually paying money to the government, they're paying a dividend. If you look at 2003, 2004, 2005, 2006, they're paying the dividend into the province. Then they started paying in 2009, the dividend, into Nalcor. So for a while the province was actually getting money from Hydro; of course it's not the case now. Beginning in 2012 the province started paying Hydro money through Nalcor and you see money started bleeding from the province into this project: 2012, \$245 million; \$531 million, 2013; 2014, \$552 million. So we stopped getting paid a dividend by Hydro and

we started putting a lot of our money into the project.

If we go to the next slide, please.

Now, no presentation would be complete without some reference to Holyrood. Holyrood is there, and it's probably going to be there in the foreseeable future. The facts and reference to Holyrood are – there's information available that says Holyrood can be maintained until 2032. So if it can be maintained until 2030, 2032, some may ask, well, why did we do the project to begin with? Because we're just eight years shy of 2041 at that stage. And that's a fair question.

And one of the presenters to the Board of Commissioners of Public Utilities, Cabot Martin, who was Premier Peckford's energy czar – he's more obviously – he was often referred to as that – gave this presentation. I just want to refer to a few slides because it's topical. If we can go to his first slide there. He makes this point about Holyrood.

He says: "Holyrood Fuel Oil Needs are Insignificant Relative to our Offshore Oil Resource base in the Jean d'Arc Basin alone." And he just – on this graph he shows that Holyrood's needs are less than 2 per cent, between 2016 and 2014, of all our oil resources. And he comments that: "Newfoundland & Labrador is and will remain a major exporter of oil up to and beyond 2041 and the end of the proposed Muskrat Falls 50 year Take or Pay Contract."

Can we just go to the next slide?

He makes this comment. He says, "High oil prices are not a risk to economic well being of the province (and its people) prior to 2041." He says: "Low ... prices are... Especially if consumers have to pay rates based on a 50 year 'Take or Pay' Contract for expensive Muskrat Falls with all costs including; And a Provincial Government struggling under low oil revenues."

Can we just go to the next slide?

And Cabot Martin was prophetic. A prophet is never welcome in his own hometown. But if you just look at what happened, we had a period of high oil prices from 2014 to 2011 – 2011 to

2014. We were in that \$111, \$108, \$100 range. And by the time 2015 came, they started going back again. And they've gone back in what has been a history of fluctuation. The anomaly, if you look back right to – if we could see more of this slide, go right to 1990, you'll see we had \$23 oil, \$20 oil, \$28 oil.

And if you could just scroll downward again, chair, to the – Clerk, to the top, the only anomalous period there is for that couple of years. And it conveniently fed into the Muskrat Falls myth that high oil prices were here to stay and they would probably get higher in the future. You're hearing the proponents say that largely when they said they apparently knew the price of oil. They went and got a 50-year oil forecast from PIRA, which had all kinds of red lights flashing, warning that the further you go out, the less likely it is. But they bought into it anyway. And here we are today with Cabot Martin's prediction: Watch out for low oil prices. Because we have low oil prices and we have Muskrat Falls. We have the worst of two worlds here.

If we can go to the next page, please?

Now, I'd just like to look at Holyrood. Holyrood in the whole Muskrat scenario was set up as a straw man. Holyrood oil wasn't costing the ratepayers more than a cent or two on their electricity bills. I'll come to that again in a moment. But if you look at in terms of oil consumption, the greatest oil consumption from Holyrood was for the periods 2001 to 2003, 2004. And after that period, it goes down considerably. If you can scroll up, it goes back up there again 2014 and 2015. So, Holyrood's has – there – it hasn't been consistently increasing in its intake of oil for our use.

If we can go to the next slide, please? These slides, by the way, come courtesy of Maurice Adams. He has a blog, Vision 2041, and was out early, really, talking about Holyrood, that a lot of the information coming from Nalcor about Holyrood wasn't as clear as it ought to have been.

Now, if we look at oil consumption and just look at it in terms of our electricity bill, there's nothing that was unaffordable here. Like, in 2006, the oil consumption was 1,257,000

barrels, but our electricity cost was only 8.9 cents total per kilowatt. If you look at 2008, it goes up to nine cents; 2009, 1,500,000, goes back to 8.9 cents. And then we're in that more expensive oil period, which we saw further, but it only goes to 10, 11, 10 and back to 10 cents in 2015. And today, we're paying 11.37 cents. So the whole idea that oil was going to put a strain on all our budgets, when you really look at it in detail, it doesn't pan out at all. It's just not there; it was a straw man.

If we can move on to the next slide?

And Maurice Adams, whom I referenced previously, put a question to Nalcor's leadership website in reference to this matter and he was – "Mr. Adams" – he asked about Holyrood and its usage. "Mr. Adams" – this is around 2011, 2012, as far as I can gather – "The Holyrood Plant has operated at or near capacity (... >95%) in the nine-year period from 2003-2011 for approximately 1,250 hours, or less than 2% of the time. It is rare for the Holyrood Plant to operate at full capacity because" Holyrood [sp. Hydro] "is committed to minimizing the use of oil-fired generation. We do this by using our hydroelectric and wind" resources [sp. sources] "as much as possible to offset generation at the Holyrood Plant. The Holyrood Plant would operate at full capacity only if essential to meet the system load requirements, primarily under contingency situations"

We all know Holyrood only operates basically between December and March of each year. So it's an interesting fact that for the period of 2003 to 2011, 1,250 hours, less than 2 per cent of our time. And, of course, you can see that reflected on our rates, where our rates didn't go up a lot.

If we go to the next slide, please?

Now, where are we going with all of this? Where are we headed? Well, the government has put a reference to the PUB. The PUB has engaged two energy companies, Synapse Energy Economics, they're out of Boston, and the Liberty Consulting Group, they have offices in various places in the United States. Liberty has done a lot of work here since DarkNL and know our system quite well. Synapse and Liberty are studying all aspects of our electricity system, the doubling of operating costs by Newfoundland

Power and Newfoundland Hydro that I mentioned previously.

They're looking at things like a two-tier system like they have in New Brunswick. Two-tier system in New Brunswick, people pay so much for the first 1,000 kilowatts, and a little more for beyond 1,000 kilowatts. So the so-called lifeline rating for electricity is approximately 800 kilowatts. You'll need 800 kilowatts for your hot water boiler, your fridge, your lights, your stove; that's called the lifeline block.

So the lifeline block in Nova Scotia, it's a bit cheaper. That's something we might look at. They're looking at, of course, time-of-day rates and other things. And there will be public hearings on all of this in the fall. Liberty will issue its reports publicly. Everyone in the public will have an opportunity to present to the board in reference to all of these matters, and we're trying to find ways to bring down the cost that we have for electricity now, so to ensure affordable rates.

So we can go to the next slide, please. And that's the reference question. If you look at the reference question it, basically, is a study of rates and rate design to try to find economic ways of dealing with Muskrat Falls, dealing with the project. And we can go to the next slide, please. And the next slide. And I just want to refer to price elasticity, which has been referenced earlier by our expert.

This is a report prepared by Dr. Feehan. And we got the report when Newfoundland Hydro came before the board, looking to increase rates of electricity incrementally to 18 cents last year. And we asked the question: Well, what is the elasticity you have? And the president of Newfoundland Hydro answered they had no elasticity studies, in reference to these matters. Because elasticity studies are important, because if people can't pay for electricity because it's unaffordable, they will go to another heat source, which is affordable. And as people drop off the system, the first people that would note that would be Newfoundland Power and you could go into the so-called death spiral, whereas electricity gets more and more expensive, people gravitate to other forms of heating.

Now we can go to the next slide you'll see. Here for instance Professor Feehan just looks at – as various components of electricity and what these would cost based on 2,000-square foot detached house at 11 cents, at 17 cents and at 23 cents a kilowatt.

So that would be average usage of electricity he has there, and you see electric baseboard heating how that would increase right to \$6,200 for 23 cents. Well, most people at that juncture would go to an electric heat pump air-to-air because that's only going to cost \$3,000. Some would go to mini-splits; that's going to cost \$2,400. Some would go to oil. At 70 per cent efficiency, oil would be cheaper. Some would go to propane. At 70 per cent efficiency, propane will be cheaper. So some would go to wood stove/furnace, 55 per cent, that would be grossly cheaper. So Hydro doesn't have the consumers of the province exactly where they want them. If electricity rates increase too much, people will move. Consumers have been known to do that.

If we can go to the next slide, please. They may not move entirely but they could move out of electric hot water boilers, for instance. They could take electric hot water boilers and move to another – and according to Professor Feehan's study here electric hot water boilers are efficient from a cost perspective at \$701 at 11 cents but if the cost of electricity moves to 17 and then 23 cents, you'll see stand-alone oil at 55 per cent efficiency is cheaper. You could see propane stand alone is cheaper. So people will move – will gravitate to save money.

If we go to the next slide, please. And this is a – this is really interesting because Newfoundland Hydro, in its rate application 2017, was asked: What would be the impact on customer rates in 2021 of 26-cent kilowatt electricity, if customer demand was reduced by 5 per cent – all customer demand was reduced by 5 per cent.

So Hydro answers: "The question poses a scenario of a hypothetical reduction in customer 'demand' of 5%." So customers generally reduce their intake by 5 per cent. "Hydro has assumed that the reduction in 'demand' in this question refers to reduced customer energy consumption on the Island Interconnected System. Hydro also notes that the 2021 rate of 26.32 cents/kWh cited in this question is the

forecast rate for island residential customers, inclusive of 15% tax."

Then they give this answer and this is of particular note: "A 5% reduction in customer energy consumption in 2021 would reduce retail energy" bills "from customers by approximately 5%. The energy not used by customers could be sold in external markets to recover approximately 25% of the lost retail revenue. Overall, Hydro estimates a reduction of 5% of energy usage by customers would increase customer rates, on average, by ... 4%. Applying the same approach, Hydro estimates a reduction of 10% of energy usage by customers would increase customer rates on average by approximately 8%." So Hydro's plan, the master plan, was if people start using less electricity, those who stay on the system will have their rates increased.

Can we go to the next slide, please? Now, I end off with this slide because this is sort of important; this is typical of your power bill. Consumers are alert to what they are paying. And if you notice in the right-hand corner you've got your past energy usage. And if we can scroll up on that a little, Clerk, thank you. Consumers watch their energy usage and are encouraged to do so.

If you look at energy usage, this month it shows how this customer used 1,840 in kilowatts. The same month last year they used 1,518. So they're – it increased from average daily for that month from 61 from 52 kilowatts. Consumers watch this. I know I get calls on it a lot and, particularly, in winter. And if it's a particularly cold winter with a lot of wind, there's very little consumers can do.

So, even though they say we have everything the same, their bill goes up. So consumer information is important. That's an important factor that Newfoundland Power put on its bills some 10, 15 years ago and it's very useful to consumers. I put it on just to show you that consumers do watch and are careful, and the real fear in Muskrat Falls is that the consumers will leave the system once rates start increasing dramatically.

Thank you very much.

MS. DING: Thank you, Mr. Browne.

We propose a break, Commissioner.

THE COMMISSIONER: We'll take our break.

We'll take our break now and come back in 10 minutes.

CLERK: All rise.

Recess

CLERK: All rise.

Please be seated.

MS. DING: Commissioner, our next panellist is Denise Hanrahan, who is the deputy minister of the Department of Finance and secretary to the Treasury Board.

Madam Clerk, can you please bring up Exhibit P-04430, please. And, Ms. Hanrahan, that's tab 1 of that binder.

Ms. Hanrahan, could you provide us a brief description of your work experience, education and background, please.

MS. HANRAHAN: Sure.

I graduated from Memorial with a Bachelor of Commerce Co-op degree in 1994 and a Masters of Business Administration in 1998. In between there, I achieved my certified management accounting designation in 1996. I've also completed a project management certificate and completed the Directors Education Program to achieve the ICD designation.

MS. DING: Okay.

MS. HANRAHAN: With respect to my work experience, from the time I graduated until 2002 when I joined government, I worked in several different industries. In 2002, I came in to the Department of Transportation and Works as their director of finance, moved through the Department of Education as well as the Department of Finance and Municipal Affairs.

I was appointed to the executive position of assistant deputy minister in Transportation and

Works in June of 2013, and in October of that year moved into the Department of Finance as the ADM of financial planning and benefits administration. And I'm currently the deputy minister and secretary to Treasury Board and have had that position since November of 2017.

MS. DING: Okay, thank you.

Ms. Hanrahan's speaking notes is at Exhibit P-04456. And if we can bring that up, please, Madam Clerk, and that's tab 22 of your binder, Ms. Hanrahan. And once that's up, can you please go ahead with your presentation?

MS. HANRAHAN: Sure.

Good morning and thank you for the opportunity to provide information to the Inquiry regarding the two overarching questions posted by Commission counsel.

The first question posed for panel members is: What are the consequences of paying for Muskrat Falls through increased power rates? Basic economic theory regarding price elasticity holds that when the price of a good or service increase, it generally means that consumption or demand of that good or service will decrease as well. My fellow panellists addressed this in speaking to their areas of expertise.

The residential energy rate on the Island portion of this province is currently 12.3 cents per kilowatt hour. Rates naturally tend to go up over time due to operational and inflationary pressures. The cost of electricity for Island residential ratepayers is likely to increase this year by 4 per cent to 12.9 cents per kilowatt hour, based on ongoing general rate applications by Newfoundland and Labrador Hydro and Newfoundland Power. This 4 per cent increase is not related to the Muskrat Falls Project.

Assuming of inflation of 2.25 per cent per year, the cost of electricity is expected to rise to about 13.5 cents per kilowatt hour by 2021. Again, such a cost increase would not be related to the Muskrat Falls Project. A rate of 13.5 cents is expected to be the lowest, or among the lowest, of domestic electricity rates in Atlantic Canada by 2021, which average is expected to be between 16 and 18 cents per kilowatt hour by that time. Thirteen and a half cents is also well

below the rate of 16.1 cents per kilowatt hour that was projected for 2020 when the Muskrat Falls Project was sanctioned in 2012 and expected to be operational by 2018.

The 2021 expected rate of 13.5 cents per kilowatt hour is the premise of government's rate mitigation plan as released in April 2019. The plan is designed to ensure that taxpayers and ratepayers will not pay any incremental cost related to the Muskrat Falls Project. Electricity rates and taxes will not rise as a result of the project. It is reasonable to ask how that's possible since someone has to pay the project's \$12.7-billion cost. The funding requirement for 2021 is \$725.9 million calculated on an accrual basis.

For those who are interested, details of the rate mitigation plan and how that amount is to be funded can be found on government's website, but I'll summarize the key components of the plan by summarizing the five aspects of it. Net operational savings from Newfoundland and Labrador Hydro is comprised of \$178.2 million from net fuel savings at the Holyrood Thermal Generating Station, and other regulatory process, as are promised, transitions to Muskrat Falls power.

It is expected that non-Muskrat Falls regulated revenue of Newfoundland and Labrador Hydro will increase by an estimated inflation rate of 2.25 per cent in 2020 and 2021. This approximates Holyrood savings with the actual savings being dependent on the timing of Holyrood's closure and fuel price changes. The provincial investment of \$249.1 million includes \$49.1 million realized for selling surplus energy that is either recaptured from Churchill Falls or is surplus energy from Muskrat Falls.

The other \$200 million is the annual amount committed in past budgets funded by Nalcor dividends starting in 2021. This contribution comes from any Nalcor return on equity realized from the Muskrat Falls Project, as well as from revenues from other Nalcor lines of business such as Nalcor's existing holdings in oil and gas projects.

Reducing expenses by \$39.4 million will also contribute in paying the cost of Muskrat Falls. Specifically, the PUB interim report identified

annual cost savings from Nalcor restructuring, as well as opportunities to reduce operations and maintenance costs. Reductions in diesel fuel consumption in the 20 isolated systems across the province can also be achieved through the installation of renewable energy solutions which can be funded from federal funding opportunities.

Raising revenues will contribute \$59.2 million towards rate mitigation. Switching government buildings, such as health care facilities and Memorial University, to electricity as existing furnaces and boilers reach the end of their useful life is a valuable opportunity to increase the demand for electricity. There is federal funding available to help with these conversion costs. Sale of surplus energy to new customers such as data centres is another revenue opportunity, as is offering firm capacity to large customers, which is a higher value product than spot export energy sales. Holyrood performance credits, which are earned for reducing its greenhouse gas emissions below targets, can be sold to other industrial facilities. While Holyrood won't be fully decommissioned for another few years, it won't be burning fuel for base load generation once Muskrat Falls comes online.

And finally, managing the financial structure of the Muskrat Falls Project was a federal commitment achieved when the new agreement on the Atlantic Accord was announced in April 2019. A formal process is underway to evaluate all options as presented in the PUB interim report, to review the cost drivers as well as the revenue opportunities, and to consider how the Muskrat Falls Project can further the climate change commitment issued by both Canada and our provincial government.

The PUB interim report indicated there are significant opportunities for rate mitigation associated with the project's financing, and they have suspended their work while those inter-government discussions are ongoing.

Government is confident in the rate mitigation plan put forth, and is focused on ensuring that this plan is achieved. The plan is the result of years of detailed and focused work by dedicated teams from many backgrounds, in which work I have personally been engaged. There were many

options to consider – the key was choosing those options likely to have the least possible impact on the people of our province while keeping the province’s fiscal situation in mind. The rate mitigation follows from government actions such as the restoration of oversight by the PUB and Canada’s commitment to assist with rate mitigation. The rate mitigation plan aligns with the interim PUB report released in February of 2019, which validates many of the concepts included in the plan.

Any plan has risks, and unforeseen challenges sometimes occur. It would be unrealistic to ignore that possibility. Government will continue to assess its rate mitigation plan and revise its approach as needed on a regular basis when such challenges arise. This is common for all government financial plans, including our annual budget process. Finalization of the rate mitigation plan will occur once the PUB’s final report is submitted in January of 2020. This timeline allows for consideration well before any payments for Muskrat Falls come due, which is when the fourth generation unit comes online in late 2020. 2021 will be the first full year of operation of the Muskrat Falls Project.

The second question posed for Panel members is: What are the consequences of paying for Muskrat Falls from general tax revenue, and what are the consequences of increased taxes and fees, reduced service levels or an increased deficit?

If Government decides to spend money on anything not currently in the fiscal forecast or decides to stop collecting an existing revenue or fee, the most likely result is an impact on the deficit, on net debt, or on borrowing.

Government can fund new spending or manage with less revenue in three ways: Government can neutralize the impact on the deficit by increasing its revenue either through increasing provincial taxes and fees or by utilizing federal funding; government can neutralize the impact on the deficit by reducing costs elsewhere or by trading expenditures elsewhere for the new ones or as an offset to the revenue loss; or government can increase the deficit and borrow what is needed for the new spending or to address the loss of revenue.

Regardless of what the spending is for, the reality is that new spending generally impacts the province’s fiscal position negatively if it cannot be countered by new revenues or by other expense savings.

The state of the province’s fiscal position is communicated three times a year – at budget tabling in the spring, at the issuance of the audited Public Accounts in the fall, and during the mid-year fiscal update, which usually follows issuance of the Public Accounts. Numerous entities comment on those reports, including the provincial Auditor General as well as national publications such as the federal Parliamentary Budget Officer reports, C.D. Howe reports and research organizations. Bond rating agencies are keen observers and key commentators, as they offer an opinion on the Province’s creditworthiness.

There are several key indicators of our financial position. As of *Budget 2019*, the province was projecting a net debt of \$13.8 billion dollars, or approximately \$26,300 per capita. This figure includes \$14.5 billion in net borrowings, which is generally considered tax-supported debt. It does not include any self-supporting utility debt, which would be recorded on Nalcor’s consolidated financial statements. The Muskrat Falls asset would be recorded on Nalcor’s statements as well.

Government intends to use the rate mitigation plan they presented to avoid impacts on the provincial deficit or debt. The plan involves federal government support worth \$200 million, Nalcor dividends contributing \$200 million and various other revenue sources and cost savings providing the \$326 million balance. Successful implementation of government’s rate mitigation plan, in conjunction with the multi-year fiscal strategy to return to surplus in 2022-23, is key to maintaining the province’s bond rating.

Given the importance to the province of the rate mitigation plan and the return to surplus plan, my focus is on implementing these plans effectively and efficiently. Plans change and we continue to adapt to those changes by providing reliable analysis and policy advice. We have come to accept that not all things in the future can be accurately forecasted – oil prices, exchange rates, and interest rates just to name a

few – so we do not focus on the hypothetical beyond the next few years. We are focused on what is probable in the near term. Government's rate mitigation plan and return-to-surplus plan are included in the annual budget documents as projections to 2022-23.

The Commission requested that I provide some information on the provincial tax system. A comprehensive review was submitted to government on November 30, 2018 by a five-member independent committee who considered the tax capacity of the province in light of issues such as competitiveness, economic impacts and our fiscal situation.

The committee's summary and background reports are posted on government's website, and they were entered this morning as exhibits as well. I encourage anyone who is interested to consider the committee's comprehensive report as it uses common language to provide a practical assessment of a very technical and complex subject.

I will highlight some of the key characteristics of our tax system and use *Budget 2019* to give some context to that. Who a taxpayer is depends on one's perspective – it could be someone who pays personal income tax on earnings; it could be someone who pays sales tax when buying goods or services; it could be a business that pays taxes on profits or on payroll or on production; it could be someone who pays a combination of taxes when they purchase gas or cigarettes, as those goods each have their own tax along with HST.

A full listing of provincial revenue sources is provided when the annual budget is tabled. From a provincial Treasury perspective, taxation alone represents about 50 per cent of the total revenues the province collects – when the one-time Atlantic Accord funding is removed). In *Budget 2019*, taxation is expected to generate \$3.9 billion dollars. Taxation is an essential source of funding for provincial programs and services. For comparison, offshore oil revenues are worth \$1.1 billion, which is 14 per cent of total revenues.

The largest component of tax revenues is provincial personal income tax, which represents \$1.6 billion. While in 2016 roughly 425,000

people filed a tax return in the province, only about 277,000 actually paid income tax. This means that only 53 per cent of the population actually pays income tax.

From an income level perspective, in 2016 approximately 51 per cent of income tax filers had taxable incomes of \$30,000 or less, and they paid approximately 4 per cent of the total personal income tax collected. Conversely, 49 per cent of tax filers paid over 96 per cent of income tax collected. Another indication of the structure of our income tax base is that less than seven per cent of tax filers had a taxable income over \$100,000, while more than 20 per cent had a taxable income below \$10,000.

In 2019-20, our second largest tax source is sales tax, which is the province's 10 per cent share of HST and any retail sales tax on the private sale of used vehicles and insurance premiums. These are considered consumption taxes, which economists consider a preferred taxation method because they distort the economy less than income tax. Sales tax represents \$1.2 billion, or 15 per cent of the province's total revenue – when the one-time Atlantic Accord funding is removed.

The next two highest tax sources are corporate income taxes, worth \$411 million, and gasoline tax, which is worth \$186 million. Other taxes the province collects include tobacco tax, payroll tax, insurance companies tax, mining tax, corporate capital tax, carbon tax and cannabis tax.

On the topic of reducing government services, the current government has focused on a balanced approach. Finance and other departments have supported this administration in reviewing service delivery and finding efficiencies, and we will continue to do so. The focus is not on reducing services, but on delivering services differently.

In closing, I note that questions can always be posed based on hypothetical situations. I've sought to make it absolutely clear that as government has announced its plan for managing power rates, the Department of Finance and other departments are working tirelessly to implement that plan.

Thank you.

MS. DING: Thank you, Ms. Hanrahan. You may have some questions later this afternoon.

Our next panellist is Lorraine Michael, who is a former member of the House of Assembly.

And if, Madam Clerk, we can bring up Exhibit P-04432, please. And, Ms. Michael, that's tab 3 in your binder.

Ms. Michael, can you provide us a brief description of your education and work experience, please?

MS. MICHAEL: Yes. Thank you very much.

Educationally; I'm a graduate of Memorial University and a graduate of the University of Toronto. During the first 12 years of my professional life I was a teacher, and that's what my degrees at Memorial prepared me for. And during that time worked in various communities in the province. Actually, on the Island part of the province, about six different communities which gave me an experience of both rural and urban life in the province having come from St. John's.

In the '70s, I began to become quite involved in looking at government policy and how government policy touched people's lives and affected people's lives, and during that time I was doing that on a very international level. I helped form the St. John's Oxfam Committee.

And in the middle of the '70s I left teaching and went into my master's studies which really focused on people – impact on people. And I did it in a master's theology degree, but at that time I followed what was called liberation theology which looked at doing theology from the perspective of people who suffered in society. That focus led me into coming back after my studies at a time when the oil industry was taking effect here in the province and there was an environmental assessment on the Hibernia Project. And I worked with communities on the Avalon Peninsula, especially in the Placentia – Argentia area, preparing them to take part in the environmental assessment of Hibernia.

And throughout the '80s and since I came back – I was away in the '90s, and when I came back in '99 my involvement and interest in the role of environmental assessment with our huge natural resource development projects has been an important focus, I think, that has prepared me for the work around Muskrat Falls, when the Muskrat Falls – when the review panel came out with its report in 2012 on Muskrat Falls, I was able to look at that review and their recommendations with perspectives of somebody who had sat on the Voisey's Bay joint review panel for the Voisey's Bay mining project.

And then when I worked with Women in Resource Development throughout – since '99 up to 2006, during that time, I also was involved by – on another side, not by being on a panel but by making important presentations, especially in the White Rose Environmental Assessment. Something that actually led to environmental assessments from then on, and developments from then on to make sure that there was an employment program for women in our huge developments.

So, I think all of these have prepared me very well with regard to Muskrat Falls and, of course, as an MHA from 2006 to 2019, I was very closely involved with the project in terms of studying it and speaking to it during the debates that took place in the House of Assembly.

MS. DING: Thank you.

Madam Clerk, can you please go to Exhibit P-04459, please? And that's tab 23 in your binder, Ms. Michael. And once that is brought up, I'd ask that you take us through your presentation.

MS. MICHAEL: Thank you very much.

Since sending in my presentation, I have noted a couple of small typos. So, if I say something that doesn't appear on your screen – if you're watching the screen – understand why.

As someone who took part in the legislative debate on Muskrat Falls in 2012, I am honoured to have the opportunity to address the Commission in Phase 3 of the Inquiry. I know this part of the Inquiry is meant to look forward and not backwards and I shall do that. But to put

what I am going to say today in context I want to make reference my final words in the Debate on Bill 61 as recorded in Hansard, the official record of the Legislature and I beg the Commissioner's indulgence in allowing me to do that. In this excerpt I am explaining my major concern about the project.

And I quote: "I needed to know if the project was environmentally sustainable. I needed to know if the project was economically viable, and I needed to know whether or not it was really going to benefit the people of Newfoundland and Labrador. ... That is what we have maintained throughout this process....

"I stand here tonight and I can honestly say that after a year and a half or more, ... of looking at the project from all of those areas, especially from the perspective of the economic viability – and in talking about economic viability, I am not just talking about the project itself, and is enough money going to be able to be borrowed, et cetera, to make it happen.

"The whole picture of economic viability in terms of who we are as a Province, in terms of what our own capabilities are, in terms of what the long-term benefits are going to be for people in the Province, for workers in the Province, for communities, am I convinced of the economic viability of the project? I have to honestly say tonight, no. I have all kinds of fears. I still have all kinds of questions.

"...I said earlier in the last few days, I do not want this to fail. ... I really hope to God it is going to work for the people of the Province. I really hope to God it is going to work economically for this Province. Right now, I do not have the proof" of that is going to happen. End of that quote.

I also note that one of my final questions on Muskrat Falls on the same day I made these comments is recorded in Hansard as follows, quote:

"Mr. Speaker ... I am asking the Premier: What is this government planning to do to protect the ratepayer, the people of this Province?" End of quote.

I think these brief extracts from Hansard demonstrate why I believe it is appropriate that I reference my concerns about Muskrat Falls going back to 2010. I always wanted this project, if it were to go ahead, to work for the good of the people of the province and that good is what I shall be addressing this morning.

I will be discussing the financial impact on the province from the perspective of government's responsibility for the economic and social good of the people – the owners of the project who are responsible for it according to legislation, and the federal loan guarantee, yet who have no authority to decide where it goes.

I was a representative of people of the province in the legislature from November, 2006 to May 2019. The role of an MHA is one of privilege – the privilege of being a voice for people. It is also one of responsibility – the responsibility of ensuring that policy and practice of government work for the good of people – a responsibility that is very difficult for members sitting on the opposition side of the Legislature to carry out in a majority government – something which I did for all those years.

By its very nature being an MHA means being in a position of trust. People come to their MHAs when they are in need, when the system is not working for them, when loved ones are not being taken care of in the health care system, when children and grandchildren are not having their needs met in the educational system, when government fiscal and budgetary policy dictates whether or not they can afford to meet their own and their families needs on a daily basis. MHAs hear the horror stories and people reveal these stories because they hope their MHA is going to be able to make things better for them. MHAs experience the tears of people whose lives are in desperate situations and I saw many tears.

So in speaking today I am going to be looking at the future from the perspective of what I know people are dealing with in the here and now in our province. I shall be focussing on specific populations, whom I believe will be most adversely affected by the financial situation the province finds itself in because of Muskrat Falls.

We have an \$8 billion budget in this province, but we have a serious problem. We are currently

not meeting some basic needs of people that other provinces seem to be able to take care of. In order to look at the financial impacts on the lives of people we need to look at the current realities of this province.

As I do that, I shall be presenting some facts and figures that paint the picture. I have appended to my written presentation statistical information that gives greater detail rather than taking up too much time in reading all these facts. I shall only refer to some of the most basic.

The picture I am presenting is that of low-income people, of seniors, of youth, of average families – basically of the majority of our population whom anyone with common sense knows are going to be negatively impacted by the burden that the province is carrying because of Muskrat Falls. I shall also be making a reference to the impact on Indigenous people of Labrador.

And I'd like to point out here that if I were to put a gender lens – if I were to do a gender analysis of all the issues and facts I'm going to bring forward, we would find that women would be more impacted than men. And that's based on nothing else but the fact that women have lower incomes than men in this province, they earn lower than men, and in every one of the areas I'll speak to, women are more impacted. We already have that evidence.

Unemployment and low income: We have the highest annual unemployment rate in Canada which at 13.8% is more than twice the national average and which accounts for 36,000 people. The number of people on EI in January 2019 was 33,900, and the maximum weekly EI payment – maximum – is \$562. Six per cent of the workforce of 213,700 earn minimum wage, which is just slightly above the low-income cut-off level. Thirty-two point three per cent of the workforce earn less than \$15 an hour, which in many arenas in our country is considered the bare minimum that a worker should earn. Latest available statistics show nearly two-thirds (65.5%) of people aged 20 to 24, the youth of the province, are earning \$15 or less. This age group makes up the largest share of these low-wage workers, at 18.4%.

Income support: In May 2019, there were 35,850 adults and children on income support, which is thousands of dollars below the Statistics Canada Low-Income Cut-Off figures whether talking about families or single people.

About half of the 107,925 seniors in the province have incomes so low that they qualify for the Guaranteed Income Supplement, yet only seniors on income support get dental care, which in most provinces would be available for all low income seniors. Note the distinction between income support and those who are low income. It's not the same.

Neither is there pharmacare for seniors not on GIS or income support, again something that exists in most other provinces.

Income support doesn't come near meeting people's needs, hence the presence and ongoing growth of food banks in the province. As well, income support has not increased since 2014, during which time the Consumer Index has continued to rise.

A supplement to income support is a fuel supplement of \$71 a month, which goes nowhere near the real cost of heating an apartment. I have included details on heating costs in the appendix.

I think all of us know just from our own experience that this amount of money would not cover most fuel needs. So people either go cold or use income support money for heat, thereby cutting into other costs such as food. This unavoidable choice creates the need for food banks throughout the province.

Broader issues.

There are other needs in our province that affect broader groups of the population, and I'll focus on those right now. The first is child care. We do not have an adequate child care program in this province. We have child care. We do not have a program. Not only is child care very expensive, neither do we have adequate spaces if anyone can afford it. There is a continual waiting list that can not be met.

As an MHA, I was beginning to hear more frequently from young couples that the lack of

child care was one of their key reasons for choosing to leave the province. There are not hard figures on this one, but it is becoming more consistently recognized as factual.

Just looking at figures for St. John's gives a pretty good picture. In 2018, the monthly average child care fees in St. John's, according to the Canadian Centre for Policy Alternatives, were \$726-\$977 depending on age, obviously a substantial bite out of the monthly budget for many families.

With the overall cost of living going up, including child care costs, middle-income families will find it difficult to meet their needs if new burdens are laid on them because of the financial situation of the province.

Another issue for middle-income people is debt load. The "Survey of Financial Security" indicates that 29.6 per cent of Canadian families are debt free compared to 23.9 per cent of Newfoundland and Labrador families.

76.1 per cent of economic families, plus persons not in an economic family in Newfoundland and Labrador, hold some form of debt. The Canadian average is 70.4 per cent. Newfoundland and Labrador has the highest percentage of all the provinces.

The young people of the province are also carrying major student debts. There is an opinion in the province because we have lower fees for our post-secondary institutions than some other places that we don't have a student debt problem. That is incorrect. There's more to debt than student fees.

An Ipsos survey in 2017 found that graduates in Atlantic Canada had the highest debt load of any region in Canada at \$20,493. The national average is \$14,763.

The Student Loan Corporation of Newfoundland and Labrador reports 27,342 outstanding loans in 2018, which means many young people are paying on these loans every month.

Everyone carrying debt lives in hope that the costs of borrowing will not go up.

And then there is the issue of lack of affordable housing. It is an issue throughout the province, though the cost of housing is most drastic in St. John's. The average rent for a two-bedroom apartment in St. John's is \$950, and the average resale house price in St. John's is close to \$300,000. We also know from the Canada Mortgage and Housing Corporation that mortgage rates are going up.

I mention these broader issues because they are factors that particularly affect the middle class, which will not be able to deal easily with any extra financial pressures. It's not just low income people that we need to be concerned about. According to the Consumer Price Index, from 2007 to 2017 in this province, the cost of food rose by 32.2 per cent, shelter by 31 per cent, transportation by 15.5 per cent and energy by 18.3 per cent, even with the drop in oil prices, and I suspect my colleague that follows me will point out that wages have not gone up to the extent that the cost of living has.

Something that could add a financial burden to the province is the potential loss of hunting and fishing rights for Indigenous people in the Lake Melville area. Not being able to eat country food and fish because of methylmercury would mean an extra financial burden because of more food having to be store-bought. Who will carry that burden?

The reality is that we have needs in our province that are not being met in our current fiscal situation – needs that other provinces, including a small province like PEI, do a much better job of meeting. And I don't have the time to take to show what they are doing with regard to programs that – where we don't even have those programs in this province or where we have inadequate programs.

As we move forward we need to look at improving what is currently being offered, not reducing programs or even just maintaining the status quo. The question facing the province is how to do that, and I guess that's what Phase 3 of the Inquiry is all about.

So where to from here?

We lost a great opportunity to better the life of the people of our province once we began to

reap significant benefits from the production of oil. For the 40 years I have been involved in working for change, I have been aware of how far behind other provinces we are in taking care of people. We have inadequate childcare, inadequate home care, inadequate care of seniors, inadequate dental care, inadequate pharmacare, and a lack of plans to increase employment opportunities and to maintain the young people and middle class in our province. We cannot afford to maintain rural communities, and government's answer to that once again in our history seems to be passively encouraging resettlement.

The financial implication of Muskrat Falls is that not only might we not improve in all of these areas, but that we'll start falling backwards, and in fact that has started to happen in areas where government has already begun to make cutbacks in services.

Government's easy way to go seems to be to cut the garment to fit the cloth. To accept that things are the way they are, you just have to accept it without looking at how the cloth may be increased to fit the garment.

I argue that the issue in our province is not that we spend too much money on health, education and infrastructure. And I don't mean to imply that we don't need to review how that money is being spent. However, we do have to ensure that our number one priority is taking care of people, and I don't believe we can do that without finding more revenue to deal with the demands that Muskrat Falls is making on our budget. I also believe the decisions about how to move forward have to be made not from a political perspective to meet views of political parties but from a solid non-partisan and economic analysis based on people's needs and not on the directions from bond-rating agencies, though I do not deny we have a problem in that area.

It is possible we might be pushing our luck with borrowing and deficits, but we need a solid, objective analysis of how far on the cusp we are in that regard, something that is dealt with publicly.

I believe it is crucial that we accept we have a revenue problem when it comes to meeting the needs of paying for Muskrat Falls. We do not

have a problem because government is spending recklessly on our social infrastructure, which is not, at this moment, taking care of people's full needs. I also believe that keeping people in the forefront will mean being very cautious about how quickly we, as a province, move towards a balanced budget with a surplus. I believe looking for that budget by '22-'23 is problematic.

We seriously have to look at the revenue issue, and I don't think it is a problem just for the province. The federal government cannot be allowed off the hook in this regard. First of all, the federal government, along with the provincial government, ignored the first and second recommendations of the Joint Review Panel report, both of which recommended there are major pieces of work that would need to be done before approval and sanctioning of the project – I'm using the present tense that they used in the recommendation.

The first, in brief, says that before sanctioning of the project, "the Government of Newfoundland and Labrador undertake a separate and formal review of the projected cash flow of the Project component being considered for sanctioning (either Muskrat Falls or Gull Island)" – 'cause both were part of the review – "to confirm whether" the "component would in fact provide significant long-term financial returns to Government for the benefit of the people of the Province. Such financial returns must be over and above revenues required to cover operating costs, expenditures for monitoring, mitigation and adaptive management, and financial obligations to Innu Nation."

The second recommends, in brief, that before governments – and I note the recommendation used the plural – "before governments make their decision on the Project, the Government of Newfoundland and Labrador and Nalcor commission an independent analysis to address the question 'What would be the best way to meet domestic demand under the 'No Project' option ...?'" Then the recommendation outlines all the details that such an independent analysis would involve.

I contend that neither level of government paid attention to either of these two crucial recommendations that dealt with the economic

viability of Muskrat Falls, and that when they signed the loan guarantee, both levels of government were irresponsible. They both now have a duty to work together to determine what needs to be done to ensure that the people of this province do not suffer unduly because of the costs of Muskrat Falls. The federal loan guarantee squarely lays responsibility for the cost of Muskrat Falls on the backs of the people of the province, those who are using.

However, as we know, the realities of the cost of Muskrat Falls have changed significantly since 2012 when the federal loan guarantee for 6.2 billion was first agreed to, and again since 2016 when the federal government added an additional 2.9 billion of federal monies to the original guarantee. The terms of the loan guarantee still do not reflect the needs of the province since the costs are now reported to be billions of dollars above the 2016 figures.

As reported to the Commissioner, the estimated final cost of Muskrat Falls now is almost \$13 billion when financing costs are included. I obviously do not have the answers to how to deal with what I've presented – and options already today have been presented – but I'm convinced that the federal and provincial governments, together, have to accept responsibility and work together to make sure that the project works for the good of the people of the province which was a major concern of the Joint Review Panel and which is a concern of the people themselves.

Thank you very much.

MS. DING: Thank you, Ms. Michael.

Our next panelist is Jerry Earle who is the president of Newfoundland and Labrador Association of Public and Private Employees, or NAPE.

Madam Clerk, if you could, please bring up Exhibit P-04435, please? And that is tab 6 in your binder, Mr. Earle.

Mr. Earle, can you, please, provide a brief description of your education and work experience, please?

MR. EARLE: Yup.

Basically, back in 1980, I graduated from College of Trades and Technology at that time, the facility here in St. John's, and I've done a number of trades programs. I was interested in entering the healthcare field at that time. I did so after getting my first permanent job with the former General Hospital Corporation. Some (inaudible) while there, I became involved in my union local.

I – while caring for people, I was also advocating for people in my union role from that time. Throughout my career, I advanced myself in healthcare and in a number of roles offered by my employer at that time where I could advance myself in healthcare, different professions. At the end, before I left, I was a paramedic – paramedic level 2. And actually, I was one of the first four – in the province – as part of a program that led to the paramedic system that we have here now.

Shortly after that, 1998 – some time after that, actually – some time in 1998, I was hired by NAPE in the role of Employee Relations Officer where, again, I continued my advocacy now, except full-time, primarily representing mainly healthcare workers at that time; however – some other groups. I was involved in arbitrations, negotiations, I was the chief negotiator for the healthcare group within NAPE.

Then in 2015, I became elected as president of NAPE, which I am today. And in that role, I also serve on the Newfoundland and Labrador Federation of Labour, on executive council. And also, my role as president of NAPE, I also serve on the national executive board of NUPGE, which is a national union, right from here to BC.

MS. DING: Okay. Thank you.

I'll take you to your presentation. Madam Clerk, can you please go to Exhibit P-0444 [sp. P-04444] and that's at tab 10 of your binder.

And for reference, Mr. Earle's speaking notes have been entered in as Exhibit P-04442, but we'll take him to his presentation.

THE COMMISSIONER: I'm just going to ask you, Mr. Earle, to adjust your microphone a bit down, a little towards you so that we can get you

hear – hear you a little bit more clearly. Thank you.

MS. DING: Go ahead, please, Mr. Earle.

MR. EARLE: First of all, I'd like to thank Commissioner LeBlanc and his team for the opportunity to present and answer any potential questions here today; it's not often that a labour voice has this opportunity. As my time is limited, I will dive right in.

This process is incredibly important to the future of our province. The process is not only about finding out how we got here, it is also about to deal with the ramifications of this project going forward and hopefully ensure that we never again find ourselves in this situation.

For my part in this process, I am here representing NAPE, the largest public and private sector union in the province, uniting and representing nearly 30,000 workers across our great province. We have members in just about every community in this province; every single one of them will be impacted by this project and how we collectively decide to deal with it.

While, as a labour union, we don't have the expertise in-house, we commissioned a research firm, PolicyLink, to provide a position paper in preparation for our presentation, and my comments are based, in part, on those findings. And the report has been made available to this Inquiry.

UNIDENTIFIED MALE SPEAKER: Sorry.

MR. EARLE: While the size and scope of this project and the ramifications on the people of this province is massive, I am here today to focus on three key areas: the cost, who pays for and how much; the impacts on public services, the public purse and the public infrastructure; and the impact on individuals members and collective bargaining.

For the purpose of this presentation and this panel, I will be focusing on the financial impact of Muskrat Falls going forward. However, I want to note that in addition to the financial cost, Muskrat Falls potentially proposes significant environmental and socio-economic costs, especially to the methylmercury contamination,

threatening Indigenous and local people's health and traditional livelihoods.

While those costs are beyond the scope of this presentation, the potential impacts are very real. We have a collective duty to listen to these people, these communities. For many in the province, this project is an abstract thought – concrete and soil in a river in a far-off land. It is much more real for those living there and we need to respect that.

While I'll be focusing on the financial impact of the project going forward, I would be remiss if I didn't mention, at least in passing, how disturbed I have been to hear the testimony of this Inquiry and to have followed the extensive coverage over the past several months. There are very real and painful lessons to be learned here and I hope we will learn them well.

It has become apparent to me through this Inquiry that we are here due to a failure of leadership, a multitude of failures in our political institutional systems and via a lack of oversight and transparency. I personally wanted this project to work. I think we all did. We were told by those in charge, those that we trusted, that it would work, that it was on schedule and on budget. Via this Inquiry, we are learning the magnitude of ways in which that was not the case.

Since I became president in 2015 that realization has become more and more clear as the days have gone by. The impact on this project will be massive, not only for us but for future generations. We all need to reflect on how we got here. I am hopeful that this Inquiry will help us get there; however, that is not why I am here today. This is not my task in this Inquiry. In fact, the fact of the matter is we are here now and we have to figure out where to next.

I'll continue because I appear to have –

CLERK: Just give me your notes for a second (inaudible).

UNIDENTIFIED MALE SPEAKER:
(Inaudible.)

UNIDENTIFIED FEMALE SPEAKER:
(Inaudible.)

UNIDENTIFIED MALE SPEAKER: I gave you an advantage here.

UNIDENTIFIED MALE SPEAKER: Sure.

MS. DING: She can bring it up for you –

UNIDENTIFIED FEMALE SPEAKER: She can (inaudible).

MR. EARLE: Perfect, perfect.

CLERK: (Inaudible.)

UNIDENTIFIED MALE SPEAKER: Yes.

MR. EARLE: Yes, sorry.

So where is here? As we all know, we are currently at \$12.7 billion and counting, well above what we were promised in the beginning at various stages along the way. As the saying goes, a billion here and a billion there and we're pretty soon talking real money, but it's hard for many of us to fathom what that number means in real terms. Next slide.

So, let's break it down a little bit. I'll use public sector costs as comparators as that come into play later in my presentation. Muskrat Falls will cost approximately \$700 million a year. To put that in perspective, that's more than the total combined salaries of all core government employees combined for 2019. It's more than three new mental health facilities or the same amount of new penitentiaries annually. It's about the cost of the new promised hospital in Corner Brook, facilities we have been desperately needing to build for decades. Total government infrastructure spending in 2019 will be less than that total amount. So this is just to give some perspective on what these costs could be in regard to infrastructure and the cost to the public sector. Next slide.

So what will be the impact on public services? Well, that depends. The costs of Muskrat Falls could have very large impacts on public services or much smaller impacts. It depends largely on the choice that the government makes or the means to pay for those costs.

The overall choice on how the cost will be paid is a political one that will be made by the

government. There is nothing inevitable about that choice. Whatever government ends up selecting, the government will own that choice because it was entirely capable of making a different one. It is entirely capable of changing its mind and pursuing a different direction.

So far, the provincial government has indicated that it will make its final choice on how to pay the costs when the Public Utilities Board releases its final report in January 2020. In the meantime, the government has set out its current plan for dealing with the costs for the year 2021.

We've been told by multiple political parties that the people of the province will not bear the cost of Muskrat Falls. While it sounds good on the campaign trail, it simply cannot be true in its fullest form. We will pay. It is important to acknowledge that there is no magic bullet that will eliminate the project's costs. Nobody is happy about the cost, but nothing that the government or anyone else can do will make the costs go away.

The costs will need to be paid off and, again, the only question is how? There are three basic elements to the formula that makes up that decision thus far, whether they are expressly enumerated or not, that is: Rate mitigation, cuts or layoffs, or increase revenue, including getting some funding or relief from the federal government. I do not have the time or space here to break into the plans that have been proposed, but there is more detail on that front in our paper that we've entered into evidence.

In its fullest form, a \$700 million cost per year equates to about 11,500 jobs based on a \$65,000 annual including of benefits and pensions. The current funding gap in the Liberal plan is about \$200 million. That equals, on the same metric, about 3,000 jobs. This is not meant to fear monger or to sensationalize, this is to provide perspective about the size and scope of the numbers we are talking about. That money needs to come from somewhere.

If the decision is made to introduce deep austerity measures, the impact would be massive, not only on the individuals we represent, but the entire province, both economically and socially. Behind every statistic, behind every number on the ledger

there is a dedicated and hard-working public sector worker trying to feed their family, pay bills, pay off a mortgage, find and pay for child care, fund education – basically, make ends meet and so on.

They are not just numbers on a page. They are real people. They work each day to deliver the public services that make this province work, keep our communities safe and drive our economy. They are people who put their hard-earned money back into our local economy every day. This province works because they do. Cutting public sector workers not only impacts the individual worker, it means fewer services for everyone. It means fewer opportunities for young people to stay and work in our province and it means less money for the local economy. It means longer wait times, less care and more people falling through the cracks.

The ripple effects of drastic actions, particularly in the form of service cuts, layoffs, and/or privatization will be felt far and wide and can only serve to worsen the situation overall for both the public and private sector. We must also recognize that cuts to public services or to the people that provide them would be felt the hardest by those that are most vulnerable in our society: the sick, the elderly, women and the poor to name but a few. They will bear the brunt of public sector austerity.

For the sake of time allotted to me, I will now turn my attention to collective bargaining. We are already feeling the pinch of Muskrat Falls at the table, and we've only had one round of bargaining under our belt since this project ramped up.

We are cognizant of the current fiscal situation; we understand that we are in this all together. The future health of our province, socially and economically, is important to all of us. As I like to say when we have detractors speaking out about our bargaining process, this is our province, too. We want it to work. We need it to work. We will do everything in our power to strike that balance.

That said, we also need to be clear that the fiscal mismanagement of this project is not the fault of our members; they should not bear the brunt of the corrective actions as a result. When times are

good, public sector workers are often last in line for improvements; but when the times are tough, our members are usually at the front of the line to suffer the consequences. Let me be clear, public sector workers have paid more than their fair share to help the financial situation of this province.

We have concerns that the costs of Muskrat Falls will be used as a stick in future rounds of bargaining by the government of the day and the various special interest groups and employers' groups who have taken a more active role in our bargaining process of late. We are prepared for the coming disaster narrative that will be spun as we head to the bargaining table. We know this is coming and we have prepared, but we should all ensure that we don't fall into this trap. We must realize that what happens at the public sector bargaining table impacts private sector bargaining as well. So we have yet another ripple effect.

We have among the highest rates of poverty and inequality in the country as is. Collective bargaining helps to combat those issues and more. We know that where unions are strong, health and socio-economic indicators rise across the board. Our message is clear: We will not allow this project to be used as a bludgeon at the bargaining table. While the situation is grave, there are options and alternatives available to hanging the cost of Muskrat Falls on the hard-working people of the province who deliver the goods and services that the people of this province rely upon daily.

What is the impact on individual NAPE members? And I say here individual NAPE members because I happen to be the president of NAPE, but this impacts many others. Well, as explained above, it depends largely on the political choices that the government makes in allocating the costs of Muskrat Falls. The government can choose to allocate the costs fairly and equitably across ratepayers and taxpayers. Or it can choose to target the public service with spending cuts. Although targeting the public service will also negatively affect businesses in the private sector, as noted above. The key here is there is a choice. There are options. The situation is not good, but we should not panic with knee-jerk reactions that can send our province into a tailspin.

Unfortunately, I do not have the time to get into the myriad of options that are available during my time here today, but they are outlined in the position paper that was prepared for NAPE. The paper outlines four specific alternatives available to help deal with the cost of Muskrat Falls: “1. Maintain appropriate electricity rates in line with neighbouring jurisdictions. 2. Introduce energy efficiency programs to reduce impact on individuals. 3. Electrification to support revenues (and reduce environmental impact)” and “4. Exploration of other revenue sources” either be taxation or from federal sources.

I believe my time is likely wrapping up, so I’ll conclude my presentation. It was difficult to scale down our thoughts and positions on the issues, but I hope I was able to provide some context on the matter of the financial impact of the project from the perspective our union, our members we unite to represent.

I once again thank you all for your – opportunity to present, and we would be open to certainly answer any questions. I want to thank you again very much.

MS. DING: Thank you, Mr. Earle.

You may have some questions this afternoon.

THE COMMISSIONER: Can I just stop you there?

The report that you referred to that was commissioned by NAPE, the PolicyLink report, is that actually now an exhibit? I didn’t see that in my book.

MS. DING: It is. It’s Exhibit P-04443.

THE COMMISSIONER: Okay. All right, good. Thank you very much.

MS. DING: Mr. Commissioner, it is just after 12:30. We do have one more presentation. I’m not sure whether you would like to take a break now and push Ms. Hancock’s presentation until after lunch ...?

THE COMMISSIONER: No, I think we’ll have Ms. Hancock’s presentation first.

MS. DING: Sure.

So our next panellist is Bernice Hancock, who is the executive director of the Community Education Network in Stephenville.

Madam Clerk, can you please bring up Exhibit P-04432, please? And that’s tab 3 in your binder, Ms. Hancock.

Oh, you just have to lift your hand off the mouse there.

UNIDENTIFIED SPEAKER: (Inaudible.)

MS. DING: Oh, sorry. 04434, please? And tab 5.

Ms. Hancock, can you provide us a brief description of your education and work experience, please?

MS. HANCOCK: Thank you, Ms. Ding. I am the executive director, as you mentioned, of the Community Education Network, and we’re a non-profit organization serving rural and remote communities in Southwestern Newfoundland. My education background includes a B.A. in community studies, and a diploma in business administration and also a certificate in adult education.

I’m also an instructor trainer with the Canadian Red Cross and involved in a number of other community based organizations, including the Bay St. George Status of Women Council, board member of the Newfoundland and Labrador Housing and Homelessness Network and involved in other organizations in Southwestern Newfoundland. Most of my 30-plus years’ work experience has been with a non-profit, a number of organizations including the John Howard Society, local community college, the Bay St. George Coalition to End Violence and a number of other organizations.

I’ve also lived on the West Coast for pretty much all my life. I’ve – I was born in Corner Brook. And I’ve spent the last nearly 35 years in Stephenville, Bay St. George, Southwestern Newfoundland, working – we raised our family there and, you know, working and volunteering and living there.

MS. DING: Thank you.

And, Madam Clerk, if we could please bring up P-04460, please? And that's at tab 24 in your binder. And this is Ms. Hancock's presentation.

And if you could take us through your presentation, please?

MS. HANCOCK: Okay.

I'd like to thank the Commissioner for inviting me here to present today on behalf of the Community Education Network, and certainly bring a non-profit perspective and the perspective of rural Newfoundland and to be able to offer, I guess, some ideas and suggestions as well.

My first slide, I guess, deals with the issue of equality versus equity. And I think that's very important when it comes to the financial impact of the Muskrat Falls Project, that we are not all starting on equal footing. And we have to ensure that we do approach this from a position of wanting equity and not impacting the people that are already dealing with difficult life circumstances anymore than we have to.

Southwestern Newfoundland, the area that I live and work in, is comprised of approximately 70 rural and remote communities on the Southwest Coast of the Island, and that includes Stephenville and surrounding communities, the Port au Port peninsula, Bay St. George South, Burgeo and coastal communities, and Port aux Basques and Codroy Valley and coastal communities as well. While it is a very beautiful place in the province, it's not without its challenges.

For example, there is no public transportation as such, so transportation and geographic isolation is certainly a challenge that we face on a daily basis. An example of, I guess, community services and resources available to us or lack of that, right now any women living in this area have to go to Corner Brook to give birth or to get obstetrician or gynecological services they have to go to Corner Brook. That could mean three hours plus for people living in the communities. So when we talk about a reduction in services for rural and remote communities, you know, it impacts greatly on our rural areas, on our smaller communities and towns.

We also have some of the highest rates of unemployment. I saw the previous panelist, you know, talked about that in detail in terms of statistics, but we do have some of the highest unemployment rates, the lowest income, highest rates of dependency on income support and we do have a lot of other challenges that we face on a regular basis.

In terms of the organization I work for, it's a – as I mentioned, it's a non-profit organization. We've been around for a while. We were incorporated in 1991 and as I mentioned, we do serve the rural and remote communities in southwestern Newfoundland. Our main office is in Stephenville. What our focus is and how we're able to provide the services is that we build a lot of collaborative partnerships with government departments and community groups. And to meet individual and community needs we facilitate a wide variety of community-based programs and services to meet those needs and we do that in a very cost-effective manner.

Some of the programs and services that we provide include prenatal and postnatal support at the community level. Early years programs for young children and families; they include family resource programs, they also include licensed preschool programs. We have a community youth network – that's our sister organization – and we're able to provide youth leadership and support. In partnership with Western Health, Mental Health and Addiction, we sponsor the mental health and addictions youth outreach services. We have an adult basic education level 1 program, we offer a variety of employment programs, housing-support services and violence-prevention initiatives.

We do this, again, through our partnerships. We're funded through a number of federal and government agencies, including the Public Health Agency of Canada, the Department of Education and Early Childhood Development, Department of Advanced Education Skills and Labour, as well as others.

Just to give you an example of the continuum of support that we are able to provide by being a community-based service, for example, a young woman can come in because she's expecting and get prenatal and postnatal services. We partner with our public health nurses so they're able to

get, you know, a continuum of support there. They can then attend our early years programs, where they can participate in parenting programs and activities. If needed they can avail of mental health and addiction services and get referral to government, you know, services in mental health and addictions. They can avail of our employment programs and our housing-support services.

And I can give you many examples. One – a couple come to mind right now where actually young people did come in to get one service and were able to get the wraparound services and then referrals to other community-based services. So in terms of a way of ensuring that rural areas are not impacted by the reduction in government services and programs is to look at the non-profit as a way of partnering with government services and to be able to reach out to those rural areas that are not serviced by existing programs.

“What are the consequences of paying for Muskrat Falls through increased power rates, increasing taxes and fees, and/or reducing government services for individuals living in rural communities?”

I can tell you by being here on the panel I’ve already, I guess, got a real understanding for some of those impacts and the realities for people’s lives, and I’d like to share some of my own realities in terms of working with people that are marginalized on a regular basis.

When we look at, you know, marginalized and vulnerable people, you know, women and children, for example, person’s with disabilities, individuals living in poverty or on a low income, our seniors and the list goes on. But just looking – if we look at what we call our low-income threshold or our low-income cut-off, that is not realistic because it hasn’t been raised in terms of when we look at the cost of living that has very – it doesn’t match the cost of living. It is very low in terms of what people have to live on. So when we are talking about people living, you know, at the poverty line or below the poverty line, it is really not accurate in terms of the cost of living right now, our cost of housing, the cost of food, the cost of clothing. All those things are so expensive. And, of course, then we’re looking at increasing electricity rates.

So for women and children – and that was – again, that was already mentioned, but women earn less than men [sp. men], they’re often head of households for – as a lone parent. Lone parenting is – you know, more women are lone parents. They also have a dependency on income support and, of course, the children are impacted greatly by that. I think province-wide we have about 33,000 people dependent on income support and many of those are women and children and that, of course, you know, impacts their lives. How do we lift people out of poverty if we reduce services?

Persons with disabilities can face difficulties with employment. They may need extra services and support at the community level. And, as I mentioned, for those living in poverty and our seniors as well, who have often a fixed income and a low income and I think was mentioned earlier, you know, 20 per cent of the province have an after-tax income of less than \$10,000. So that’s very difficult to imagine how people live on that.

Those who are geographically isolated, we certainly would be considered – our area would be considered that. The services are not – excuse me – often services are not accessible and we do not have public transportation, so that makes it very difficult for people who live in rural and remote communities.

Our youth, I think one of my biggest fears in terms of our youth are, you know, leaving the province if it becomes too costly to live here, to rent, to own a home, to perhaps have a family some time in the future. That many of our youth may chose to move away.

Families with children, it’s already been talked about, the cost of child care is really unaffordable for a lot of people, a lot of families. And, as we know, the cost of having children and raising children is very expensive. We don’t have – in a lot of our rural and remote communities, we don’t have any accessibility to regulated child care, to affordable child care. There are no options. And we know that the number one barrier to women and families entering the workforce is lack of child care. So it’s everywhere throughout the province but that is compounded for our rural and remote communities.

And those living on a modest middle income, you know, individuals and couples, with added cost and, as we talked about, some of the potential increase in electricity cost that can actually bring people down into a level of, you know, living at or near the poverty line. For those of us who live on a modest middle income. So we're not just necessarily talking about people who are living in poverty but those people who sort of – and I don't know where the – where exactly middle income is, but I wouldn't – we're on the lower scale of middle income. And that would include a lot of people in the province.

“What are the consequences on energy use if rates are increased?”

And this was talked about by a number of people in terms of that ratepayers will look at alternate sources of energy. We already look at that. My partner gets wood and we burn wood pretty well all year round, except for the summer, when it gets a little bit warm enough. And I think those who can, will find alternate sources of energy. And for rural areas, more people will, you know, will be getting wood. Also, of course, we talked about reducing energy consumption, also the purchasing of heat pumps, switching to oil, any way to save energy costs; because people will not be able to afford to heat their homes.

Those living on a low income who don't have any, you know, flexibility or disposable income will be forced to choose between buying food, paying a rent or mortgage, or paying their electricity bill, and it will cause a lot of hardship. There are people we know that come for extra blankets, extra food. We actually partner with a number of organizations to run a number of community cafés so people can have a healthy meal on a weekly basis. The numbers there are phenomenal, who come on a regular basis because they can't afford healthy food. And people also spend time elsewhere, you know, in the mall or at other public places so they can save on their electrical bill. And that's the reality of people living on a low income.

“What would happen to taxpayers if ratepayers were to bear the full unmitigated cost of the Muskrat Falls Project?”

I'm really, really hopeful that that does not happen, that we will not bear the cost of that. I think some of the previous panelists talked about the fact that, you know, we – the people that live on a low income or modest income cannot, do not, have a lot of flexibility with paying potentially double the cost of electricity.

There'll be increased levels of poverty and homelessness. Right now, if you have to rely on Income Support the maximum cost in our area that you will get for rent is \$522. Often you cannot find suitable accommodations even in a small town like Stephenville for \$522. It's going now for about \$700, sometimes heat and light included. If people have to pay for rent and then the extra costs that they're getting for their food has to go towards paying for the electricity, or obviously the landlords will have to pay for electricity, and they will be putting – they will be increasing the rent.

The stress that people live under – and any of us who've had – have lived in poverty can understand that a lot of issues come with that, which are physically and mental – physical and mental health issues. You can't eat healthy food, you can't afford healthy food. The daily stress of living in poverty, of having to pay the bills, the reality of that, the human – you know, the human hardship and personal suffering is great.

And the negative economic consequences – when you do not have a middle class who has a lot of disposable income and who cannot contribute to the economy, it does have negative consequences. And of course, people will choose to live outside the province. So I think we'll see an increase in outmigration, if the cost of electricity goes up a great deal.

So I do feel, collectively, as a province, we must ensure that the financial impact of Muskrat Falls does not negatively affect vulnerable individuals and families. We are not – I can assure you, as someone that works with people that have difficult life circumstances, including living, you know, living in poverty – that we are not meeting their needs. And to add more hardship, it's not the way that we should go, obviously.

I think some of the other panellists have discussed options that we have. I think we can reduce shareholder profit, we can look at Nalcor,

at the restructuring of Nalcor after, you know, Muskrat Falls comes online. What exactly is the role of Nalcor and how can we restructure that? How can we ensure the burden does not go to the middle class and those people that are, right now, struggling just to pay the bills?

Also in terms of the non-profit sector, I think there's a role throughout the province, and particularly in rural Newfoundland and Labrador, to look at the non-profit sector as a way of helping to meet some of those needs, in a way that looks at relationship building, a continuum of support, and working with the existing services and supports that are in place at the community level. So the non-profit sector is a cost effective way of ensuring that we can provide the services at the community level, particularly for our more rural and remote communities. Again, thank you very much for the opportunity to speak.

MS. DING: Thank you, Ms. Hancock.

I propose that we take a break for lunch and return with examination – cross-examination.

THE COMMISSIONER: Right.

So, we're (inaudible) a little late to lunch, so we'll come back at 2:15 this afternoon for questions.

All right?

CLERK: All rise.

Recess

CLERK: All rise.

This Commission of Inquiry is now in session.

Please be seated.

THE COMMISSIONER: Okay.

All right, Ms. Ding.

MS. DING: Thank you, Commissioner.

My first question is for Dr. Schaufele. In your presentation, you mentioned that the pricing models for demand elasticity are sort of outside

the parameters as soon as you go beyond a 25 per cent increase. I'm wondering – and Mr. Fagan has presented some estimates as to rate mitigation required for 13 cents, 18 cents per kilowatt hour, with the caveat that these estimates are unpredictable.

Are there any comparator cases that you know of that could demonstrate price elasticity for an increase beyond 25 per cent?

DR. SCHAUFELE: So I, you know, did a review of the literature to the extent I could, prior to coming here, and the largest change I found was 24 per cent and this was a situation in Illinois. It was actually a price reduction, not a price increase but, you know, symmetry enables us to sort of infer one from the other. And it produced elasticities, both in the short run and the long run. The short-run elasticity was -0.3, which I think was the elasticity Mr. Fagan referred to. The long-run elasticity was -0.7, which is more than twice as large.

But as soon as you – so one of the challenges, when we talk about price elasticities or trying to estimate price elasticities, is that our methodologies, our statistical approaches, you know, the econometric methods, work in what we call a neighbourhood of current prices. You know, this is a small range around what prices are now.

As soon as you get into these large non-marginal or incremental increases, you need to rely on more sophisticated methods and you need to rely on very detailed data, which often aren't available to researchers and often aren't available to the regulator. And as a consequence, it's really hard to make any predictions about what would occur with a 50 or an 80 or a doubling of rates based upon current experience.

At the end of the day, I think Synapse Energy Economics or the regulator is going to have to make an educated guess based upon the reality of what's occurring in Newfoundland and Labrador on what they think might occur, but it's likely to be of larger magnitude than 0.7.

MS. DING: Okay and so we really are in sort of unknown territory?

DR. SCHAUFEELE: From what I could – you know, deemed from my review, yes, we are in a little bit of an unknown territory. I can caveat that a little bit and say that there are situations in the United States – so in North America – that – where cities have rates that are higher than those currently in the province. And so you could use some of those estimates to help inform what might happen here, but those are also very different economic situations, very different populations, very different, you know, compositions of industrial production. So it is challenging to draw comparisons between the two.

MS. DING: Thank you.

And from Mr. Alteen's presentation, we heard that there was a spike in heat pump installations and the surveys show that there's been an increased concern about the future power rates in the province. And we've heard a little bit about the spiral effect or the utility death spiral and the risk that that might happen. Can you comment on what the risk, in your view is, and what are the possible effects?

DR. SCHAUFEELE: I'll do my best.

So this notion of a utility death spiral is that if rates for electricity increase, well, this is going to lead consumers to substitute away from electricity to other modes of heating in this context. As a consequence, the fixed costs of installed capacity are spread out over a smaller number of kilowatt hours sold, requiring rates to increase again, requiring people, or motivating people to substitute away; rates, you know, spiral out of control.

In general, this notion of a utility death spiral has been bandied about for at least a decade, probably longer and hasn't come to pass under most contexts. Now, Newfoundland and Labrador are, you know, exploring very large increases in rates and have a substantial portion of heating that is, you know, through electricity.

It's hard to draw conclusions on the likelihood of a utility death spiral. It is something that the industry claims is a significant threat, but we have seen very few situations where that has actually come to pass; however, again, this

context is outside the standard parameters that we have explored before.

MS. DING: Okay, thank you.

And given your research and your expertise, can you comment on how effective CDM, or conservation and demand management, initiatives are and is CDM able to deliver lower cost reliable power?

DR. SCHAUFEELE: So CDM means a lot of things. You know, in the context of my research what I've done is I've looked at utility-provided incentives to invest in energy efficiency. And this is the notion that maybe the utility offers you a rebate to buy a cheaper – a more energy-efficient refrigerator or a more energy-efficient washing machine or more energy-efficient dryer. Maybe they provide a rebate to add insulation to your house, you know, to ensure that, you know, heat is retained in winter and, you know, cool air is retained in warmer months.

Most of – so both in Canada and the United States substantial funds have been allocated towards these types of projects. In the United States, I think over the last two decades, something like \$36 to \$40 billion have been allocated to energy-efficiency initiatives by utilities, a lot of that with a stimulus program.

Until recently, we had very real empirical evidence on the efficacy of these programs. What we relied on were engineering studies performed in labs. And if we look at how these programs have actually rolled out and how they've affected household-level consumption of electricity, or natural gas in other contexts, we've seen that they've tended to deliver less payoff than promised and there's a few reasons for that.

It's not that the technology doesn't work, it's that people change their behaviour once they've – go at a more energy-efficient appliance. There's a couple of examples you can, sort of, look at; one is let's assume I buy a new energy-efficient dryer. Well, maybe I hang fewer clothes out on the line. I'm actually going to use my dryer more. Now, per use, my dryer is more efficient, but I'm using my dryer more so I'm not actually reducing the number of kilowatt hours I'm consuming.

Alternatively, I may buy a fridge with, you know, ice for the door and so it's feature-enhanced. And even on a per-unit basis it may be more efficient and this is technological improvement; I'm going to buy features that increase the overall electricity demand.

The last, sort of, element of this is that results from the lab, say, on insulation, often don't translate into the real world. You know, insulation needs to be properly installed to be as effective as the lab results hold. And so, what we've seen across a number of programs in the United States and some of the programs I've looked at in Canada, is that these types of energy efficiency programs have delivered less per dollar than they promised. In some cases, they've actually led to increases in cost or delivered net zero. On average, they are effective; they're just delivering less than had originally promised.

MS. DING: Okay.

And I guess my follow-up to that is: Is there any reason to believe that the levels of successful CDM achieved in other jurisdictions can't also be achieved here?

DR. SCHAUFLE: I think it really depends upon which type of CDM you're looking at. You know, we can consider time-of-use rates as a potential CDM in some ways. And, you know, we were chatting about time-of-use rates and the challenges that Newfoundland may have in implementing that going forward, but we see that, you know, that would be an effective use of CDM. Other things such as rebates for new appliances may be less effective. And, you know, the evidence across the United States and in Canada suggests that they are may be less effective than promised.

MS. DING: Okay, thank you.

And we've heard a little bit about electrifying cars, and I'm hoping you can weigh in here. From my understanding, from the presentations today, is that the idea behind electrifying cars is, you're getting people to use more electricity, and since electric cars are mostly charged at night – on non-peak hours – you're, essentially, increasing the usage or consumption, but not significantly increasing capacity. Is that correct?

DR. SCHAUFLE: So peak hours tend to be during the day, in the morning hours and in the evening hours. Cars – electric cars tend to be charged overnight when people are asleep, lights are off, we're not heating our homes to the same degree, we're not using appliances, and so, they have a – they help smooth the load during the day.

There have been proposals for advanced technology. You have vehicle-to-grid integration where we could actually plug vehicles into the grid on an ongoing basis, and use the batteries as a type of a capacity in extreme peak situations. I know of no implementation of this type of grid-to-vehicle integration in the world at this point.

I think the challenge with electric vehicles in Newfoundland is that the penetration rate is very low right now. And the model provided by Synapse has this nonlinear adoption rate, but it's really unclear of what's driving that adoption – as I think Mr. Fagan mentioned – that there's very little infrastructure in place right now. And so, it's a bit of a chicken-and-egg situation. If there's no infrastructure to charge an electric vehicle, even if the benefits are there, would we expect a high penetration rate?

Alternatively, if we don't have a high-penetration rate of electric vehicles, why would you want to invest in the infrastructure to charge these vehicles? And so, I'm not sure how much scope there is for electric vehicles to solve some of the rate issues involved with Muskrat Falls.

MS. DING: Okay.

DR. SCHAUFLE: I'd be cautious on that one.

MS. DING: And is that likely to change as electric cars become more and more affordable?

DR. SCHAUFLE: So I don't want to sound too pessimistic on this because I do think we are moving towards more electrification of vehicles; however, we have not moved as rapidly as we initially thought that, you know, we had similar types of conversations 10 years ago that, you know, the penetration rates in electric vehicles were expected to be much higher at this point than they actually are. And part of this is electric vehicles are still very costly. There's a range anxiety amongst purchasers that they're

uncertain how far a particular battery will take them – even if, you know, they’ve – you know, they’ve been tested and many people have driven them over extended periods or extended ranges.

I’m not sure how optimistic you could be on EVs or what that trend looks like. I just don’t feel comfortable, sort of, commenting on that. I may be more on the pessimistic side than on the optimistic side on the EVs.

MS. DING: Sure. Thank you.

And based on your expertise, are there other electrification initiatives that would be more effective than electrifying cars?

DR. SCHAUFLE: So I think one of the initiatives that’s being pursued by the current government is electrification of buildings for heating, especially public buildings and institutional buildings. As infrastructure ages and needs to be replaced, this strikes me as a very sensible approach to increase load or increase revenues for the electricity system in the province.

I think you’ve got to be cautious in replacing oil boilers or other alternative sources of boilers before their lifespan because that could end up being more costly for the government, as a whole, but as these boilers or as the whatever mode of heating is – necessarily needs to be replaced, I think pursuing electrification, given the current status of Muskrat Falls and the need to earn revenues, could be a sensible approach,

MS. DING: Okay, thank you.

And we heard a bit about this from Mr. Fagan, but can you speak to the sensitivities of larger industrial customers and the ways in which you might prevent a large industrial customer from leaving the grid?

DR. SCHAUFLE: So large industrial customers have options that often aren’t available to residents. A big one is called behind-the-meter generation which, essentially, means that if it’s cheaper for a large industrial consumer to implement a generator on its own, it will do that. It will disconnect from the grid entirely. And that means you will lose that

customer’s load altogether. Because they have these abilities to substitute, this means that their elasticity of demand is going to be larger in absolute value, that they have more elastic demand.

If we’re thinking about efficient pricing, you know, ignoring this equity bucket – which is important to, you know, voters and to citizens and to residents – this would suggest that you would want to keep industrial and commercial rates below residential rates because they have greater ability to substitute than residents or, you know, private households. This is known as Ramsey pricing where you charge different rates to different classes of customer. This ultimately minimizes dead-weight loss.

Now, that’s a positive statement in that this is what happens in practice. There are normative aspects involved in this as well, in that, you know, who pays, you know, what are the implications of that, and that sort of thing.

MS. DING: Okay. Thank you.

My next questions are for Mr. Alteen. So we know that the cost of service for your customers is 4.4 cents per kilowatt hour. So let’s say 13.5 cents – out of 13.5 cents, Newfoundland Power is getting 4.4 cents. If the power usage significantly decreases, are there impacts to Newfoundland Power’s ability to provide services?

MR. ALTEEN: If the ...?

MS. DING: If power usage decreases?

MR. ALTEEN: Newfoundland Power is a relatively high fixed-cost business, too, because it’s a utility. So as load is lost or we lose load, we will have difficulty recovering our fixed costs. And our credit-rating agencies have indicated that that’s a concern for us with the advent of Muskrat Falls pricing. Once you can’t recover your fixed costs, your ability to finance further investment becomes impaired. So that might impact your ability to invest into the future, yes.

MS. DING: Okay, thank you.

And so I know that you and Mr. Fagan focused mostly on industrial and residential consumers, but can you comment on how increased rates might affect commercial customers?

MR. ALTEEN: Well, if they're in the goods and services sector, it tends to increase the selling price of the goods and services. That's one way it impacts them. If they're in more of a commodity sector, like a miner or a fish plant owner, those types of customers are often competing globally, so the impact on them is that they become less competitive. So that's something that you might see.

If you're a government service provider and you're subjected to higher electricity prices, it may cause you to restrict the range or depth of the services you provide, like many of my co-presenters have indicated. So there's a range of effects that you're going to get, depending on what the activity of the commercial or institutional or manufacturing customer might be.

MS. DING: Okay, thank you.

And just in discussing heat pumps, we heard from Stan Marshall that a heat pump, as the technology exists today, isn't an effective heating source at very low temperatures. Does that mean heat pumps aren't a complete substitute for oil or electric heating?

MR. ALTEEN: The heat pump installations that we're seeing tend to be supplemental to existing baseboard heating, so that's the first thing. Our customers are obviously attracted to it so they've calculated the savings to be worth the investment, so that's another thing we see. And over the last number of years – I don't if it's as long as a decade – there have been substantial improvements in cold technology for heat pumps. And that's what made them a little bit more attractive to the customers we serve, but they do have limitations at very, very cold temperatures. That's known.

MS. DING: Okay, thank you.

And in your presentation you mentioned that now that Muskrat Falls is built, or close to being built, we need programs that change behavior – and I take it to mean to encouraging people to

use more energy, particularly at non-peak hours. And my understanding is there are a number of CDM and incentive programs through takeCHARGE to lower electricity use, and Newfoundland Power offers low financing to convert from electricity – electric heating to heat pumps.

And without getting too far into the specifics, a number of these programs don't seem to be the kind of CDM programs that we need to have if we're trying to encourage electricity consumption. Can you explain why we would still be paying for those incentives and subsidies?

MR. ALTEEN: Yeah.

We think – we're in the process right now – it's a great question by the way. We're in the process right now of evaluating – re-evaluating our whole suite of CDM or customer program offerings in light of the changing marginal cost dynamics on the system.

So it used to be that we had high marginal energy costs; Holyrood, Mr. Fagan says, is about 18 cents in a kilowatt hour in avoided fuel. Well, that's going to go to 4 cents, something that looks like that. So your energy is going to be cheap, but capacity, on the other hand, is going to get very expensive, so that changes what you're trying to do with CDM.

So up until now, the first decade of CDM at Newfoundland Power we were really trying to displace Holyrood fuel, because we could take a kilowatt hour off the system for a couple of pennies and we could avoid 15 cents, 14 cents, 16 cents, whatever the prevailing cost in fuel was. So that benefited our customer but it also benefited the system. That dynamic has changed now. And so I think that the next generation of CDM programs will be more focused on shifting load to off-peak hours and making your energy system less peaky to the degree you can. If you have a heating system, you're still going to have a high degree of seasonality, winter peaks. That just goes with the territory.

MS. DING: And do you know when we could expect to see some of that next generation of programs?

MR. ALTEEN: We're actually doing the potential studies right now to – which are the basis for the evaluation of the programs. So we – I'd expect that to be done in concert with the marginal costs studies that Hydro-Nalcor are doing and the cost-of-service proceeding that's currently scheduled before the PUB. So you would match your cost evaluation, how you're pricing it, with what would be appropriate offerings under a CDM sort of environment; what's good to the system in the future.

So there's two or three things that have to fall into place. A potential study is one of them, a cost-of-service study or resolution is another one, and that's a PUB exercise that's scheduled for the ensuing year. And so I would say six, nine months –

MS. DING: Right, but that –

MR. ALTEEN: – a year. It would be that period.

MS. DING: Right.

MR. ALTEEN: It should be ready for when Muskrat Falls power starts flowing.

MS. DING: Okay.

MR. ALTEEN: That's what you want.

MS. DING: But that doesn't prohibit us from ending sort of those sort of programs that were introduced –

MR. ALTEEN: Most of those programs are winding down, right?

MS. DING: Okay.

MR. ALTEEN: And the heat pump efficiency program is actually a government-sponsored program, so we're administering that for the government, I believe.

MS. DING: Okay.

Can you talk to us about – we just spoke about it briefly – but time-of-day meters as an effective measure to encourage off-peaks consumption.

MR. ALTEEN: Talk about – well, time-of-use rates are considered as a pretty basic tool to try to shift the customers' demand or loads to off-peak hours.

They don't always work as promised in a lot of applications. There is some degree of equity issues associated with it, particularly on an electrically heated system. You know, the typical, vulnerable customer may not be in a position to shift their load, if it's a predominantly heating load, without suffering considerable, practical hardship. So there are issues associated with it, but it's an accepted tool that will have to be evaluated as we go forward.

We did a pretty big evaluation of that about 10 years ago in Newfoundland and reached the conclusion after a pilot that it wasn't worthwhile. We will have to go through the exercise of evaluating that again, in light of the cost dynamics that will exist with Muskrat Falls, there's no doubt about that. That would be on the to-do list. It has to be done. But we're not convinced at this stage that it's a forgone conclusion that time-of-use pricing makes sense, even in the post-Muskrat environment. That doesn't mean that we're convinced it doesn't, it's just that it's not a forgone conclusion for us.

MS. DING: Okay. Thank you.

And you mentioned in your surveys – you mentioned that your surveys indicated 84 per cent of your customers had a fear of increasing rates. Do your surveys and focus groups indicate that this fear will continue to increase?

MR. ALTEEN: That was a snapshot in time that was in the fall of 2017. And it was a special sort of survey that we did at that point because of the heightened concern that we were seeing from our customers.

We do a regular quarterly survey, as I alluded to in my lead. That – excuse me – those survey results continue to show a high degree of customer concern about future price. That's what – that's how we're interpreting that. That hasn't abated substantially over the last two-year period.

MS. DING: Okay. Thank you.

My next questions are for Mr. Fagan. You indicated that Hydro provides services to five of the Island's industrial consumers or customers, including Vale and Corner Brook Pulp and Paper. How sensitive are these industrial customers to increased rates?

MR. FAGAN: Well – excuse me – in our ongoing proceedings before the regulator, in every general rate application and, particularly in the current cost-of-service methodology, the industrial customers partner together in an intervention group. So they're a regular intervenor before the regulator in all proceedings with respect to customer rates, very active. We specifically have a manager of key accounts at Hydro who deals with them. It's their – almost their only job. But dealing with the customers one on one to keep them informed of changes and dealing with them with regard to operations.

So they're very – well, they're very concerned with reliability. They focus on reliability, but also price is a really big deal for them. We've been having ongoing meetings with regard to changes in rate structure, but it is somewhat difficult to get any conclusions with regard to where we should go with rates with the customers because of the magnitude of the potential increases on Muskrat Falls.

So they are – I would have to say, if had to rank them, Corner Brook Pulp and Paper have reduced their power-on-order – power-on-order is the maximum demand that they require during the year. They've reduced theirs down to about four megawatts. So they're self-generating mostly, okay? So – and they provide capacity assistance, so we got capacity assistance agreements with Corner Brook Pulp and Paper that help serve the system at times of peak. So if we need additional generation, we can call on that. And so that benefits the customer. So I would have to say Corner Brook Pulp and Paper because they've reduced their power-on-order, that's probably less sensitive to price increase, because I think they are – they can go close to self generation, and we're almost like standby for them.

But when it comes to customers like Vale and Praxair and NARL Refining, those customers with high demands – like, we call them high load factors. They try and run at maximum

output all the time. The higher – it's almost like an airplane: they talked about high load factor when the seats are full. So with these customers, they're trying to operate at a really high load factor to maximize output so they maximize profitability. The – so in discussions with them, they're very concerned with regard to the potential price increase, and they're saying, what can we do? They're – to – and they're talking about: If we've got to interrupt fully, shut down our operations to save money, tell us how much it's worth to you.

So they're really – they're very interested. I think we haven't quantified the effect of what they're willing to do, because I think everybody's waiting for what the plan is first with regard to rate mitigation before we can move forward.

MS. DING: But do you see a risk that other industrial customers will follow suit with Corner Brook Pulp and Paper and go behind the meter?

MR. FAGAN: Certainly in discussions with at least one customer, that was definitely an option for them, that – they've actually looked like they're developing a plan if rates double, that they would self-generate.

MS. DING: Okay. Thank you.

In one of the slides in your presentation you estimated that a 4 per cent increase in rates would be required to offset a 5 per cent reduction in customer energy use. Is that also – is it also true that if usage were to increase that that would lead to decreased rates?

MR. FAGAN: If electrification resulted in increased energy usage, that would contribute to decreased costs. So it depends how high the rates are, but it would result in reduced rate mitigation being required. One caution I have is with respect to if the increased energy was accompanied by an equal increase in capacity requirements of the customer, it could also result in increased generation capacity being required, which could more than offset the additional revenue provided from energy and result in higher mitigation being required.

MS. DING: Okay. So then is it fair to say that an increase in off-peak usage can decrease cost

and an increase in on-peak or peak usage doesn't do that much to decrease the cost?

MR. FAGAN: That's fair.

MS. DING: Okay.

MR. FAGAN: With respect to discussion you just had with Mr. Alteen with regard to time-of-use rates, I recently met with the consultant who is doing the conservation demand potential study, and they were talking about time-of-use rates. And they're not sold yet with respect to it. In our system, we've got a morning peak and an evening peak, but on the coldest days in the winter, the midday and the mid-afternoon peaks are not that much below the evening peak or the morning peak. So with our capacity assistance agreements that we have, which may give us around 100 megawatts to serve the peaks – so that's really benefit to customers – the concern they had is that time-of-use rates could push more energy into the midday or later evening and just devalue the capacity assistance agreements. So there's more study required in that area, but, yeah, the – so peak time, it's not as strictly morning and evening peak. On these really cold days of the year, the peak is high all day long.

MS. DING: Okay, thank you. That's helpful.

In terms of electrifying cars, clearly there's been an opportunity identified but as we've heard we don't yet have the infrastructure for it. I mean, we don't have the network of charging stations we would need to get the range. Can you give us an idea of what we can expect to see as the province pushes towards electric cars?

MR. FAGAN: Well, I know the initial phase one that would've got reflected in the budget was providing for Level 3 charging stations going from Port aux Basques to St. John's. Level 3 stations are the fast charge. At each location, you'd also have a Level 2 charging station available in case of a breakdown at the Level 3 station.

So I think that's the plan for next year if we can – so assume the budget gets approved, we proceed with the project, by the end of next year, we would have the network from Port aux Basques to St. John's, and then we would

proposed to move, then, to a phase two on the charging stations in subsequent years.

The – once you've got your infrastructure along the main thoroughfares, then partnerships with hotels and those – well, particularly hotels if you've got overnight – and businesses as well where people are parked during the day that you could have charging stations – Level 2 charging stations there.

So I think the first step Hydro is focused on is the Level 3 charging stations, but I do believe in the provincial budget, there were also certain amounts set aside for Level 2 charging stations and partnerships with customers.

MS. DING: Okay. Thank you.

I have a question for Mr. Browne.

One question that's been raised in the Inquiry is, who is responsible for checking whether the costs that are passed on to ratepayers are appropriate? I guess, in other words, what is preventing costs that are unrelated to Muskrat Falls from being passed on to the ratepayer?

MR. BROWNE: Well, first, there should be no cost for Muskrat Falls passed on to the ratepayer until the project is complete. That's implicit in the orders-in-council. So if there was any interim costs that are coming our way, that's something that we will deal with at the PUB, if the utility comes forward to try to put early costs on. And there was already an attempt at that last year where the utility went to the PUB to seek some kind of incremental cost to be used – to be paid by the ratepayers, but to be put in some kind of deferral accounts.

So current ratepayers would be paying for costs that are – that they're not using. They're paying for – their rates were paid for something. These current ratepayers could move on; they could leave the province, they may no longer be a customer, so their rates can't be increased to pay for someone else's rates basically. So that effort of the utility stopped because what they're attempting to do is bring electricity down through the LIL, the Muskrat Falls asset, and use that electricity to displace fuel at Holyrood.

So they are mixing the project with the current situation but mixing it up with the order-in-council. The order-in-council clearly said ratepayers shouldn't be paying for any costing of Muskrat Falls until the project is complete. So that plan didn't work out mainly because they could get very little down through the Labrador-Island Link, in any case, and they're still struggling with that. But the board would be looking to that very carefully and, of course, we're watching.

In terms of costs – and in consumer cost there's an interesting statistic I should mention, that \$66 million is sort of the magic number. \$66 million usually would mean a cent in electricity rates so if \$120 million has to be raised, that would be two cents on a rate. So when we see costs come in and we look to the source of them and we look to the amount, it's usually quite easy to equate what they would be looking for in rates.

The board, as Cabinet suggested, is very cognizant of rate shock. Anything over 10 per cent, the board has stated would be rate shock and wouldn't assist the system generally.

MS. DING: So I'm not quite sure if you've answered my question.

MR. BROWNE: And I'm not either.

MS. DING: I'm wondering if – and maybe I could just give an example – if Nalcor decides to buy a Fabergé egg or something and the PUB can't review the cost, but can it – surely it can check if it is a Muskrat Falls cost. Is that how that works?

MR. BROWNE: Well, Nalcor can't put any matter before the board; it would have to come through Hydro. The board doesn't regulate Nalcor, so Hydro would have to bring the cause on behalf of their parent if there was an amount. But the board would ensure, as would we, that if it was a Muskrat Falls cost, that it would be appropriately dealt with. Our position has been consistently that until the project is finished, no cost should go on to ratepayers from Muskrat Falls.

THE COMMISSIONER: So let me just – just take this a little bit further. So right now my understanding is, is that – and I raised this with

the Premier the other day. My understanding right at the moment is, is that with regards to the cost related to the Muskrat Falls Project, that those costs are not subject to any sort of review by anyone including the Public Utilities Board.

Once that cost is given to the PUB, the PUB is stuck with it. They cannot – they have to allow a rate that basically permits the recovery of that cost. So my query is, does that process allow for some sort of oversight of the actual costs that are being passed down as a Muskrat Falls cost for the purposes of the determination of rates?

MR. BROWNE: Yes. You're correct in the terms of Muskrat Falls rates can't be set by the PUB. The order-in-council prohibits that. So the rates have to be set by the Lieutenant Governor in Council. That's what the rates for Muskrat Falls would be determined. We're out – in terms of Muskrat Falls, we're out of the regulatory system the way we know it.

And we're sort of betwixt and between what the role will be for the PUB and making all these determinations as yet to be determined. And so that's in a state of flux. That's the best way I could answer that.

THE COMMISSIONER: But doesn't the legislation that's presently in place prohibit a review by the PUB?

MR. BROWNE: Yes, it does, and that's problematic. But we haven't seen any heavy-handedness thus far in Nalcor or through its subsidiary, Newfoundland Hydro, occurring in that fashion. So conceivably, it won't be Nalcor setting the rates. It will be – they'll have to be set by the Lieutenant Governor in Council. I don't think all that has been completely thought through.

It's probably similar to all things Muskrat. It was probably done on the fly. And these efforts, that are sort of in this state of flux right now where some elements of the Project are ready, like they attempted to do with the LIL. The thought at that instance was a deferral account. So it would be – amounts would be put in a deferral account but paid for by current ratepayers for future ratepayers.

And that is usually considered contrary to good rate-making from the board's perspective. So that's the closest we've come to see it. And that did not pan out because the LIL is not operational – save for, I think, \$30 million of that. And I do believe the 30 millions of that, that was saved is going against the oil accounts. Kevin might know a bit more about that, but that's something we'll have to discuss in the current rate application that Hydro has before the PUB, in which they are seeking approximately less than a cent to go on current rates in their October application.

THE COMMISSIONER: Right.

So just while I'm on this – I hope you don't mind, Ms. Ding – but, Ms. Hanrahan, I noticed this morning in your presentation, you indicated that government was considering restore – I think you used the word restoring some regulation into the – or regulation or it was something to do with the PUB –

MS. HANRAHAN: PUB oversight, I guess.

THE COMMISSIONER: PUB oversight. So what are we talking about there?

MS. HANRAHAN: I think the reference question would be specific, and the interim report from the PUB, which was informed by the Liberty report and the Synapse report certainly fed into the rate mitigation plan, and the intention being to finalize that report in January 2020 and then finalize the rate mitigation plan after that.

THE COMMISSIONER: Okay.

So, when you spoke of restoring oversight by the PUB, you were talking –

MS. HANRAHAN: (Inaudible.)

THE COMMISSIONER: – about it with the – you were talking about it in – with regards to the reference question, not with regards to, for instance, involving them later in a review of costs that are passed on by Nalcor, for instance, for the purposes of the – to determine the base for the rates.

MS. HANRAHAN: It may be, yeah, I wouldn't know.

THE COMMISSIONER: Okay. You're not sure.

Okay.

Sorry, Ms. Ding, go ahead.

MS. DING: No problem.

I will move on to questions for Ms. Hanrahan. We've heard from Dr. Schaufele that there is a cost to replacing the \$200 million of Nalcor dividends and export sales and that you would use for rate mitigation and that's a forgone benefit. So as a result of that loss in revenue, what's the impact on government spending?

MS. HANRAHAN: So we've included that \$200 million now for several budgets in our fiscal forecast and any forgone benefit has been recognized for several years. And so the budget trajectory we're on now – the return to surplus for '22, '23 – incorporates that \$200 million figure.

And so from that perspective, it is fully integrated into our financial plan and has been now for a couple of budgets.

MS. DING: So is there any impact to the cost of replacing it?

MS. HANRAHAN: Pardon, sorry?

MS. DING: Is there any – I mean, Dr. Schaufele has said there's a cost to replacing the 200 – it's not neutral.

MS. HANRAHAN: Any time that we adjust the forecast for a loss in revenue, an increased expenditure, obviously there's always impacts, but several years ago the concept was brought up as Muskrat was coming to fruition. In Budget '18 it was put in – the rates were set at 18 cents at that point, with the information we had at that point, and then switched to being actually \$200 million and it's been repeated.

So if there has been any impacts of that it's been throughout – it's been, I guess, included from a fiscal forecast perspective and is now a part of

the return-to-surplus plan. No different than, maybe, demographic changes in tax revenue projections or inflationary costs or any of those other pressures that we would have from a budget perspective.

MS. DING: Okay, thank you.

Has the Muskrat Falls Project affected the province's ability to borrow or its borrowing capacity?

MS. HANRAHAN: No, from the perspective of we are able to continue to achieve our borrowing program in the domestic market, which has been our primary focus. It continues to be a topic with our investors and with our bond rating agencies, as we talk through, as the project gets closer to completion. We have been able to satisfy our borrowing program.

We did not borrow for a long period of time, and therefore when we entered the market again, of course, we encountered, you know, higher costs of borrowing because of that. And, as well, there are still questions, from a market perspective, (inaudible) Muskrat Falls. But in the last few years we've done a lot of work in order to bring those spreads in closer; actually have been able to be much more competitive with our borrowing from that perspective.

MS. DING: Okay, thank you.

You've talked a little bit about electrifying government buildings as an opportunity to increase the demand for electricity, and we've heard about other ways to increase consumption, like electrifying cars. Given that changing consumer behaviour takes time, would you be able to respond to the criticism that initial electrification efforts have been slow and that poses a risk that we might not be able to achieve the benefits of electrification when we need it?

MS. HANRAHAN: Obviously, electrification is not my area of expertise.

MS. DING: Mmm.

MS. HANRAHAN: You know, we are working very hard on the plan we have here. You know, the majority of that plan, you know, involves things, I think, that have a bigger financial and,

even, capacity impact maybe than electrification does. But like any plan, we fully expect that there are parts of this plan that would be adjusted as we get closer to completion of the project, no different than we would do with a budget plan or anything like that. And should there need to be adjustments for projected savings or those types of things, then we would adjust, we would manage those as we get closer from that perspective.

But I do know that there were budget appropriations with respect to dealing with infrastructure. There's federal funding available to assist with conversion costs, as well as our regular repairs and maintenance budget that we would use for end of life on boilers or those opportunities.

MS. DING: Okay, thank you.

So am I correct in saying that the cost for Muskrat Falls will increase after 2021 and the \$724 million will actually increase after that time? I guess my question is: How fast will it increase, or how fast do you anticipate it could increase?

MS. HANRAHAN: So the 726-revenue requirement figure for 2021 does change over time, fundamentally related to the return on equity agreements, operating and maintenance costs, interest costs. And I believe that information is known from the perspective of over the 50 years, from a trajectory. The depreciation or amortization, I don't believe that that number changes over that period of time.

MS. DING: Okay.

And will Nalcor's ability to mitigate the rise – to mitigate that rise, will that be in tandem with the increase?

MS. HANRAHAN: Yeah, so I think the way the rate mitigation plan is intended, we're speaking publicly about 2021 as the year – the first full year of Muskrat. The opportunities in managing that revenue requirement, from a coverage perspective, assumes that ratepayers are at 13.5 cents, which is where we expect them to be at that point based on normal increases and inflationary pressures, not related to Muskrat.

And then those other opportunities will impact the various aspects of that 725.

So, for example, the operation and maintenance costs would be reduced because part of rate mitigation is about reducing that requirement. So anything that's realized in 2021 will carry, over time, through that 50 years of cost. The other piece in that would be anything related to the interest costs, depending on what the arrangements are from a financing agreement with the federal government would impact, obviously, how on an accrual basis some of those numbers would be recorded as well.

So I would expect the plan starts at the beginning, let's say, but then would adjust and would deal with the way that the numbers flow over those 50 years.

MS. DING: Okay, thank you.

In your presentation you said: "The provincial investment of \$249.1 million includes \$49.1 million realized from selling surplus energy that is either recaptured from Churchill Falls or is surplus energy from Muskrat Falls. The other \$200 million is the annual amount committed in past budgets funded by Nalcor dividends starting in 2021. This contribution comes from any Nalcor return on equity realized from the Muskrat Falls Project as well as from revenues from other Nalcor lines of business, such as Nalcor's existing holdings in oil and gas projects."

What did you mean by those other lines of businesses and oil and gas?

MS. HANRAHAN: Okay. So the province's financial statements consolidating the net income of the Nalcor consolidated entity, and it's that consolidated net income from which that \$200-million figure comes out. So you can – when we get the Nalcor net income figure, in that figure now, baked in in these out years, is that Muskrat Falls return on equity figure, as well as anything else that's in the Nalcor consolidated entity.

So we know, for example, that a big chunk of that net income we get from Nalcor comes from the current oil and gas equity projects that we have that's part of Nalcor consolidated.

THE COMMISSIONER: Okay.

So, just to take that a step further, when you say existing – like, right now I understand the government has announced a policy where it's going to split off Oil and Gas from the – from Nalcor.

MS. HANRAHAN: That's for current exploration –

THE COMMISSIONER: Right.

MS. HANRAHAN: – and future equity.

THE COMMISSIONER: Okay. So what you're talking about is the \$200 million that will be coming from existing – what is now existing oil and gas revenue and dividends that are received by Nalcor. So with regard to the issue of future income from oil and gas by way of future projects, is that additional money that would be available for rate mitigation or is that something that's being looked at for other purposes at some stage?

MS. HANRAHAN: So that would be separate. So Bay du Nord specifically would be separate. And that new Oil and Gas organization, for us right now, is not a same type of accounting body as Nalcor would be. Fundamentally because for several years while – before that project gets completed, they'll basically be in a loss position, so they're considered an agency, board or commission from an accounting treatment, which means we consolidate them line by line.

So any proceeds from that type of project in the years to come – land sales, those types of things that would happen in their organization – will come in to the Consolidated Revenue Fund, which is government's financial statement, but would be separate from Nalcor.

THE COMMISSIONER: All right, okay.

MS. HANRAHAN: So that would be considered general revenues.

MS. DING: Thank you.

In your presentation you also said: "Net operational savings from Newfoundland and Labrador Hydro is comprised of \$178.2 million

from net fuel savings at the Holyrood Thermal Generating Station and other regulatory processes as our Province transitions to Muskrat Falls power.” Now, we’ve heard from Stan Marshall that Nalcor’s estimated rates already factor in fuel savings from Holyrood. Are you double counting those savings?

MS. HANRAHAN: So, I think the difference would be, for example, the \$726-million figure that’s public in the rate mitigation plan, versus, potentially, the number, I think, that was mentioned this morning, which was 425 plus, say, 35 for industrial. And I think this is where you see the difference with, from what I understand, for Hydro. That – the fuel issue for Holyrood, as well as export sales, I suspect, is the bulk of the difference, and the rest of it is probably a little bit of timing differences between when somebody speaks about something using a certain rate at a certain point, there would be, you know, millions of dollars in the difference from that perspective.

So it’s not double counted in my 725, just like it’s netted in the 425 you may have seen presented earlier today. And that includes the 13.5 ratepayers will be contributing at that point, which is also a difference, then, from today.

MS. DING: Okay, thank you.

My next question is for Lorraine Michael. You talked about the province’s Income Support benefits and how the current fuel supplement is only \$71 a month. How would these benefits have to change if rates were to increase?

MS. MICHAEL: I think what I would be looking for is for real expenses to be met. So there are figures which indicate, you know, what the average is in terms of cost for, you know, different size apartments, et cetera. All that money – all that information is available, so if you’re talking about, for example – excuse me – somebody on Income Support who is living in an apartment which is electrical heated, which most of them are now, and you compare \$71 a month to the figures we saw today with regard to the cost of electrical heat, then we know that can go nowhere near heating.

So we – I would expect that the supplement would meet the real need. That would be what I

would be asking for, and I think that’s what people would be expecting because it’s supposed to make up for – it’s not supposed to cover the stuff that is under Income Support, like food, you know, et cetera. But if people have to put money in to make up for heating, then their income is being affected. So the real need needs to be met, I think.

MS. DING: Thank you.

MS. MICHAEL: You’re welcome.

MS. DING: Mr. Earle, in your presentation you mentioned that one of the impacts of cutting public sector workers is that there will be fewer opportunities for young people to work in the province.

Can you elaborate on that issue of out-migration and perhaps comment on the effect of layoffs and cuts, on the out-migration of younger and even older public-sector workers.

MR. EARLE: Yes. In relation to younger workers, any time there’s a reduction in a public service where there’s members we represent or in any unionized workforce, it is usually the younger workers. And we’ve seen that over the years, that – in examples of past budgets when there’s been reductions – I’ll use 2015 when there was a significant reduction in public sector employees, I think the number at that time was 650.

Some of them were career employees from our membership, they were young people that was – trying to start the career in the public service, that invested significant money trying to attain their education, and most of those young people – I haven’t got no statistics, but we know from people that we talked to, I’d like to speak to it personally – they don’t sit around the province waiting for other opportunities. They usually leave the province in other – and move off to other provinces.

And we have lost young people because they have been laid off. And, like I said, when you reduce public services, unfortunately, it is usually through the layoff provisions, younger workers that just started their careers, trying to establish themselves, that lose their jobs.

MS. DING: Thank you.

And, we've heard that the more energy we use, the cheaper it is; and the less we use, the more expensive it is.

Is it fair to say that losing workers could reduce electricity consumption in the province and cause, maybe, a further increase in rates?

MR. EARLE: I would suggest – because if hopefully it – and we know we have an aging population, but, again, it's younger workers that we need to, number 1, keep here or through immigration try to bring people here. So it's young people, we've seen the numbers that new-home starts have decreased. That's usually young people that are looking for homes to be built and to try to establish their families there. When they make that choice to leave, that has an impact in that area.

So, yes, it would be – it would have an impact.

MS. DING: And, I guess, on the other hand, if we can increase workers in the province by, say, encouraging immigration, could that have a positive effect on consumption and rates?

MR. EARLE: I believe it would because, again – no, obviously (inaudible) keep seeing that statistics our population is decreasing compared to the rest of the country. So, we need to do something to attract immigrants and to keep young people here. So, I believe that would have a positive impact 'cause most residents, as we've talked about, here in Newfoundland and Labrador use electrification in their homes. So, to stay here, build new homes, invest in the province – I believe that would have a positive consequences.

MS. DING: Thank you.

And, I have a few questions for Ms. Hancock. As the director of a non-profit, you rely on government funding from the province. How would cuts in funding affect your organization and the people you serve?

MS. HANCOCK: Thank you for the question.

We do rely nearly 100 per cent on government funding, and often if there are cuts, there'll be

less money for funding for the non-profit sector, particularly from departments – if we look at, for example, Department of Education and Early Childhood Development; we get a substantial amount of funding from Advanced Education, Skills and Labour. So if there are cuts in those departments, certainly the non-profit sector will feel that as well.

MS. DING: Yeah. And do you anticipate an increase in need for your services over the next few years, and how are organizations like yours able to provide additional resources?

MS. HANCOCK: Actually, there – you know, I guess anecdotally, there are – there seems to be more people that are struggling with mental health and addictions issues. More people that are having difficulty making ends meet. Finding work, particularly for our more rural communities, is a struggle. And one of the things that the non-profit sector is able to do is to – able to provide those community supports at a community-based level, they're accessible to people.

Also, the continuum of support. Quite often people find – when they're accessing government services – that they have to make many phone calls, often – you know, for example, someone who's homeless in Stephenville area, or Bay St. George area, has to call Newfoundland and Labrador Housing here in St. John's. The personal touch is not there, the continuum of support. Often people have experienced trauma, they have, I guess, complex needs, complex issues, and they need – they need local services and supports, and we're able to connect them with that. We're also able to provide that continuum of support in supportive environment.

And I'll just give you a specific example, that we have an employment program, Transitions to Work, that helps people that have been on income support for some time find employment.

What we're finding, of course, people on income support don't necessarily have any money for food. They were coming – young people, people of all ages, coming to the program without any breakfast, without any provision for lunch, without any transportation. Making sure those needs are met so then people can, you know,

look at, you know, what am I gonna do in terms of employment and career. So it's not just about, oh, you're coming to a program, but it's also about what are your other needs, what services do you need out in the communities, what referrals do you need, and what individual support you need.

So I think that those relationships and those continuum of support are very important at the community level. And quite often services that are provided by the – by government, particularly for our more remote and rural areas, don't have that component to it.

MS. DING: Okay. And do you feel that your organization is able to provide additional resources if need for your services increase over the next few years?

MS. HANCOCK: I guess in a lot of ways we are – and our staff can speak to that as well. You know, many of us are probably doing three or four different jobs. It is very difficult, we do try to meet individual needs as much as possible. But increased needs usually means that – the need for increased funding. However, one of the things that we're able to do at the community level in the non-profit sector – because of our partnerships and because of cost-sharing with various – with various government departments, we are able to provide often those services in a very cost-effective manner because we are partnering with a lot of different organizations to be able to provide those services.

But, again, increased demand does mean that we do need increased funding as well.

MS. DING: Okay. Thank you. And thank you to the panel.

Those are my questions.

THE COMMISSIONER: Thank you. All right.

Province of Newfoundland and Labrador?

MR. RALPH: No questions, Commissioner.

THE COMMISSIONER: Okay.

Nalcor Energy?

MR. SIMMONS: No questions. Thank you, Commissioner.

THE COMMISSIONER: Concerned Citizens Coalition?

MR. BUDDEN: Good day, panelists.

My name, for those of you who I haven't met already, is Geoff Budden. I'm a lawyer for an organization called the Concerned Citizens Coalition and that is a group of individuals who, for a number of years, have been observers and critics of the Muskrat Falls Project.

So I have probably 15 or 20 minutes worth of questions.

I'm gonna start with you, Mr. Alteen. And I'm gonna start, and I'm paraphrasing this, but I wrote down something you had said as follows, that a fully half of Newfoundland Power's deliveries are used for heating, 70 per cent of domestic customers use electricity to heat homes, and 90 per cent use it to heat water. Those sales are vulnerable.

Is that basically what you said?

MR. ALTEEN: Yes.

MR. BUDDEN: Okay. Vulnerable in what way? What do you mean by "those sales are vulnerable"?

MR. ALTEEN: In an environment of rising consumer price, they're vulnerable to being switched out.

MR. BUDDEN: Okay. So that's price elasticity (inaudible).

MR. ALTEEN: Absolutely. That's exactly what I'm talking about.

MR. BUDDEN: Gotcha.

The image, of course, we have is almost as Ms. Hancock referred to, a partner with his woodpile and we all have that – I guess that image of Newfoundlanders perhaps as being – having options of cutting their own wood and so forth. And I suppose to some degree that's reality, to some degree that's a myth but is light and power

– are you able to speak – for instance, do Newfoundlanders and Labradorians, but I guess focusing on Newfoundlanders with you guys, is – are Newfoundlanders more able to switch out, so to speak, from electricity to other forms of heating than perhaps might be the case in Ontario or Illinois or some of these other jurisdictions?

MR. ALTEEN: I'm not really in the position to say but – because I don't know much about Illinois or these other jurisdictions. But when you sit down and look at it, it's really about the competitive positioning of the alternatives at points in time.

MR. BUDDEN: Mm-hmm.

MR. ALTEEN: So customers are making decisions at various points in time and fuel as a switched-out commodity will change also. So it – that's what drives the pace of change. And over the short run, you're not going to see the same sort of vulnerability as you will over the long run because if you had a sustained uncompetitively high prices for a long period of time, and Muskrat Falls is a long-term proposition, then you could see the vulnerability come to hurt you more.

MR. BUDDEN: Sure.

So to the consumer, this isn't a case of 'I just got to get through this winter', this is the rest of their lives as consumers looking at potentially increases in the cost of their electricity. So that's what you're suggesting there, I presume?

MR. ALTEEN: I don't know if I understand what your question is, to be honest with you, Mr. Budden.

MR. BUDDEN: Sure.

MR. ALTEEN: I'm suggesting that in an environment of extremely high electricity prices – 23 cent electricity prices – more customers will be vulnerable to switch. How they switch, and the timing by which they switch – those are just personal decisions. We don't really look at that from a point of view of trying to predict the trajectory of the thing.

MR. BUDDEN: Sure.

And while we realize that perhaps some people – apartment dwellers or others may not be as readily able to switch. Their only option really is to turn down the thermostat and put on a sweater. For many people – homeowners and others – have options, so the cost of – or the use of electricity truly is elastic, isn't it? At least to some extent, there's no dispute about that.

MR. ALTEEN: I don't think there is any dispute. It's only a matter of measurement, and I think the big issue with respect to Muskrat Falls is when you have these very, very large projected increases, what can you expect in terms of a reaction –

MR. BUDDEN: Yes.

MR. ALTEEN: – by your customers? We have – do studies on a routine basis of what price elasticity is, but they're largely regression based. They're based on experience, and we have a, I don't know, maybe 30 or 40 years of experience at plus or minus 10 per cent, is where it is. So at rate changes within there, we're quite confident that we can be pretty accurate with our calculations and with our estimates. When you start talking about 50 or 60 or 100 per cent, I don't think that there's anyone in a position to reliably estimate that. I think that, for every market, that's a bit of a journey without maps (inaudible) –

MR. BUDDEN: Sure, and I'll get to that in just a second –

MR. ALTEEN: – as Dr. Schaufele indicated.

MR. BUDDEN: – 'cause again that taps into Mr. Fagan's evidence and the doctor's comments as well. But just a couple more details just by way of clarification. If I understood you correctly, the 12,000 heat pumps were installed in 2018, which represented a 57 per cent increase in the total stock of heat pumps that your customers use.

What is the expectation going forward? Is this like a one-time blip, or is it anticipated that heat pumps will continue to grow at that rate, or perhaps a higher rate, even?

MR. ALTEEN: We're just embarking on a very, very detailed study to try to project that

trajectory, Mr. Budden, and so I really can't tell you. I can tell you in the previous year the heat pump installations were numbered about 2,500 –

MR. BUDDEN: Sure.

MR. ALTEEN: – I think. So is it a blip? It is a big change, but the customer reaction to the 22.9 cent announcement in June 2017, it was one of the most severe reactions I've seen in 30 years in the business.

MR. BUDDEN: Sure. And severe in your sense means a severe impact perhaps (inaudible).

MR. ALTEEN: A high degree of customer distress, dissatisfaction –

MR. BUDDEN: Sure.

MR. ALTEEN: – with the situation. That's how I'd describe it.

MR. BUDDEN: To me, that's a big number, 12,000 heat pumps; but is that the kind of numbers, is it the kind of process that will lead to an impact on demand? Like, does it have that kind of impact?

MR. ALTEEN: Well, it's hard to say. That's one of the things we're actually studying. One of the things with heat pumps, to get the savings that you expect to get from a heat pump installation does depend on the quality of the installation and whether it's done in a way that's technically sound. And we don't know what these installations are getting. I can tell you that last year our sales declined by eighth – one – .8 per cent, 0.8 per cent. That's the demand – that's the load we lost last year.

MR. BUDDEN: Okay.

MR. ALTEEN: What we might lose this year might be an indicator of what's going on, but there's a lot going on on the customers' side of the meter, so we can't – we're very reluctant to pick out one piece of data, 12,000 heat pumps that were reported –

MR. BUDDEN: Sure.

MR. ALTEEN: – by our customers, and draw too many cause and effects. You really want to

study that stuff and be sure if you're gonna be making longer term projections or doing something to try to affect the markets that you're serving.

MR. BUDDEN: Sure. And obviously that, in any given year, that may not seem like a big number, but if one were to compound that over a period of years, that would be a significant loss in demand wouldn't it?

MR. ALTEEN: Well, yes, yes, yes, but they're still using electric heat, that's the saving grace.

MR. BUDDEN: Okay.

The – to what degree does delinquency, late payment, non-payment is – does that respond to a rise in cost? Intuitively it would seem like it would, but is that something that light and power anticipates as being an increasing problem, simply getting people to pay their bills, or being able to pay their bills?

MR. ALTEEN: To the degree price affects our customers' ability to pay their fee, pay their bills, you would expect it would show up in your bad debt expense. Having said that, we have a very, very good experience with our customers and have relatively low bad debts by utility standards. Our customers are responsible in paying their bills, let me put it that way.

But we've never seen rate increases like some of the rate increases that we're projecting now, and in that type of situation I wouldn't want our past experience, which is bad debt is a small percentage of 1 per cent of our revenues, I wouldn't want to project that and say that in a future world that that – we could expect it to be that low –

MR. BUDDEN: Sure –

MR. ALTEEN: – because I know many utilities of our size have much higher bad debts.

MR. BUDDEN: Sure, and the significance of my question, really, is that if the – if Newfoundland Power – if that became a bigger risk for your company, your debts – or your payments became less reliable than they are now, that also is a cost that inevitably would be

passed on to the remaining consumers, would it not, directly or indirectly –

MR. ALTEEN: Under cost-of-service rate (inaudible) –

MR. BUDDEN: Yup.

MR. ALTEEN: – that’s exactly how that works over time.

MR. BUDDEN: Over time.

MR. ALTEEN: In any one year you may not recover your bad debt expense, but over time you would tend to recover your bad debt expense.

MR. BUDDEN: So those of us who continue to pay the bills will be picking up the tab for those who are not.

MR. ALTEEN: That is why we manage bad debt very closely, Mr. Budden.

MR. BUDDEN: Okay, fair enough – as best you can, as the prices rise.

MR. ALTEEN: Exactly.

MR. BUDDEN: Okay.

The utility death spiral – that rather ominous phrase you used earlier today – so the present targeted rate, as we understand it through the mitigation plan is 13.5 cents. In the particular circumstances of Newfoundland, do you believe that to be sustainable without triggering a utility death spiral?

MR. ALTEEN: I’m not so sure that I believe that a utility death spiral will be triggered. I –

MR. BUDDEN: Okay.

MR. ALTEEN: – want to make it clear with that. It is a commonplace term that you hear about in this industry. But I’m – I think it’s a little bit overly dramatic and I’d agreed with the Doctor on that.

MR. BUDDEN: Sure.

MR. ALTEEN: I –

MR. BUDDEN: Well –

MR. ALTEEN: – think at some point, price and sales hit equilibrium or come close to hitting equilibrium. That equilibrium may be well below today’s sale price and that may impose costs in terms of higher rates on all users. But I don’t think it necessarily leads to the demise of utilities.

MR. BUDDEN: Sure.

But at some point it would lead to disequilibrium, I presume, if the prices rose to the point where the price elasticity really kicked in. I mean, that’s what we’ve talked about, perhaps inexplicitly, but at some point, a price rise could trigger an exodus of customers which would trigger the need for more price rises and so on. And that, essentially, would be the utility death spiral. Am I understanding the term correctly?

MR. ALTEEN: That’s it in concept.

MR. BUDDEN: Yeah.

MR. ALTEEN: But in practice, if you see examples of where rates have risen very, very quickly – regulation typically accommodates that. And I’m thinking in the Pacific Northwest, maybe 15 years ago, they had a severe drought in the Columbia River system and it was about the time when they were deregulating wholesale markets. That combination led to a huge increase in supply costs for utilities who were used to cheap hydro and had to substitute expensive spot fuel.

That went on for a number of years and I remember reading one report where a utility had filed – was filing rate cases before they’d gotten the order from the previous rate case. So you’re chasing –

MR. BUDDEN: Yeah.

MR. ALTEEN: – costs at an incredible pace.

That situation eventually resolved itself. It got to equilibrium and the Northwest United States is back in a place where it’s reasonable again.

MR. BUDDEN: Sure. But –

MR. ALTEEN: The price is reasonable.

MR. BUDDEN: – that’s a very different situation than what we’re anticipating here with the Power Purchase Agreement with a fixed block of consumers declining or at least stable demand. That would be a very different situation and one that one can see a light at the end of tunnel more readily than here, I would assume.

MR. ALTEEN: I – perhaps it’s different. I’m not so sure it’s different in my conception of things because there may – ultimately, the series of events that you’re describing may lead to, I don’t know, some rethinking of the current arrangements; there are security arrangements and other arrangements. Because it’s not just Newfoundland Power that’s going to be impacted by this but Nalcor is going to be impacted by this.

MR. BUDDEN: Sure.

MR. ALTEEN: Because that loss of revenue floats up – floats right up through the system.

MR. BUDDEN: Yeah, well, I’ll get to that with some questions with Ms. Hanrahan. But just, I guess, to take it to, really, the end of this line of questioning, let’s imagine a scenario where Mr. Fagan’s numbers are correct, that the – we see a cost increase in the 50-plus per cent range and government can’t or won’t mitigate. The Power Purchase Agreement is applied strictly, that cost is passed on the consumer.

Would you – and you’re coming here as an individual with a lifetime of experience in the power industry – would that, do you think, trigger something akin to a utility death spiral, an unmitigated pure application of the PPA?

MR. ALTEEN: It may lead to, perhaps, existential problems for some of the actors – and Newfoundland Power being one, but not all of the actors in the system because the economic impacts were so dire. I’m not so sure it would be this death spiral concept. But, yeah, it could lead to destabilization and – I don’t know that economic collapse might not be too dramatic, but it might be.

MR. BUDDEN: Okay.

MR. ALTEEN: It might lead to something as severe as that.

MR. BUDDEN: Perhaps, Dr. Schaufe, you could answer that same question. I’m interested in what you have to say.

DR. SCHAUFLE: Can you repeat the question, please?

MR. BUDDEN: Sure.

The question is: The government can’t or won’t mitigate the cost increase that Mr. Fagan has given evidence to increase the 50-plus per cent in utility rates. If that were to happen in a shockwave, like from one year to the next, or one year over a year or two, would that trigger something like a utility death spiral?

DR. SCHAUFLE: So I haven’t done the numbers so I can’t provide a definitive answer. What I can do is I can maybe guide your thinking on this a little bit. My hypothesis is no. That even at 22.9 cents a kilowatt hour, that’s insufficiently high to trigger a utility death spiral. I can’t back that up, that’s just based on experience.

One of the things that Mr. Alteen – one of the points he brought up was that the elasticity in the short run is different than elasticity in the long run.

MR. BUDDEN: Yes.

DR. SCHAUFLE: A one-time rate shock is unlikely to drive a utility death spiral in the short run. The question would be how this unfolds over the next four to five years as people start to substitute away from their current load to alternatives. Beyond that, I can’t provide any more guidance. I would guess it’s unlikely that you would trigger a utility death spiral. That doesn’t mean that you wouldn’t need some sort of government intervention or some sort of public policy to offset some of the potential adjustments.

MR. BUDDEN: Okay.

So I guess perhaps that to Mr. Alteen, I guess the question is: Is it even possible to strictly apply the Power Purchase Agreement? Do you

believe that's even possible, that there's enough money there amongst the potential customers for the power to satisfy the requirements of the PPA?

MR. ALTEEN: I don't know that it's impossible; I do know that it would be very difficult.

MR. BUDDEN: Okay. Thank you.

I guess my last question; the concerns that you've expressed here through your evidence today, were they generally known or anticipated by Newfoundland Power back in the sanction era, 2012?

MR. ALTEEN: No, in – if you go back to the – about the time of sanction, the indications were that the Muskrat Falls Project would yield consumer electricity prices that looked like perhaps 14.3 cents if you read the Joint Panel Review report that would have come out in the summer of 2011 I believe.

MR. BUDDEN: August 2011, correct.

MR. ALTEEN: The very next month, Nalcor released the Navigant report; I believe it was right on it. And that had indicated that over the trajectory of the 50 years that the project was evaluated against that you would see declining real price of electricity for consumers in the province.

That type of dynamic where you have a high fixed-cost plant and once you get the hydro plant created that you can actually have a declining real price – that is not economically shocking. If you can get over the hurdle of the entry price, that's not an economically shocking sort of proposition. That's sort of conventional thinking in utility economics.

So back at that time, rates were not a whole lot different than existing rates today, they were about 12.2 cents, on average, a kilowatt hour, on a unit-cost basis. Today they're about 12.3 or 12.4. You were looking at – it's going to go to 14 and it's going to decline in real terms for 50 years; that's consistent with hydro-plant economics. I don't think anyone was thinking of a death spiral in that context.

MR. BUDDEN: Sure, and there's no – Newfoundland Power had no internal reports, evidence, studies or belief that contradicted what Nalcor was saying?

MR. ALTEEN: Well, we had no – that is correct. But we had no access to sufficient detail that we were able to judge that the proposition was sound.

MR. BUDDEN: Okay.

Dr. Schaufeale, one last question for you – or one question for you.

You heard Ms. Michael, Mr. Earle, Ms. Hancock and them talking about the impact this will have on union members, on constituents, on the residents of the West Coast in particular on the – some of the people in our province facing the most challenges. And how does that inform the comment you made, which I noted, to the effect that mitigation inevitably diverts monies from other worthy government projects?

DR. SCHAUFELE: So I think that there's a number of dimensions to this.

The first dimension is that the costs are sunk. These fixed costs are sunk; they need to be paid. They either need to be paid by ratepayers or by taxpayers. And the objective of efficient – notwithstanding the implications for low-income or West Coast residents – is that you want to choose the mix of taxes and rates that minimize the implications on the economy.

Now, by choosing those taxes and rates, you can disadvantage certain groups. You can make things materially harder for certain groups. And that may be unpalatable for residents of Newfoundland, it may be unpalatable for the government, it may be something that's, you know, undesirable. And so, as a result, you need to explore the different mixes of rate increases or rate mitigation, as the case may be, taxes – and we've got to remember that if we incur deficits today, that just means we're paying taxes in the future.

MR. BUDDEN: Mm-hmm.

DR. SCHAUFLE: Current deficits are future taxes. And we have to look at the economic and equity costs of these different dimensions.

One of the things that economists do is we separate out the positive analysis – this just means we’re going to look at the price elasticity and see the change in demand or in revenues or in whichever variable you like, from a normative analysis. You know, normative analysis looks at the value judgments. You know, who should pay? How much should different groups pay? What are the implications?

In general, economists, and myself in particular, have very little to say about that because that’s really the domain of politicians. They provide the insight into how we want to balance the cost to different groups and taking that as given, then, we looked – how can we design a total system so as to minimize the economic effects, conditional on certain equity implications?

MR. BUDDEN: There will be winners and losers and a dollar spent in mitigation, somebody else is losing out because of that.

DR. SCHAUFLE: Yes.

MR. BUDDEN: Okay.

Ms. Hanrahan, I have a few questions for you.

We heard evidence in Phase 1 as to the operation of the federal loan guarantees – Mr. Brockway from Grant Thornton testified. And am I correct in assuming that once construction has been completed, as it will be in, hopefully, a few months, Newfoundland’s backstopping of the federal loan guarantee will end at that point? Am I correct there?

MS. HANRAHAN: My – that was all before my time. But my understanding is there was a completion guarantee. I think that’s –

MR. BUDDEN: Yes.

MS. HANRAHAN: – what you’re referring to.

MR. BUDDEN: So, once it’s completed, the guarantee itself is no more. Okay.

Perhaps, Madam Clerk – this leads to another question or two – could you bring up Exhibit 00454? And it’s page 38 that I’m interested in. And this is the Grant Thornton report – I believe by Mr. Brockway, but I stand to be corrected. And what I’m going to do is read you a passage from that and then I have a question. So I’m starting – for anybody that’s following – at line 10, I believe, page 38, Madam Clerk.

Thank you.

So if we start at line 10 it reads as follows – I’m going down to about 23 and I’m skipping 12 to 14, they’re not really relevant. So line 10 begins as follows: NLH, Newfoundland and Labrador Hydro’s “obligations to pay the Base Block Payments is absolute, unconditional, irrevocable and is not subject to any reductions until the date in which the MFCo financing is paid in full.”

Then we go down to line 15: The PPA, Power Purchase Agreement “provides specific remedies if Base Block Payments are not made.

“In particular, if NLH fails to make the necessary Base Block Payments while MFCo continues to be in compliance with this agreement, MFCo may provide notice to NLH it is invoking their rights under the PPA which requires that within 10 days of providing such notice, if NLH has not paid the outstanding payment, NLH is required to pay a lump sum amount equal to the full repayment of the debt financing (including principal ...)” and so forth.

Then we go a little tiny bit more, Madam Clerk. It says: Once this payment is made – and I’d like to stop there. Because my question is: What happens in that circumstance if Newfoundland Hydro cannot or does not make the payment?

MS. HANRAHAN: So I’m not aware at this point if there – of this – this is in the future, I guess, from that perspective. So that’s hypothetical for me.

MR. BUDDEN: Yes, it is.

MS. HANRAHAN: I don’t think I’ll be able to comment on what would happen or what wouldn’t happen. It’s in the future I guess. At this point I’m not aware of anything happening.

MR. BUDDEN: Okay. Well, I'll work through the scenario a bit more so that – then I think you would be able to comment, at least on the options available.

MS. HANRAHAN: Okay.

MR. BUDDEN: This anticipates – the Power Purchase Agreement requires, as we all know, that Newfoundland Hydro make payments to Muskrat Falls in payment for the power which it has purchased, at a price that has been established by the cost of producing that power. That's the essence of the Power Purchase Agreement.

What I'm envisioning, a scenario, is that Newfoundland and Labrador Hydro, perhaps because of this utility spiral – and again, imagine an unmitigated world. The true – the Power Purchase Agreement is being applied like it was anticipated it would be applied at the time of sanction. And Hydro simply has – lacks the resources to make the payment. At that point, presumably, I would suggest to you, Muskrat Falls Corporation, like any creditor, can act to enforce its – the obligations of Hydro.

There's no reason you're aware of why that couldn't happen, is there?

MS. HANRAHAN: I'm not, you know, that familiar with most of these agreements to that point to make a conclusion one way or the other.

MR. BUDDEN: Sure. But it's a contract and contracts can be enforced. That's pretty basic, isn't it?

MS. HANRAHAN: I would think any terms in a contract are –

MR. RALPH: Commissioner, if I could.

I'm not sure if it's fair to ask this witness if – her legal opinion on this. Certainly he can put, I would suggest, a theoretical or hypothetical situation that she's able to (inaudible) – all well and good. But I suggest she's not in a position to provide legal answers to these questions.

MR. BUDDEN: Okay.

THE COMMISSIONER: (Inaudible.) Sorry. You're objection is related to the fact that you're – you think the witness is being asked to provide a legal opinion?

MR. RALPH: Yeah, what happens if – if this happens, legally what can happen with regard to if – you know, if Hydro doesn't pay Muskrat Falls, legally what happens if, you know, so-and-so? Because I don't think she's in a position – I mean, he can suggest to her, I suppose, you know: Assume X happens, what – you know, what happens as a result of that? But I don't think she's in a position to answer legally about –

MR. BUDDEN: Okay.

I'm not really asking – this witness is the deputy minister of Finance, so I would assume some sophistication with contracts and basic principles of contracts. I'm not asking – it's just a high-level legal analysis or opinion. But perhaps you could bear with me. Where I'm going next might clarify things.

So, what I was going to say, my next question would be – if the Commissioner is fine with this – is to say that we have a contract here, an obligation, that if Hydro isn't able to make that payment or doesn't make that payment, would the Newfoundland government – is it the policy or anticipated policy of the Newfoundland government to step in and backstop Hydro?

MS. HANRAHAN: I guess it's a – once again, it's a hypothetical if. I'm living in the world of a rate mitigation plan that I'm trying to implement, which, to me, would not necessarily trigger these types of things to happen. So while we always look at, you know, contingencies and things that could happen, at this point in my world, I'm living in a world of pursuing a rate mitigation plan that would not trigger what-ifs in contracts.

MR. BUDDEN: Sure.

And I would suggest to you, Ms. Hanrahan, that in this case, the rate mitigation plan is really, in this case, not so much an option for the government but really is a necessity. Given the numbers we've heard from Mr. Fagan, given the other evidence we've just heard, that really

government, if it is to preserve the assets from the inevitable consequences of being unable to make – to meet payments, the government has really no choice but to mitigate, does it?

MS. HANRAHAN: You know, I guess, from a decision-making process and from a consolidated government, at the end of the day, we have an asset, and you have to pay for that asset. Government's committed to ratepayers and taxpayers not paying for the impact of Muskrat Falls. The rate mitigation plan is specific to paying up to 13.5 per cent, which is where the rate is expected to escalate to by 2021.

The aspects of the plan bring in other considerations, for example, looking at the financing arrangement that we have. If there is success – and it is anticipated that there will be – on achieving that, then you've just reduced that 726 that you need in 2021, and, I guess, my role and my involvement has been very much so in making sure that the rate mitigation plan that government has put forward is implemented. I'm fully confident that we will achieve that, and to be honest with you, that's my focus as opposed to anything else at this point.

MR. BUDDEN: Sure. But, again, you are here as a deputy minister of Finance. We've just heard evidence – Mr. Alteen used terms such as dire, existential, potential financial catastrophe. All of these are circumstances if the full unmitigated rate –

MS. HANRAHAN: At the 22 point – right.

MR. BUDDEN: – were passed on to consumer.

MS. HANRAHAN: Right.

MR. BUDDEN: And if we are in that kind of situation, I would suggest to you, really, the options of the Government of Newfoundland are really two: mitigate or allow the assets to be seized and sold in a creditor fire sale. Forced privatization, basically.

MS. HANRAHAN: So I guess from my perspective, I don't foresee that happening.

Government, several years ago in the budget, allocated a commitment to trying to deal with this issue. They are currently engaged and have

great, you know, commitment from Canada with respect to working for those aspects. That's 400 of the \$726 million, the other \$326 million is a group of activities.

And that – I'm fully confident that we will realize, thought that plan, what we need. I don't think we'll see 22.9 cents, and the goal is to see 13.5 cents.

MR. BUDDEN: But the reality is we're probably looking at mitigation for decades to come, aren't we?

MS. HANRAHAN: I think the concern from a mitigation perspective – while, yes, it's a 50-year asset, we're at a stage right now where there's pretty sizeable impacts that will be known within the next year. So depending on the conclusion of various of those aspects, they will influence how long, you know, from a pressure perspective that relates to – from that perspective, but that's future policy decisions and future government decisions, I guess. I'm – the direction we have at this point relates to rate mitigation and that is what we're pursuing.

MR. BUDDEN: Sure.

I guess the last question to, I have, just to follow it up, we've seen demand projections that, you know, Mr. Marshall, the head of Nalcor, sitting in one of those chairs a week or so ago was saying: Yes, demand is flat, basically, through 2040; the costs are what they are, it's \$12.7 billion at least, and we have a Power Purchase Agreement that basically expects this flat demand to address this enormous cost.

And, again, I'd suggest to you, under what circumstances might mitigation not be necessary?

MS. HANRAHAN: In what circumstances would mitigation not be necessary? To a certain extent, I guess, it's the – the current rate mitigation plan and pursuing the success of that plan, which is what my goal is right now. But, you know, in fairness, it's a plan, things happen, things change, no different than the price of oil or exchange rates. We have to adjust, and I fully expect that we would adjust that plan, based on what comes in future.

To say that demand is gonna be flat for 10, 20, 30 years is not my expertise and I wouldn't be able to comment on that. But I do know, from a – from the various aspects of the rate mitigation plan, that they do deal with increased revenues, be it exports or demand, reducing expenses, be it operating, maintenance or efficiencies, and – as well as that switch, you know, with respect to Holyrood, when that happens and – as we work through those pieces.

So – and very much driven on the concept of the province foregoing that \$200 million and continuing to negotiate with the federal government on the financing arrangements.

MR. BUDDEN: Okay

Can you suggest a single scenario where mitigation might not be necessary?

MS. HANRAHAN: I don't know if I really understand the question. Sorry.

MR. BUDDEN: Sure. A specific event, something that might make mitigation not necessary. Can you suggest any specific thing or series of things?

MS. HANRAHAN: Not particular. I mean, obviously we have a rate mitigation plan 'cause we believe it needs to be mitigated, we need to deal with this issue, we need to make sure that consumers, taxpayers and ratepayers are able to work through this piece as Muskrat Falls comes online.

MR. BUDDEN: All right. Thank you, Ms. Hanrahan. Thank you, everyone.

THE COMMISSIONER: Thank you. All right.

I think we'll take 10 minutes now and then come back. Next will be Edmund Martin.

CLERK: All rise.

Recess

CLERK: All rise.

Please be seated.

THE COMMISSIONER: All right, Edmund Martin.

MR. CONSTANTINE: No questions, Commissioner.

THE COMMISSIONER: No questions.

Kathy Dunderdale.

MS. E. BEST: Good afternoon everyone, I'm Erin Best.

I'm counsel for Kathy Dunderdale, who was our former premier at the time of sanction and financial close.

So I'm gonna start off with Mr. Fagan. And Madam Clerk, if you could please bring up P-04456?

THE COMMISSIONER: So that would be at tab 22.

MS. E. BEST: Oh, wait now. That is not –

MR. FAGAN: Five-five.

MS. E. BEST: Is that 04456?

MR. FAGAN: No.

MS. E. BEST: It is, okay, I have the wrong number here but I'll just find the right one, if you can bear with me for a second. I'm looking for Ms. Hanrahan's presentation.

CLERK: (Inaudible.)

THE COMMISSIONER: That's 04456.

MS. E. BEST: Okay.

CLERK: All right, sorry.

MS. E. BEST: Thank you.

And if you could please scroll down to page 2. If you could continue to scroll, please – okay, you can stop there. Thank you.

So what I'm interested in, Mr. Fagan, just to begin, is this number of \$725.9 million which we can refer to as \$726 million. So I understood

from some of the questions that came out this afternoon that you had a different way of looking at this number. Can you describe that to me?

And what I'm specifically referring to has to do with the \$178.2 million of savings from – in fuel costs at Holyrood. Can you explain how NL Hydro ends up with a different number from the \$726 million?

MR. FAGAN: Yes – excuse me. The \$726 million is the increase – is the purchased power expense in the first year in 2021.

MS. E. BEST: Yeah.

MR. FAGAN: So that's – so we replace Holyrood with the purchase cost from the Muskrat Falls Project. So, in my analysis, I'm removing the fuel costs, as well as the export savings that's available to Hydro –

MS. E. BEST: Right.

MR. FAGAN: – which would get to approximately 460. And I mentioned this morning there could be a change up to \$30 million depending on the how the (inaudible) deficits change, so I'd end up – it's probably slightly less than \$500 million. And I believe if you went to that April 24 document of the government, once they deducted their \$178 million and their exports, I think they get to \$498.6. That's more comparable then, to my number.

MS. E. BEST: Okay.

And the fuel costs – the savings from fuel costs at Holyrood, or associated with Holyrood, I mean that was always going to be a savings, wasn't it? I mean I wouldn't even characterize it as a savings. I mean that was always not going to be a cost, isn't that correct?

MR. FAGAN: Well, any time you're going to do an investment decision on options to supply, you'd look at the net change of one option versus the other. So, yes, I'd agree.

MS. E. BEST: Right because, I mean, just to make it simple, after Muskrat Falls became operational and was supplying electricity, we

were always going to have a savings in fuel costs from Holyrood, right?

MR. FAGAN: Yes, there's fuel cost savings. There's also savings associated with the fixed cost of the plant, depreciation and operating maintenance cost return, yeah.

MS. E. BEST: So if that is the case, then do you have any insight as to why the government chose to include those savings – or, excuse me, that number, referring to fuel costs – in its number of \$726 million? I mean isn't it – doesn't it make no sense to include it?

MR. FAGAN: I think it's a manner of presentation. It isn't what I choose but it's the manner of presentation they chose.

MS. E. BEST: Okay. Thank you.

So, in your opinion, is that really something that we've mitigated?

MR. FAGAN: I wouldn't consider it mitigation funds, or additional requirements because of the project because it's automatically bringing those savings because of the project proceeding. So if I was to determine mitigation, I'd say from a government perspective, I'd look at the increased purchase power expense, I'd take off the fuel savings and the fixed-cost savings at Holyrood, I'd deduct the export value of Hydro but also the export value of government –

MS. E. BEST: Mm-hmm.

MR. FAGAN: – because without the project they wouldn't have that opportunity. So I would look at the net.

MS. E. BEST: Okay, so you would've started from the \$460 million number and mitigated from there.

MR. FAGAN: Yes.

MS. E. BEST: Thank you.

Madam Clerk, if you could continue to scroll down, please, to the bottom of this same page – okay, that's fine. I'd just like to read out this last bullet point, it continues on to the next page.

And, Mr. Fagan, I just want to know if you agree with this, what's written here: "Net operational savings from Newfoundland and Labrador Hydro is comprised of \$178.2 million from net fuel savings at the Holyrood Thermal Generating Station and other regulatory processes as our Province transitions to Muskrat Falls power. It is expected that non-Muskrat Falls regulated revenue of Newfoundland and Labrador Hydro will increase by an estimated inflation rate of 2.25% in 2020 and 2021. This approximates Holyrood savings, with the actual savings being dependent on the timing of Holyrood's closure and fuel prices changes."

I just want to know if you – do you agree with those numbers and this statement in the whole?

MR. FAGAN: I'd have to take them one piece at a time.

MS. E. BEST: Sure.

MR. FAGAN: Okay.

With regard to the initial savings, it depends on the fuel price at the time it was prepared and the number of barrels assumed. I think with the timing of LIL and the availability of LIL – that's currently an outage, that's caused an increase in our projected barrels required consumption at Holyrood. So I think the number that we filed in our compliance filing last week would probably be in the neighbourhood of \$190 million, okay?

So \$178 million is – seems to be – you know, it's a reasonable estimate, okay? The 2.25 per cent, I would view that as some – an inflation assumption but not really based on any cost analysis with respect to what's happening in the next year or two. We may have – we still have the operation of the rate stabilization plan which occurs and there's a – I think there's a credit adjustment currently reflected in customer rates which would expire next year, which could cause a rate change that would get us to that 13.5 cents. It's – so I think this may be just the high-level estimate of where rates may go, but not really based on actual projected cost changes over the next two years.

In 2020, if the Muskrat Falls Project is on schedule for September, there's – Hydro would have to pay, starting in September, I believe it's

\$260 million in purchase power expense in 2020. The projection of revenue requirements in 2020 and the actual impact on – it's difficult to say customer rates, that's depends on regulatory process, but costs that could be offset from savings from pre-commissioning power brought to the Island to avoid Holyrood fuel costs next year.

So if that doesn't go well, Hydro could be facing a \$260 million expense next year, additional expense. That hasn't yet been addressed how those costs are going to be dealt with; 2.25 per cent would obviously not address that, so what's happening over the next two years with respect to costs is not related to 2.25 per cent per year.

The last thing with regard to the timing of Holyrood's closure and fuel price changes, well, fuel price changes we've reflected a price of \$105.90 in our application that we filed last week. A lot of the rate increase coming out of the current application isn't just related to fuel price but also with regard to the number of barrels required, it's higher than last year because of mostly related to the availability of the Labrador-Island Link, we projected additional savings beyond what we were achieving so we've had to increase the number of barrels.

So when we look forward to next year, that depends on the Labrador-Island Link but there's currently a regulatory process before the board, reliability and resource adequacy study and it's considered – I consider it part of the phase two of reliability. And the board's consultant, Liberty, is currently reviewing with respect to when Holyrood should be closed and a lot of that depends on the reliability of the Labrador-Island Link and also the assessment of how much generation does the Island need with the Labrador-Island Link in service. So that's subject to a different proceeding, so the timing of the closure of Holyrood is still somewhat unknown.

MS. E. BEST: Okay. Thank you.

My next question is for Ms. Hanrahan. Madam Clerk, if you could scroll down, please, to page 8 of this same document. That – actually, you can – it's the top bullet point there.

So – oh, on page 8. So you can – we can start, actually, with the sentence that says: “We have come to accept that not all things in the future can be accurately forecasted – oil prices, exchange rates, and interest rates just to name a few – so we do not focus on the hypothetical beyond the next few years. We are focused on what is probable in the near term.”

So I heard you say this, this morning and it caused me some concern. And I ask you: What – can you assure us that the current government is not just mitigating the rates in the short term by pushing the cost into the future? And what I’m almost asking: Is this mitigation effort artificial in that sense?

I think this morning Dr. Schaufele said – or, rather, this afternoon that current deficits are future taxes. So with all of that in mind, can you give us any assurances that this – what you’re mitigating today we’re just not going to have to pay in the longer term, in five years or in 10 years.

MS. HANRAHAN: So I think my comment here when I talk about a hypothetical, you know, I’m really talking specifically about, you know, oil prices, exchange rates, those things that are tangible. And I’m really speaking to – from a fiscal planning perspective and a return-to-surplus-by-’22-’23 perspective.

My understanding of the rate mitigation plan, while, yes, it’s illustrative of 2021, the assets would – the aspects of it impact many years. And it’s not a final plan; it’ll be final once we get the PUB final report.

But I think my point in my comments is more about dealing with what’s in front of us and knowing that, you know, we will need a plan that is able to adapt. Yes, we have to worry about the long term, but from the short-term perspective for several years I need to work with what’s really tangible and what I know from that perspective. And I think that’s really what I meant.

MS. E. BEST: So I understand what you’re trying to say here in your paper and what you’ve said, but it doesn’t really address my question which has to do with: How can you assure us that what we’re saving today, what the ratepayer

is saving due to mitigation, is just not going to be what the ratepayer has to pay down the road in the future, what they have to make up for in the future?

And I understand that you’re talking about what you’re dealing with tangibly in the present but, of course, we all have an expectation that the government is considering the long-term impacts of these mitigation efforts and I would be surprised if you were to say that the government is not considering that.

MS. HANRAHAN: Well, what I’m saying is that, you know, to a certain extent you’re talking about future government policy, future government decisions. I’m focused I guess in immediate term from the perspective of implementing rate mitigation plan and pursuing the various aspects of that rate mitigation plan over the next few years, particularly as it relates to the ’22-’23 forecast period, which is fundamentally what is the immediate focus.

I can’t comment on what a government will do in the future, what budget 2020 would say with respect to rate mitigation or what any – you know, from that perspective, but I do know that the aspects of the rate mitigation plan that we have today impact more than just one year. They would impact the interest amount of that figure; it would impact the operation and maintenance amount in that figure. It’s various aspects in that \$726 million or the \$500 million, if you use the different value for the same point in time for those aspects, so that’s what we’re pursuing from that impact.

I wouldn’t say that nobody is considering the long term but from a decision-making process, I guess my focus is on dealing with what I know and knowing that plans change and that you take estimates of fuel prices, you take estimates of demand, you take estimates of things with reasonable probabilities that you know and you adjust your plan as you need it.

MS. E. BEST: So I won’t belabour it too much longer, and I’m sorry to put you in the hot seat but correct me if I’m wrong but it sounds like what you’re saying is that you’re mitigating rates now and you’re leaving it to the next government to deal with whatever impact that has on the province, say, five years from now.

THE COMMISSIONER: See, I think we're talking two different things here. You seem to be asking a question related to whether – and correct me if I'm wrong, because I think the two of you are on a disconnect here to be quite honest with you.

MS. E. BEST: Okay, fair.

THE COMMISSIONER: She's answering a different question than what you're asking.

MS. E. BEST: Yes.

THE COMMISSIONER: So is the question that you're asking really by virtue of what the government is decided – just going to do for 2021 or 2022. The fact that whatever it costs to do that, is that going to somehow be passed on to the consumer in 2024, 2025.

So we're not talking about – there's a distinction to be made here. You're not talking about the fact that we know there's going to be an increase in the cost as – for each year because of what it says in the Power Purchase Agreement. We know that. As it gets – as it goes along in the 50 years, the price goes up.

MS. E. BEST: Yes.

THE COMMISSIONER: It has to go up –

MS. E. BEST: Yeah.

THE COMMISSIONER: – based up on the formula in the Power Purchase Agreement. What you're asking is the money that's being saved today – I think this is your question – is that somehow going to be then charged to the consumer or the taxpayer in the future.

MS. E. BEST: With interest.

THE COMMISSIONER: With interest.

MS. HANRAHAN: That would not be my understanding of it. My understanding of it is to deal with what the revenue requirement is today by looking at various aspects of that requirement. So, for example, the discussions with the federal government.

I don't know what the outcome will be and what that would mean from that perspective, but the expectation is that it'll be worth \$200 million. Whether that – I think your question infers that's a deferral or that's, you know –

MS. E. BEST: That's right.

MS. HANRAHAN: – yeah. And at this point, discussions are ongoing. I wouldn't be able to say yes or no to what that is. I do know the expectation is that is that it's worth and that until such a time as those discussions were concluded, I don't – you know, normally that – from the \$200 million, from the provincial perspective, that's in the forecast out to '22, '23, that's what's been released as our fiscal time frame at this point.

I know to that point and I can speak to that point, but I would make no inferences of that just because I don't have a '23 or '24 forecast that's been released as budget that that means anything one way or the other.

MS. E. BEST: Okay. Thank you.

My next questions are for Dr. Schauffele. I'm pronouncing that right, is that right?

DR. SCHAUFFELE: Close enough. Sure.

MS. E. BEST: Schauffele, okay.

Madam Clerk, if you could just scroll up, please, to page 2 of this same Exhibit. Okay. Now – so, I'm gonna ask you some questions about essentially what you think about Ms. Hanrahan's presentation and the government's rate mitigation plan.

And so, I've got her paper up here on the screen and I just wanna go through a little bit so that it's – I know you don't have – you haven't studied this in detail, so it is just a high-level response if you can provide that to me. But it says on page 1 – actually, Madam Clerk, if we can go back up here – that our current rate is 12.3 cents, going up to 12.9 based on general rate applications, okay, not related to Muskrat Falls at all. And then assuming inflation, the cost is expected to rise to 13.5 cents by 2021. And according to page 2, that – that is the rate that government is gonna propose as their rate

mitigation – as part of their rate mitigation plan as opposed to the 22, 23-cent rate.

So if we look at page 3 and page 4 of this document, we have a break down of how that \$726 million in – in – is gonna be mitigated – or – or \$460 million, which ever way you wanna look at it. And I can go through each – each of the parts of the equation or if you feel like you're familiar enough with it to comment without going through each part of the equation, you can do that.

DR. SCHAUFLE: So why don't I start by providing comments.

MS. E. BEST: Sure. Thank you.

DR. SCHAUFLE: And then if I miss anything, you ask me questions?

MS. E. BEST: Sure.

DR. SCHAUFLE: So I don't mean to be trite, but I think it's important to keep in mind that public policy and creating government budgets is hard. It is a challenging endeavour. And so at a high level, when I initially read the governments policy, I thought it was a sensible policy given the public policy objective that they stated. My understanding is that voters had significant rate anxiety.

Regardless of whether that anxiety was well founded or not, this was a public policy objective that was – that was selected and the government put together a plan in an effort to meet that objective. So at a high level, you'll – this is a challenging endeavour and I appreciate what the Department of Finance's done. With regard to specifics, I think that there is some questionable aspects to it and there's some sensible aspects to it.

One of the features that came up from, I think, your recent questions of Ms. Hanrahan is whether we're just deferring the costs. And I think maybe she mischaracterized that a little bit. If I understood correctly that, yes, these costs need to be paid; they either need to be paid today or in the future. That doesn't mean that deferring the cost to the future is a bad public policy decision.

And the reason for that is we're gonna be richer in the future. And this means, you know, if we have economic growth, citizens are wealthier in the future, they are better able to manage cost increases even with interest at that point in time than they are today. And so, this makes sense that the government may pursue a particular rate mitigation strategy today with the idea that at some point, the costs are going to increase at a faster rate.

That doesn't preclude the question of whether 13.5 cents a kilowatt hour is the right rate. You know, the government opted for this but-for scenario, but for Muskrat Falls, this would have been the rate and so this is the rate we're pursuing.

There are costs involved with that: either higher taxes today or higher deficits today which mean higher taxes in the future. This is where things like allocation, such as the Nalcor dividend, come into play and that has to be paid for one way or another.

In terms of some of the other details, the efficiency savings for Nalcor or something along those lines. I know Liberty has been commissioned to look at those. The details are scant at his point, so it's really hard to sort of make clear comments on that. The one area where the Liberty report, I think, really gives significant promise for rate mitigation is on the capital structure – that the agreements with the federal government on the debt term and the sinking funds, those can be engineered to actually offer rate mitigation on behalf of ratepayers in the province if you're willing to prolong the debt involved with Muskrat Falls. You'll match the debt with the asset life, to a greater degree.

The specifics of that, I am not – you know, I'm not able to comment on, but my view is that they way the capital structure is currently designed – I understand that you have to, you know, gave the federal government to open that up – does offer real – a real opportunity to mitigate some of these costs or to extend them over a longer period of time.

Happy to field any specific questions.

MS. E. BEST: Okay. I just have a – just wanna ask a couple of questions about what you just said, which is that you’re assuming that in the future we will be richer. Based on the evidence that we’ve heard this morning, I’m not sure that everyone would agree with you.

What about a scenario where we’re not richer?

DR. SCHAUFLE: So, that would be a very pessimistic scenario. If we look at data across a range of jurisdictions, even jurisdictions with declining and aging populations such as Japan, we tend to observe over a long period of time, economic growth. And so, I think the reasonable estimate is that you will experience economic growth in this province. The question then becomes: What is the rate of real economic growth? Are we talking about a 2 per cent rate or do we have to maybe think about a 1 per cent rate.

These are challenging questions and they’re long-term forecast that really depend upon demographics. And in Newfoundland and Labrador’s situation, really depend upon the resource sector. However, I am comfortable stating that it is likely – if we were to have this conversation in 10 years, residents of this province would be wealthier, in real terms, than they are today.

That – it doesn’t mean that there aren’t gonna be cycles and blips of – you know, periods of good times and bad times but the trend growth rate tends to be up –

MS. E. BEST: Mmm.

DR. SCHAUFLE: – across jurisdictions, across time.

MS. E. BEST: Okay.

Another thing that you said when you spoke about the anxiety that ratepayers had expressed was whether it was well founded or not. What did you mean by that?

DR. SCHAUFLE: So sometimes voters think the costs of things will be higher than they actually are, and I will give another example: carbon tax costs in Canada. This is a hot issue right now at the federal level. If you do surveys

of drivers, they often believe that the increase in gasoline prices attributable to carbon taxes is greater than the actual increase.

I think that – without having a clear understanding of the way Newfoundland and Labrador voters perceive the rate increase associated with Muskrat Falls – may have thought that this would have been more injurious to their budgets than it may actually have been. You know, at 22.9 cents, that is a significant increase. But if there’s some mid-range between 13.5 and 23 cents, that may not have had as big of an effect on their budgets as they may have perceived.

I’ll stop there.

MS. E. BEST: Okay, just –

DR. SCHAUFLE: Mmm.

MS. E. BEST: – one follow-up question, then.

DR. SCHAUFLE: Mmm.

MS. E. BEST: Based on the evidence this morning that to – what is it – mitigate a dollar from taxes as opposed to – or to get a dollar from taxes as opposed to mitigation and whether there’s a cost to get a dollar from tax, right –

DR. SCHAUFLE: Mm-hmm.

MS. E. BEST: – as you mentioned and you – we saw the three different rates for sales tax and income tax and business tax.

But based on that information, I mean, does the 13.5-cent mitigation rate make sense, or will we be better off somewhere in the middle, between 13.5 and 22, 23?

DR. SCHAUFLE: And so I think your latter point there hits the nail on the head, that the dead-weight loss – so the economic cost – from increasing electricity rates probably has a lower overall cost in economic terms to the province than from increasing taxes, except for maybe the sales tax.

But the sales tax has the unfortunate property that it is regressive. An increase in sales tax harms low-income households – similar to an

increase in rates – more than an increase in personal income taxes.

But my hypothesis, without having run the numbers, is that the lowest cost solution in terms of economic cost – not accounting costs – for the province would be to allow rates to creep up a little bit higher than 13.5 per cent. And maybe they do it over a period of years to allow for adjustment. Maybe they don't allow it to reach the full 22.9 cents, but I think that allowing rates to creep up would be a sensible policy proposal.

MS. E. BEST: Thank you.

Those are my questions.

THE COMMISSIONER: Thank you.

Former Provincial Government Officials '03-'15.

MR. T. WILLIAMS: Good afternoon, panel members. My name is Tom Williams. I represent the group known as Former Government Officials from 2003-2015, with the exception of Ms. Best's client, former Premier Dunderdale.

And I only have one question. I think it probably arises from a culmination from everything that's been put forth (inaudible). I'm going to put it to you, Dr. Schaufele, if I could, only because you're the only member – and I don't mean this in any disregard to any other panel members – that's been put forth by the Commission as an expert and you've been accepted by the Commissioner as an expert in energy economics.

In terms of the task that's put before the Commissioner today – and this has been on my mind since we started this morning – in terms of financial impact, it seems like we've – we spent the morning speaking about rate increases, rate mitigation efforts, things of that nature. To look at financial impact, I'm presuming there's negative financial impact and positive financial impact. And I know in one of your remarks this afternoon, and I just caught it, you spoke of separate positive analysis from normative analysis. Now, I can't speak any further to it because I don't know your analogy there, but it seems to me that in order to pass judgment – or I shouldn't say judgment – to pass opinion, if you

were retained – and I know you haven't been retained for this purpose – but if you were retained to give a report on financial impact of Muskrat Falls, would you not have to look at things such as, you know, employment levels, increased employment levels over the last seven years, increased tax revenues, potential export markets, potential growth, potential savings that have been realized?

So when we're looking at financial impact, can we do it in isolation with just looking at what impact it's going to have on rates? I mean, Ms. Best's point in the last five minutes showed that we have government suggesting that we're going to have a \$726-million revenue shortfall, but if we implement Muskrat Falls and shut down Holyrood, that really could be 469.

So I'm trying to get a sense of what would the Commissioner really need to have to be able to say what the financial impact of the Muskrat Falls Project is?

DR. SCHAUFELE: So I'll respond to your question in a number of ways. The first one – the first way I'm going to respond is just by point of clarification. When I say positive and normative, I'm using the term positive in a different sense than we would use it relative to the word negative. Positive is used in sort of the technical sense that if prices increase by X per cent, load will decrease by X per cent. This is a statistical –

MR. T. WILLIAMS: (Inaudible.)

DR. SCHAUFELE: – fact, and we say that that fact is positive. A normative claim would be that this is going to harm low-income households. That's a value judgment. This is very different than using positive in the sense that it's a good thing, or negative in that it being a bad thing.

The second point I would raise is that when we talk about the financial impacts, I think what we really wanna focus on is the economic impacts. Because the economic impacts include the implicit costs in all of these decisions. That by diverting, say, the Nalcor dividend, there's an implicit cost that the deficit is larger. It's not just a \$200 – \$200 million reallocation from one item – line item on a budget to another line item, that there's an implicit cost involved in that.

Beyond this, I think your broader question is: Well, this project is a large scale project. It's gonna have spillover effects for the rest of the economy. We have tended to focus on the impact on rates and the electricity market exclusively. I think your general assessment is accurate, that it will have what economists call general equilibrium or, you know, unintended consequences for other areas of the economy. Those tend to be of much smaller magnitude. We say that they're second order magnitude, relative to the direct effects in the electricity market. And so, it's a form of shorthand to focus on rates and the electricity market, because those tend to swamp the other effects. They tend to be much larger in magnitude and in scope.

This doesn't mean that full analysis shouldn't consider some of these other factors; it just is a much more challenging endeavour, and it tends to be of less importance, you know, in the grand scheme of things. And so by focusing on the things that are more important, we're focusing on the bigger issues. Now, I think that – considering some of these other issues, and when we talk about equity, and we talk about low income households or disadvantaged households or remote regions, you know, this is where those knock-on effects become particularly important. And a full analysis, such as the one commissioned by the PUB from Synapse Energy Econ, could potentially look at some of these other effects.

MR. T. WILLIAMS: So you would need to do that type of full analysis that is being done by the Public Utilities Board, in order to be able to take into consideration these other external factors (inaudible).

DR. SCHAUFLE: It would be a large undertaking to consider all of these other factors.

MR. T. WILLIAMS: And in terms of the rate mitigation plan that has been put forward as described –

DR. SCHAUFLE: Mmm.

MR. T. WILLIAMS: – what is your opinion on the implementation of a plan like that to address the short-term concerns of ratepayers? And when I say short-term I mean, you know, the immediate two- to five-year period.

DR. SCHAUFLE: As I said in the – in response to the previous questions, you know, public policy is hard. This was an objective clearly stated in the last election. I think that the plan, at a high level, is a sensible plan, given the constraints of the current government. We can quibble about details. I think it's – you know, Newfoundland has certain challenges in its provincial budgeting situation: the uncertainty of the price of oil, how they're going to get to this balanced budget in '22, '23 such as they've projected. But if this is seen as the correct public policy objective, it's – it appears to be a sensible plan.

MR. T. WILLIAMS: Okay. And I trust as time goes on – as – and this is pretty basic economics though – as debt is paid off, the profits increase, and at some point in time, you're left with a valuable asset.

DR. SCHAUFLE: Well, so my understanding is that the current financing structure pays off this asset in 50 years. The lifetime of this asset is likely considerably longer than that. So once the fixed costs have been recovered, after 50 years or whatever the ultimate agreement is once negotiation between the federal and provincial government on debt financing is completed, you will have a valuable asset.

MR. T. WILLIAMS: Okay. And as revenues increase, whether it be through – if the revenues increase, I should say, although you seemed optimistic in terms of your forecasting of being better off in the future than we are right now. But we know, in 2041, we should realize significant increases as a result of, you know, the reversion of power back to the province. Again, that would have an immediate impact on the cost of this project, obviously.

DR. SCHAUFLE: 2041 is a long time away. It's difficult to project what will happen that far out. But assuming trend levels remain at, you know, the short-run projections there are now, yes, you could have a significant return in 2041. I think one thing to keep in mind, though, is that if we're considering the effects in 2041 or 2042 in today's terms, we need to discount those benefits back in terms of the appropriate discount rate. And they appear much smaller today than they will to somebody living in 2041 or 2042.

MR. T. WILLIAMS: All right. Thank you.

DR. SCHAUFEELE: Yeah.

MR. T. WILLIAMS: That's all the questions I have, Commissioner.

THE COMMISSIONER: Julia Mullaley, Charles Bown.

MR. FITZGERALD: No questions, Commissioner. Thank you.

THE COMMISSIONER: Robert Thompson.

MR. COFFEY: Thank you, Commissioner.

Panellists, my name is Bernard Coffey. I represent Robert Thompson, who was a former clerk and deputy minister of Natural Resources.

I have a couple of questions. One is to you, Doctor, and you just answered a question referring to the idea that, you know, after, you know, a number of decades, the plant will be paid for and the transmission line would be paid for, and its life, though, is expected to be much longer than that.

Just going to bring to your attention and use a concrete example of this. I understand the Churchill Falls plant was completed in – around 1975, just over 40 years ago – '76, actually. And it was paid off around 2016 – paid for. And the original cost of it was a billion dollars, and the Supreme Court of Canada in its decision in 2018 just noted in passing that it understood it was valued at \$20 billion – the plant.

So would that be an example, for example, of, you know, something that was – it cost – it seemed to cost a lot in the beginning – and a billion dollars in the mid-'70s was a lot of money and –

DR. SCHAUFEELE: So I'm not familiar with the specific details of Churchill –

MR. COFFEY: (Inaudible.)

DR. SCHAUFEELE: – Falls. If your numbers are correct – it cost a billion dollars 40 years ago – the way you would evaluate this investment decision is, okay, what if you invested a billion

dollars in 1976, earned the going rate of return, you know, whatever that is, risk adjusted, what would that be worth today? Is it more or less than \$20 billion if Churchill Falls is currently worth \$20 billion?

MR. COFFEY: Okay, thank you.

DR. SCHAUFEELE: You know, that's how you would evaluate that type of investment.

MR. COFFEY: And in this circumstance, you know, circumstances the Commissioner is looking at, might somebody in 50 years' time be thinking the same thing about this plant? We don't know. No one knows. Just like no one knew in '75, '76 as to what –

DR. SCHAUFEELE: That seems sensible –

MR. COFFEY: Yeah.

DR. SCHAUFEELE: – yes. The caveat being that – yes. It's – that's possible, but that's speculation.

MR. COFFEY: Sure.

DR. SCHAUFEELE: Yeah.

MR. COFFEY: And, Doctor, one final question for you. You referred to a utility death spiral – the idea of it. Do you know of a single incident in – or incident or example in North America where that occurred that you could actually point to?

DR. SCHAUFEELE: So – not off the top of my head. I may defer –

MR. COFFEY: Yes.

DR. SCHAUFEELE: – my colleagues on the panel.

MR. COFFEY: Yes.

DR. SCHAUFEELE: The one situation that you may want to look at is the bankruptcy of PG&E in –

MR. COFFEY: Yes.

DR. SCHAUFLE: – California. I wouldn't necessarily claim that as part of the utility death spiral. But –

MR. COFFEY: No.

DR. SCHAUFLE: – that, you know, is an example where a utility has gone bankrupt. But Mr. Alteen or Mr. Fagan may know of an example.

MR. COFFEY: No, you're not available – you're not aware of one. Okay.

So just – so despite the fact that it's been – the term, as you pointed out, is bandied around or someone did on – one of the panellists. In a – it's – in terms of concrete examples over 50 or 60 years, none spring to mind?

DR. SCHAUFLE: None spring to mind, no.

MR. COFFEY: Okay.

And you do do this for a living – look at this kind of stuff?

DR. SCHAUFLE: To some extent.

MR. COFFEY: Yes.

DR. SCHAUFLE: But I'm not –

MR. COFFEY: Yeah –

DR. SCHAUFLE: – involved in managing regulated utilities.

MR. COFFEY: Okay.

Anyone else have any – just on that, can anyone else give me an example where it has actually happened?

MR. ALTEEN: I think Long Island Lighting –

MR. COFFEY: Pardon me?

MR. ALTEEN: Long Island Lighting.

MR. COFFEY: Okay.

MR. ALTEEN: They got involved in a nuclear plant –

MR. COFFEY: Okay.

MR. ALTEEN: – in the '60s and the '70s, and eventually they were taken over by a government authority.

MR. COFFEY: Okay.

MR. ALTEEN: But I'm not so sure that it went through that laddering up –

MR. COFFEY: That's (inaudible) –

MR. ALTEEN: – of the rates (inaudible) –

MR. COFFEY: I take it that would be a situation where a cost got out of control and someone stepped in and took it over – the state took in and stepped it over – stepped in and took it over.

MR. ALTEEN: I think they went bankrupt.

MR. COFFEY: Yes, bankrupt and took it over – took over the plan – took over the facility to finish it.

Okay. And again, I hope that might assist you, Commissioner, in putting some of this in perspective.

One final question, is this – and I don't know – I direct it to either Mr. Alteen or Mr. Fagan because it arises out of questioning that Ms. Ding asked.

What is your understanding, gentlemen, of whether or not a retailer or an industrial customer can now create its own – new generation facility to supply its needs? Like, behind (inaudible) itself. Or is there now a statutory prohibition on them doing that?

MR. FAGAN: I can comment on –

MR. COFFEY: Sure.

MR. FAGAN: – that one, I think.

Customers can self-generate –

MR. COFFEY: Pardon me?

MR. FAGAN: Customers can self-generate; they just can't sell. Hydro has the authority to sell to any customer on the Island. I mean, even when net metering was approved, it required – I think it's an order-in-council, to permit customers to net meter because they were effectively – if they had excess generation from their –

MR. COFFEY: No –

MR. FAGAN – generation source, they'd have to sell back. But – so from a customer – I think, let's say, Corner Brook Pulp & Paper, for example, they generate on occasion more than what they need from Hydro. So they're – they – I think there's a previous sales agreement which allows that to be transferred to Newfoundland Power, but that's a long-standing agreement with secondary sales.

But generally, customers can install their own generation for meeting their own needs. I don't think there's any legislative impairment to that.

MR. COFFEY: Okay.

And I just – and, you know, I'll stand to be corrected, but I understood Section 14.1, sub (2), (5) – and (5) of the EPCA, 1994 actually prevents retailers and industrial customers from doing so.

But, Mr. Alteen, you must've –

MR. ALTEEN: Our rights –

MR. COFFEY: – your company must've –

MR. ALTEEN: Our rights to self-generate are limited to existing Hydro –

MR. COFFEY: Yeah.

MR. ALTEEN: – facilities, which are legacy facilities, and for the purposes of emergency backups.

MR. COFFEY: Yes.

MR. ALTEEN: We are practically restricted from investing in energy resources.

MR. COFFEY: Yeah.

MR. ALTEEN: (Inaudible.)

MR. COFFEY: And that confirms what I understood to be the case. So you're – the legacy (inaudible) which is before 2012 – anything that existed before 2012.

MR. ALTEEN: That's correct.

MR. COFFEY: And emergency generators which is a different thing, but –

MR. ALTEEN: We are shackled to Hydro for future energy supply.

MR. COFFEY: Yeah. And that was what – because I had understood that that was the case but I wasn't clear based on some of the questions asked this morning.

Thank you, Commissioner.

THE COMMISSIONER: Thank you.

Consumer Advocate.

MR. HOGAN: Good afternoon, everybody.

My name is John Hogan. I'm counsel for the Consumer Advocate.

Dr. Schaufele, I'll start with you.

You and some other members of the panel today talked about elasticity, which I'll just say pretty simply is when people leave the system when the costs go up. Fair to say?

DR. SCHAUFELE: Not necessarily, no.

MR. HOGAN: Okay.

DR. SCHAUFELE: People can take all sorts of actions. They don't need to necessarily leave the system. It's – it could be as simple as turning down your thermostat if you have baseboard heating. It could be turning off you lights. They take any number of actions to reduce the amount of electricity they consume when rates go up.

MR. HOGAN: They adjust their consumption –

DR. SCHAUFELE: They adjust their behaviour –

MR. HOGAN: Okay.

DR. SCHAUFEELE: – in response to rates, yes.

MR. HOGAN: Okay.

So I'm just wondering if you know – if you can provide the Commissioner with how this phenomenon – is that the right word to be – to use?

DR. SCHAUFEELE: The –

MR. HOGAN: Elasticity –

DR. SCHAUFEELE: – for the price elasticity?

MR. HOGAN: Yeah.

DR. SCHAUFEELE: The statistic.

MR. HOGAN: The statistic is used for utility and, for example, Muskrat Falls before sanction is – that the sanction decision is made.

DR. SCHAUFEELE: So I'm unfamiliar with the process of making or – making the decision with respect to the Muskrat Falls sanctioning. I understand that the purpose of the Inquiry is to dig into that.

In general, what you'd want to do is you'd want to look at a forecast for load going out an extended period of time, your demand forecast. A number of things are going to drive that, primarily factors such as economic growth. You would likely need to make some, you know, judgments on what rates would need to be to cover fixed costs and then use a long-run price elasticity to adjust all of the costs and load forecasts.

MR. HOGAN: So would you look at affordability in terms of maximum – what the maximum cost of the project – any project – can be, given that when costs go up, consumers are going to adjust their behaviour and therefore – thereby consume less power.

DR. SCHAUFEELE: I'm not sure I understand the question.

MR. HOGAN: Well, just look at it this way, and you can talk generally, but Muskrat Falls was sanctioned at \$6.2 billion –

DR. SCHAUFEELE: Yeah.

MR. HOGAN: – with about 300,000 ratepayers.

DR. SCHAUFEELE: Mmm.

MR. HOGAN: Elasticity will tell us that if a price goes above \$6.2 billion, that amount of power being used by those ratepayers is going to go down; they're going to adjust their behaviour. So let's just say the – would you run a model to say, look, at \$7 billion this is what the ratepayers will consume, and the cost then divided among those ratepayers is x? At \$8 billion this happens, at \$9 billion – and then do we hit a point where we say we can't afford this anymore?

DR. SCHAUFEELE: So I think you're confounding a number of different elements in there. A price elasticity demand would factor in to some of these decisions, it would not be determinative. Over the time scales you're thinking of, an income elasticity would likely be just as important. Moreover, we've got to think about how rates are structured.

When we're thinking about elasticities of demand and total fixed costs, you can't think about an elasticity of demand and \$6 billion without also thinking about how rates are structured, because there are ways to structure rates that offset some of the price elasticity effects. For instance, you can have fixed charges, which is just a fixed charge on a bill, and that enables you to keep rates low or closer to marginal costs.

And so I don't think it's possible to answer your question in a way that's coherent because there's several steps involved, you know, from getting from where you're at, to the actual statistic you're asking a question about.

MR. HOGAN: It's complicated.

DR. SCHAUFEELE: It's complicated, I guess. Sure.

MR. HOGAN: So – well, all I can say is that is it reasonable then, to – given that Muskrat Falls is going to be a fixed cost –

DR. SCHAUFLE: Mmm.

MR. HOGAN: – is it reasonable to put that full fixed cost on the ratepayer without doing any further analysis like you're talking about, because that is what was done in this case.

DR. SCHAUFLE: So, I think that's sort of the objective here; how do you balance the effects between ratepayers and taxpayers.

MR. HOGAN: After the fact.

DR. SCHAUFLE: After the fact.

MR. HOGAN: I'm talking about the time of sanction.

DR. SCHAUFLE: So at the time of sanction my understanding is that there was an order-in-council that said that ratepayers have to – ratepayers will incur all of these costs. I think in terms of deciding whether to proceed with the project or not you should have done some of this analysis.

What is going to be the effect if, you know, costs – if cost projections balloon, they go from \$6 billion to \$12.7 billion? Okay, if, you know, according to the order-in-council these costs need to be recovered from ratepayers, that's going to have an impact on total, you know, sales of kilowatt hours. Absolutely, that should be part of the analysis. So that's at day one, that's not a forward-looking type of analysis. You know, that's not where we're at today. That's, you know, at the outset of the project.

MR. HOGAN: Mr. Alteen, I'll just switch to you. You're nodding your head so I'm going to – do you agree or do you have any further comment there?

MR. ALTEEN: Robustness in planning a project of this magnitude – robustness around all your assumptions, your load forecast, your capital costs, what the future form of rates would look like – you would expect to be a key part of the screening process of your options – this is before you get to what the effects are – so that

you know what the range of outcomes might be in the 50-year time horizon that you're seeking to recover the costs for.

And I'm not so sure that there was sufficient robustness in the planning of this project because I haven't heard all the evidence. But that is a big issue for the Commissioner to sort out, I would think, right? And elasticity might come in to some of your load forecasts as you're doing a range of load forecasts that project a bunch of different futures. That's how you would normally go about something like this, you'd think, of this magnitude – I think.

MR. HOGAN: And I'll stay on both of you, I guess. In terms of that analysis, does the fact that this is a fixed cost, but the ratepayers of the Island only need 40 per cent of the power that's being generated – I'm not sure if you're aware of that or not – how does that affect the analysis from the start?

I would suggest then – we've heard the term that we've overbuilt, now we have to pay for power and projects that we don't need and the ratepayer has to fund a hundred per cent of a project when they only need 40 per cent. I'm going to ask you both so you can point at each other, but one of you could start.

DR. SCHAUFLE: So I'd give a high-level overview that my understanding – and I can be corrected on this – is that when the project was commissioned, or built or proposed, the expectation was that electricity rates in export markets were higher than they are today and that you would be able to get substantial revenues via the export of electricity. I'm not sure if that's accurate or not, but this is my understanding.

In general, when we think about utility and infrastructure – utility infrastructure – we have this challenge of covering fixed costs that if we set rates at the economically efficient level at the marginal – at marginal-cost pricing, we will not have sufficient revenue. That's true in Muskrat Falls, but that's true in the vast majority of utility – you know, electric utility scenarios.

So, as a result, we need to increase rates above marginal cost. How that plays out in the planning, you know, really depends upon a whole range of assumptions on load, on export,

on construction costs, on rate design. Price elasticity effects, rate effects, fixed costs: these are all part of a parcel. You need to look at the entire parcel when you're doing these types of – planning these types of projects.

MR. HOGAN: Okay.

Mr. Alteen, anything to add?

MR. ALTEEN: The excess capacity at Muskrat Falls, it's difficult to understand why. At the conception it was seen that the Island customers should pay for energy production that they weren't going to use for decades into the future, okay? It's hard to conceptualize the logic that underpins that.

So the reality is when you look at the Muskrat Falls generator, a fifth of the production is to satisfy Nova Scotia's needs – and these are very rough estimates, I understand that – and two-fifths of the production would've satisfied the needs predominantly of the customers Newfoundland Power serves. And this other two-fifths of the production was essentially a merchant power plant. And a merchant power plant is a power plant that has no committed customers. It sells into markets, there are free markets in North America, but it is a completely different animal for the purposes of its risk profile.

So, had this whole project been approached in that way the consequences for my customers would've been substantially less risky and today would've been substantially lower in terms of the cost consequences. But that wasn't the course that was taken. They took another piece of logic in terms of looking at the plant or took another approach to reasoning how it should be paid for, with the logic by which Newfoundland Power's customers paid for power they don't use is a – has to be a questionable, logical proposition no matter how you kind of look at it.

MR. HOGAN: Okay, thank you.

MR. ALTEEN: That's our view of that.

MR. HOGAN: Yeah.

Mr. Fagan, do you have anything to add?

MR. FAGAN: Yeah.

MR. HOGAN: Yeah.

MR. FAGAN: May I just comment? I'm not in defence of the project at all, just be clear – well, I wasn't with Newfoundland Hydro at the time. If I recall there was a price forecast of fuel looking at the unit cost of continuation at Holyrood looking forward. And so they were looking at fuel costs of the Isolated System versus the Muskrat Falls costs. And so it was, I guess, a very optimistic price of fuel at the time. So when they did their analysis, they concluded Muskrat Falls was the least cost.

So with regard to the elasticity effects, where they were weighing two options that were comparable from a price perspective, price elasticity wouldn't have played much of a role in the decision-making. So that was, I think, the logic behind it at the time. So I think then they looked at the export opportunity and they were looking at good markets at the time – I believe, at the time. So they were building these savings in with respect to project justification, so I just wanted to make that point, that's all.

MR. HOGAN: Okay, thank you.

Mr. Browne, do you have anything to add or no?

MR. BROWNE: I'm going to leave it alone.

MR. HOGAN: Okay.

One more question for you, Dr. Schaufele, just on the – you were asked about the positive impacts that this project, or I guess any project such as this could have. If there are positive benefits, which Mr. Williams mentioned things like employment, et cetera, should the ratepayers now have to pay for this project and wait for benefits that may or may not come in the future?

DR. SCHAUFELE: So a couple comments on that. One, I think you're asking me a normative question of which I'm going to –

MR. HOGAN: Yes.

DR. SCHAUFELE: – to punt on. The second feature of that is usually when we do cost-benefit analysis. Jobs are a cost; they are not a

benefit to an economy. I know this sounds unusual from a political or a public opinion perspective, but we want to create more with – fewer inputs. Beyond that, I’m not going to provide a judgment on the normative impacts.

MR. HOGAN: So the cost – there was a cost to create jobs and, in this case, this is a \$12.7-billion cost to create short-term jobs.

DR. SCHAUFLE: So I don’t think that analysis – you’re just –

MR. HOGAN: I’m being extreme.

DR. SCHAUFLE: Yeah.

MR. HOGAN: Yes.

DR. SCHAUFLE: I don’t think you can attribute jobs to this project, in that sense.

MR. HOGAN: Okay.

DR. SCHAUFLE: I think when I – when we talk about jobs in a cost-benefit analysis, if you could’ve built the project with fewer workers, you could’ve built the project at a lower cost. And so when we say that jobs are a cost, we want to build an efficient project at the lowest possible outlay, lowest possible expense. And whether that’s fewer tractors, fewer jobs, you know – whatever – we want to build the project the most efficiently way – the most efficient way possible.

MR. HOGAN: Fewest resources.

DR. SCHAUFLE: Fewest resources, yes.

MR. HOGAN: Thank you very much.

Mr. Alteen, you spoke this morning about concerns you had with reliability, transmission limitations and decommissioning of Holyrood. I wonder if you could briefly elaborate on those three concerns.

MR. ALTEEN: In the – if history has taught us something, it’s taught us that transmission lines fail, and they can fail pretty severely on the Avalon Peninsula. In the last 50 years, there have been four documented, severe failures of transmission on the Avalon Peninsula. And

those are well documented in the reliability investigation that’s underway before the Public Utilities Board.

When the decision – in some of those events the fact that Holyrood was on – close to St. John’s, was a condition that reduced the risk to the customers on the Avalon Peninsula. When Holyrood reached the end of its useful life and the decision was made that we are going to effectively replace it with a generator that’s 1,100 kilometres away electrically, I don’t know if there was sufficient consideration given to the potential for failure of that 1,100-kilometre electrical circuit.

I think what happened with DarkNL when Newfoundland Power was forced to rotate supply to its customers because there was a generation shortage, it opened people’s eyes to the social – the broad social impacts of that type of activity over days and days and days. And the Nalcor plan for failure – in the event of failure of the LIL was that we would endure two weeks, at least, of that. So that’s the nature of the risk that we saw, that we raised in the DarkNL inquiry and has been, in fact, followed up on by the board.

Having said all that, much work has been done since then, and we’re getting to a place where people more fully understand what the consequences of potential failure are, what the risk of potential failure are. And that’s all good engineering, that’s good stuff and that’s what our customers, I think, expect of utilities to do. So we’re getting to a solution on it.

MR. HOGAN: And do you foresee any additional costs to ensure we have reasonable reliability in the system?

MR. ALTEEN: There may well be additional costs, as I said this morning, but I don’t think we’re in a position, nor do I think that Nalcor or Hydro are in a position, where we want to speculate on that. There may be some transmission strengthening that has to be done. It may involve some backup generation; it may involve a little bit of a combination of the two. But we’ll get to a solution, but first let’s do the engineering before we start running away trying to figure out what the costs are. That’s at least Newfoundland Power’s perspective on this.

MR. HOGAN: Okay.

The suggested rate or the decided rate of government of 13.5 cents, did your client – or did Newfoundland Power have any discussions with government about that rate and coming to that rate?

MR. ALTEEN: No, we did not.

MR. HOGAN: Will Newfoundland Power adhere to that 13.5 cents, or will it make future rate applications for an increase?

MR. ALTEEN: I don't know enough about the circumstances associated with that to make any commitment on behalf of Newfoundland Power, what it will do in the future.

MR. HOGAN: Okay. Thank you.

Ms. Hanrahan, just a couple of quick questions for you.

We can turn to your report, which is at P-04456, page 1. And in there you said rates tend to go up. Now, scroll down a little bit. "Rates naturally tend to go up over time" Now, Mr. Browne presented a chart this morning that showed that that's not really the case. They've been fairly stable from – I think it was 2006 to 2016.

So you just seem to have a different opinion than Mr. Browne on the stability of rates. So I'm wondering where you got the information that rates do tend to go up over time.

MS. HANRAHAN: I never saw Mr. Browne's presentation –

UNIDENTIFIED MALE SPEAKER: Perhaps –

MS. HANRAHAN: – before this morning –

MR. HOGAN: Yeah, we can bring that up.

MS. HANRAHAN: Oh, no. I recall it.

MR. HOGAN: Okay, yeah.

MS. HANRAHAN: I guess the comment is more in relation to inflation.

MR. HOGAN: But does that – do you want to bring up Mr. Browne's numbers to look at them?

MS. HANRAHAN: Well, I – you can, yeah.

MR. HOGAN: Okay.

So his presentation is at P-04463, and I think the rates are at page 4.

THE COMMISSIONER: So that's at tab 27.

MR. HOGAN: So we have eight, eight, nine, eight, nine, 10, 11, 10, 11, it goes down 10, nine, up to – into 2016. So, I mean, do you have any information about how you came to the conclusion or why you put it in your report this morning that these rates tend to go up to inflation? Because that doesn't seem to be what it's doing when I look at it.

MS. HANRAHAN: So I wouldn't have knowledge of what was actually included in those rates or what was included from an operational perspective or a rate-setting perspective. So my comment wasn't necessarily from that perspective, it was more of a general comment that generally from an expense perspective or a cost perspective, inflation generally tends to grow from a pressure perspective. And that's really all the comment meant.

MR. HOGAN: So is this information that you came to be aware of in your role in the Department of Finance? Was it something that was always known? Because we heard it as a reason that we needed the project because rates were going to go up anyways. And this seems to tell me something different.

MS. HANRAHAN: So –

MR. HOGAN: Which is why I'm asking why you, from the Department of Finance, are saying that rates were going to go up.

MS. HANRAHAN: So, no, we would normally, you know, as part of – be it our economic forecast, our expenditure forecast expect inflationary pressures. They're not across the board at 2¼ or any rate. Pharmaceuticals, from an inflationary perspective, may rise

significantly and other things may actually see price decreases, various reasons why.

So it's not something from a – you know, from that perspective. It's just that our understanding of rates from a plan perspective, that the expectation was that there would be increase.

MR. HOGAN: It's more a broader question that inflation affects prices. Is that fair to say?

MS. HANRAHAN: Yeah.

MR. HOGAN: Okay.

That's all the questions I have, everybody. Thank you.

THE COMMISSIONER: Thank you.

Is the Innu Nation present? No.

Nunatsiavut Government is not present.

NunatuKavut Community Council?

MR. RYAN: Good afternoon. My name is Victor Ryan. I'm counsel for NunatuKavut Community Council.

I just have one question and it's to you, Mr. Fagan. And it's with respect to Exhibit 04455, Madam Clerk.

THE COMMISSIONER: That's at tab 21.

MR. RYAN: Thank you.

And specifically page 12.

And so you may or may not be aware, but a number of NunatuKavut communities are diesel powered.

MR. FAGAN: Yes.

MR. RYAN: And so I just had a question about sort of the interplay between isolated diesel communities and the Interconnected systems. So am I right in saying that a community like Black Tickle, which is on diesel, is neither part of the L'Anse au Loup system or the Labrador system, but is sort of considered its own separate, isolated system?

MR. FAGAN: Yes, that's correct.

MR. RYAN: Okay.

And so the third bullet point here when it says: "When rates to Newfoundland Power's customers change, rates to isolated diesel system customers change by the same percent." The way that I read that is that if there is an increase in the rates as a result of the Muskrat Falls Project, there will be a similar rate increase to users of the isolated diesel system. Is that correct?

MR. FAGAN: That's correct. I'd just like to expand on it a little bit.

MR. RYAN: Sure.

MR. FAGAN: As simple as that sounds, it's a little bit more complicated.

But yes, in general practice, as rates to Newfoundland Power's customers change, the same percentage applies. So the first block rate – the lifeline rate – matches Newfoundland Power's rate and the average increase overall applies to the remaining blocks.

The coastal Labrador communities also receive a Northern Strategic Plan rebate, which permits their lifeline block to get a rebate back, which allows their lifeline block to be priced at the same rate as the Labrador Interconnected system.

So – but they actually pay – it's closer to 3 cents for, I'll say, the first life – for the lifeline block, because they get a credit against the difference between the Newfoundland Power rate and the Labrador rate.

The – so the percentage change doesn't exactly end up being the same because what's going on with the Labrador rates also influences. With respect to the published rates of Hydro, that's correct. So depending on rate mitigation decisions of the government, if the 13.5 cents holds, then the customers in Labrador won't be impacted materially; however, if there's no mitigation, they will have large increases as well.

MR. RYAN: And when you say customers in Labrador –

MR. FAGAN: Well, I meant on the diesel systems.

MR. RYAN: Right, on the diesel system, okay.

MR. FAGAN: Yeah.

MR. RYAN: Who administers – sorry, the program –

MR. FAGAN: The Northern Strategic Plan?

MR. RYAN: Yes.

MR. FAGAN: Well, I think it was announced maybe in 2009 by the government. Hydro provides the credit on customers' bills and government finances it.

MR. RYAN: Okay.

Would it be part of any sort of rate mitigation, suite of, you know, actions to increase that program to offset any potential increases for diesel communities of rate increases due to Muskrat Falls Project?

MR. FAGAN: I don't think intentionally but, effectively, as long as the Northern Strategic Plan remains in place, if the Newfoundland Power's rate goes up, say, 30 per cent, for example, as long as that rebate is in place, the difference between that higher rate for Newfoundland Power and the Labrador rate would still be provided as a credit to the customers on the coast of Labrador – the residential customers alone, okay?

MR. RYAN: Right.

MR. FAGAN: Not general service customers.

MR. RYAN: Which would then keep the customers in Labrador on diesel more in line with the Labrador Interconnected system.

MR. FAGAN: That's correct. However, the rate above the lifeline block would go up consistent with the percentage increases applied to Newfoundland Power's customers, and the commercial customers and government diesel

customers' rates would also go up consistent with the Newfoundland Power rate increases.

MR. RYAN: Okay, thank you. Those are my questions.

THE COMMISSIONER: Thank you.

Former Nalcor Board Members, I don't believe are present.

Newfoundland light and power.

MR. KELLY: No questions, Mr. Commissioner.

THE COMMISSIONER: Counsel for NAPE.

No questions? All right, any redirect?

All right thank you. So, I just want to say a couple of things before I dismiss the panel this afternoon, and I think I'm going to say it a little differently than what I had planned because of the manner in which the questions were put to you all today. My focus for this particular panel was really to look at the potential impact of the cost of electricity increasing in the province and what that would mean for customers of electricity, either from Newfoundland light and power or, alternatively, from Newfoundland Hydro.

This Commission has – and Mr. Earle actually pointed to this earlier in his testimony about the fact that, you know, we've been talking for months now about billions of dollars and \$300 million here, a hundred million there, as if it's like a dollar and change. And I think it's important for us who are sitting here and, as well, for the public who may well be watching, to be able to look at this in a little different light in the sense of what it actually means to the individual who's living in a home with a family who's trying to provide for their family. And that was one of the reasons why I wanted to deal with this.

I have already had a discussion with government related to the issue of what involvement this Commission would have in the rate mitigation area, and determined that because of the reference question to the PUB, there was really no need for duplication here at the Commission.

I have a pretty long list of things to look at and my plan is to look at those as much as is possible and try to avoid other things that I don't need to look at.

So in that sense, you know, some of the evidence here today, I think, was related to whether it was a good mitigation plan or a poor mitigation plan, if it was there \$700 million or \$500 million, whatever the scenario is, I'm really not all that concerned about any of that. I'm really concerned more about looking at the actual Terms of Reference and answering the questions that are put to me.

Having said that, I do want to thank each and every one of you for taking the time and the effort to not only prepare to come here, but also to deliver very well your points. I particularly want to thank the non-professional witnesses who are here, Ms. Michael and Ms. Hancock, for coming. I really do appreciate your involvement in this. And, hopefully, as a result of today's experience, we've all learned something that we can take away from this particular Inquiry.

So, again, thank you so much. Tomorrow we're going to be proceeding with a witness from – again, another expert witness. The focus of his testimony really is going to be looking forward to 2041. Although his report is very much dealing with the issue of the CPW calculation, it's not really what I wanted for this particular witness in Phase 3. But the report is prepared and I think it does provide some helpful information so we will be going back to some Phase 1 issues tomorrow with regards to him. But again, I've asked Commission counsel to focus on looking forward to 2041 for him.

And as we go forward, again, it would be a more of a forward-looking type process because this is where – Phase 3 for me is where I'm looking at making some recommendations related to the future and dealings with projects of this particular nature and type and the types of things that we need to do to make sure we do it right.

So having said that, again, thank you very much. It's been a long day and, as I said, I really do appreciate your time and your effort. So we're adjourned 'til tomorrow morning at 9:30.

CLERK: All rise.

This Commission of Inquiry is concluded for the day.