Q. Further to PUB-Nalcor-203, LIL forecast for dividends, please provide the "delta impact" on revenue requirements and on dividends for the 2019-2039 forecasts for LIL, assuming that its availability is delayed by 12 months, and an additional $500 Million in CAPEX is spent, pre-commissioning. Please also give an explanation of how this change specifically impacts the calculation of revenue requirements and dividends for MFLTA and LIL.

A. The information and "delta impact" provided in this response is based on Nalcor's January 2019 forecast, as aligned to the information provided in Nalcor's response to PUB-Nalcor-203. At the time of this request, no analysis had been completed to analyse the impact of a delay beyond the currently established commissioning date of September 2020. The deadline to complete this response does not provide the necessary time to complete such analysis. As such, based on discussion with the Board, the assumption used for this response is that there is an additional $500 Million in CAPEX spend during the pre-commissioning period, with <u>no</u> change in the commissioning date.

Refer to PUB-Nalcor-260, Attachment 1 for the "delta impact" on revenue requirements and dividends for the 2020 to 2039 LIL forecast with an additional $500 Million in CAPEX being spent in the pre-commissioning period.

Based on current interpretations of the agreements provided in Nalcor's responses to PUB-Nalcor-016 to PUB-Nalcor-019, the additional CAPEX during the pre-commissioning period will impact the revenue requirements and dividends predominantly in three areas:

a) The increased capital will result in an increase in the annual commercial depreciation, assuming that the full cost is able to be added to the asset with no write-down of the existing capital cost being required; and,
b) The funding of the additional CAPEX assumes that the cost is entirely funded by Equity. This will increase the equity account and will result in an increase in both the return on equity (ROE) and the required repayment of the equity over the term of the LIL Lease.
c) The estimated Emera tax liability will begin to impact revenue requirement earlier due to the net impact of the additional CAPEX funding noted in (b) above on estimated taxable income requiring available Capital Cost Allowance (CCA) to be used up sooner.

Commercial Depreciation Impact

The "Annual Depreciation on the LIL" (Depreciation) is considered part of the "Rent" component, both of which are defined in the definitions section of the Transmission Funding Agreement (TFA) and the LIL Lease (Lease). The "Rent" is included in the "TFA Payment" as defined in section 3.2 of the TFA which is considered part of the LIL revenue requirement. Any change in the CAPEX during the pre-commissioning period will have a direct impact on the Depreciation over the service life, which directly impacts the LIL revenue requirement in any given year.

The Depreciation component of the TFA Payment is required to fund the existing debt servicing and return of equity over the project life. In the case of additional CAPEX that is assumed to be fully funded by equity, as is the assumption for this response, the additional Depreciation recognized will be available for dividends. It is important to note that a funding structure different than the one assumed above would result in a different dividend impact, as the utilization of any debt funding would require a portion of the additional revenue be allocated to debt servicing rather than dividends.

Funding Impact

Refer to the "Return on Equity (ROE)" paragraph on Page 8 of the *Access to Information and Protection of Privacy Act* (ATIPPA) responses PB-144-2018 and PB-147-2018 (PUB-Nalcor-260, Attachment 2), for a detailed explanation of the LIL ROE calculation. By assuming that the additional CAPEX is being funded by 100% equity, the additional ROE as a result of the contributed equity would be included in the LIL revenue requirement and would be available for payment as dividends.

Estimated Emera Tax Liability

The net increase in Emera's estimated annual taxable income as a result of the net ROE and dividends impact over the forecast period will advance the use of the CCA available for reducing Emera's estimated tax liability. As a result, the CCA balance will be fully depleted earlier creating an estimated Emera tax liability in earlier years than estimated in the base case. This "Tax Adjustment Amount" as defined in the LIL Limited Partnership Agreement will be then recognized as an additional amount to be recovered through "Rent" as defined above. The "Tax Adjustment Amount" will be a direct flow through payment to Emera so there will be no impact on dividends.

Refer to PUB-Nalcor-260, Attachment 1 for the impact on revenue requirement and dividends as a result of the change in depreciation, ROE and Emera tax liability due to the additional $500 Million of CAPEX.

This scenario would have no impact on the MFLTA revenue requirement or dividends.

LIL Revenue Requirement and Dividends Impact
Based on the Nalcor January 2019 Forecast

In Response to:	$ Millions	Total	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
	Revenue Requirement																					
PUB-Nalcor-203 (a)	Return on Equity	2,108	42	125	123	122	120	118	117	115	113	111	110	108	107	105	102	99	97	94	92	89
PUB-Nalcor-203 (b)	Interest Earned	(229)	(1)	(5)	(7)	(8)	(10)	(12)	(14)	(16)	(17)	(19)	(21)	(22)	(24)	(12)	(4)	(5)	(6)	(7)	(8)	(9)
PUB-Nalcor-203 (c)	Coupon Payments	2,129	41	124	124	123	123	122	122	121	121	120	120	119	118	102	90	89	88	88	87	86
PUB-Nalcor-203 (d)	Depreciation	1,874	32	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97	97
PUB-Nalcor-203 (e)	Operating Costs	933	12	39	40	40	41	43	44	45	46	47	48	49	50	52	53	54	56	57	58	60
PUB-Nalcor-203 (f)	Sustaining Capital	41	-	-	-	-	-	-	-	-	-	3	-	-	-	1	1	1	1	-	7	26
PUB-Nalcor-203 (g)	Taxes	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
	Revenue Requirement	**6,858**	**127**	**380**	**377**	**374**	**371**	**368**	**365**	**362**	**360**	**359**	**354**	**351**	**348**	**344**	**339**	**335**	**333**	**328**	**333**	**351**
Revenue Requirement Impacts																						
	Return on Equity	679	14	43	42	41	40	39	38	38	37	36	35	34	33	32	32	31	30	29	28	27
	Interest Earned	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
	Coupon Payments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Depreciation	202	3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	Operating Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sustaining Capital	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Taxes	81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	21	22	21
	Adjusted Revenue Requirement	**7,819**	145	433	429	425	422	417	414	410	407	406	399	395	392	387	381	376	390	389	394	409
Dividend Impacts																						
	Dividends as per PUB-Nalcor-203	**2,540**	**17**	**145**	**144**	**142**	**141**	**139**	**137**	**135**	**134**	**132**	**130**	**129**	**127**	**129**	**148**	**127**	**125**	**122**	**120**	**118**
	$500 Million Additional Capex	878	13	53	52	52	51	50	49	48	47	46	45	45	44	43	42	41	40	39	39	38
	Adjusted Dividends	**3,418**	**30**	**198**	**196**	**194**	**192**	**189**	**186**	**183**	**181**	**178**	**176**	**173**	**171**	**172**	**190**	**168**	**165**	**162**	**159**	**155**

Assumptions:
$500 Million in Capex is incurred evenly over the period of September 1, 2019 to August 31, 2020.
Equity contributions related to additional costs are spread evenly over the period of August 2019 to July 2020.
Contributions to the COREA account occur in December 2019.
COREA contributions will include incremental cashflows related to Capex.
No change to the commercial operation date of September 1, 2020.
No change to the pre-commissioning operating expenses.
No change to the operating and maintenance expenses during the commissioning period.

nalcor energy

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March 19, 2018

Attention: [redacted]

Dear [redacted]

Re: Your request for access to information under Part II of the *Access to Information and Protection of Privacy Act, 2015* (File #: PB/144/2018, andPB/147/2018)

On February 19, 2018, Nalcor Energy received your request for access to the following records/information:

PB/144/2018

Please provide a copy of the source data and mathematical calculation(s) used to produce each dollar amount shown in the spreadsheet labeled: "Table 4: Nalcor Energy's Projection of Revenue Requirement – Labrador-Island Link, Muskrat Falls, Muskrat Falls-Churchill Falls Transmission Link" in Nalcor Energy's response to ATIPPA file # PB/651/2017.

PB/147/2018

Please provide a copy of the source data and mathematical calculation(s) used to produce each dollar amount shown in the spreadsheet portion of Nalcor Energy's response to ATIPPA file # PB/555/2017.

Further to our discussion with respect to the difficulty inherent in providing this information, you narrowed your request to formulas/calculations to the first "layer" of the model. We have created the attached document to attempt to provide the requested insight into what the amounts are and how they were derived but isolating the specific formulas/calculations involved within the model can be a very large, and extremely difficult, process. The dollar amounts that are included in the tables in PB/555/2017 and PB/651/2017 are the output of several large, complex and integrated series' of models. The required inputs are compiled/computed from different sources, and, in some cases, are the result/output of other complex models.

Consider the spreadsheet in PB/555/2017 as an example:

The spreadsheet is quite simple in that it shows by year the dividends produced by each of the lines of business all added together to produce a total.

But a deeper look into how this output file is produced is required to highlight the complexity. This output was derived from multiple models, using many linked files where input data is pulled into the models from other files, and also from other complex models from other Lines of

Business (LOB). While the complexity will vary depending on the specific line item and LOB involved, some of the more complicated models are extremely large with well over a million formulas in each. While not all formulas may be relevant to the specifically requested output in the PB/555/2017 spreadsheet, one would have to spend a great deal of time searching through the model logic and the linked files to determine which ones impact the information either directly or indirectly.

These models are dynamic and involve multiple iterations to solve. In essence the models have to recalculate themselves over and over narrowing in on the correct solution before it is balanced. For one of these models it is not unrealistic for the model to run hundreds of iterations. In actual fact, while it is excel, these models are more akin to specific designed pieces of software rather than what one would typically consider being a spreadsheet.

All of the same considerations apply to the source data and calculations used to create Table 4 in PB/651/2017. For these reasons, producing the source data and calculations used to arrive at the dollar amounts in PB/555/25017 and in Table 4 of PB/651/2017 is therefore not something that can be reproduced without unreasonable interference with Nalcor's operations. As mentioned above, the attached document was created in an effort to explain what the amounts are and how they were derived.

Please be advised that you may appeal this decision and ask the Information and Privacy Commissioner to review the decision to deny access to the requested information, as set out in section 42 of the Act (a copy of this section of the Act has been enclosed for your reference). A request to the Commissioner must be made in writing within 15 business days of the date of this letter or within a longer period that may be allowed by the Commissioner. Your appeal should identify your concerns with the request and why you are submitting the appeal.

The appeal may be addressed to the Information and Privacy Commissioner is as follows:

Office of the Information and Privacy Commissioner
2 Canada Drive
P. O. Box 13004, Stn. A
St. John's, NL. A1B 3V8

Telephone: (709) 729-6309
Toll-Free: 1-877-729-6309
Facsimile: (709) 729-6500

You may also appeal directly to the Supreme Court Trial Division within 15 business days after you receive the decision of the public body, pursuant to section 52 of the Act (a copy of this section of the Act has been enclosed for your reference).

This letter will be published following a 72 hour period after it is sent electronically to you or five business days in the case where the letter has been mailed to you. It is the goal to have the responsive records posted to Nalcor Energy's website within one business day following the applicable period of time.

If you have any further questions, please feel free to contact the undersigned by telephone at (709) 737-1284 or by e-mail at suzannehollett@nalcorenergy.com.

Sincerely,

Suzanne Hollett

Suzanne Hollett
Access and Privacy Officer

Access or correction complaint

42.(1) A person who makes a request under this Act for access to a record or for correction of personal information may file a complaint with the commissioner respecting a decision, act or failure to act of the head of the public body that relates to the request.

(2) A complaint under subsection (1) shall be filed in writing not later than 15 business days

(a) after the applicant is notified of the decision of the head of the public body, or the date of the act or failure to act; or

(b) after the date the head of the public body is considered to have refused the request under subsection 16(2).

(3) A third party informed under section 19 of a decision of the head of a public body to grant access to a record or part of a record in response to a request may file a complaint with the commissioner respecting that decision.

(4) A complaint under subsection (3) shall be filed in writing not later than 15 business days after the third party is informed of the decision of the head of the public body.

(5) The commissioner may allow a longer time period for the filing of a complaint under this section.

(6) A person or third party who has appealed directly to the Trial Division under subsection 52(1) or 53(1) shall not file a complaint with the commissioner.

(7) The commissioner shall refuse to investigate a complaint where an appeal has been commenced in the Trial Division.

(8) A complaint shall not be filed under this section with respect to

(a) a request that is disregarded under section 21;

(b) a decision respecting an extension of time under section 23;

(c) a variation of a procedure under section 24; or

(d) an estimate of costs or a decision not to waive a cost under section 26.

(9) The commissioner shall provide a copy of the complaint to the head of the public body concerned.

Direct appeal to Trial Division by an applicant

52.(1) Where an applicant has made a request to a public body for access to a record or correction of personal information and has not filed a complaint with the commissioner under section 42, the applicant may appeal the decision, act or failure to act of the head of the public body that relates to the request directly to the Trial Division.

(2) An appeal shall be commenced under subsection (1) not later than 15 business days

(a) after the applicant is notified of the decision of the head of the public body, or the date of the act or failure to act; or

(b) after the date the head of the public body is considered to have refused the request under subsection 16(2).

(3) Where an applicant has filed a complaint with the commissioner under section 42 and the commissioner has refused to investigate the complaint, the applicant may commence an appeal in the Trial Division of the decision, act or failure to act of the head of the public body that relates to the request for access to a record or for correction of personal information.

(4) An appeal shall be commenced under subsection (3) not later than 15 business days after the applicant is notified of the commissioner's refusal under subsection 45(2).

<u>Explanation of Output in Tables Provided in PB/555/2017 and PB/651/2017</u>

With respect to dollar amounts found in the spreadsheet in PB/555/2017, how these amounts have been calculated can be explained by the following:

- The "LCP Equity Required from the Province NL" are contributions provided, and forecasted to be provided, by Nalcor/Province, as a shareholder, in order to fund the equity portion of the construction, financing, and pre-operating costs & obligations out to full commissioning of the LCP project (currently forecasted to be September 2020). The total project is funded with the Equity Contributions from the Province, Equity contributions from Emera (LIL only) and the Federal guaranteed debt of $7.9B. The timing, and form, of the funding requirements (Debt and/or Equity) for the project costs are determined for any given period based on the terms and conditions of the MF/LTA and LIL Project Financing Agreements, the MF, LTA, and LIL Equity Support Agreements and the project construction cashflow schedules provided by the LCP Project team. The "LCP Equity Required from Province NL" table provided in PB/555/2017 is the resulting Nalcor Equity Requirement computed through the complex LCP financial models, as referenced below, based on the accumulation of the various components noted above.

- The LCP components of the "Dividends to the Province NL" table is the Return on, and Return of, the Nalcor/Province Equity in the LCP over the term of the Power Purchase Agreement (PPA) and the Transmission Funding Agreement(TFA)with NL Hydro (NLH) once the LCP has been commissioned and is in-service. The timing and amounts of the dividends are the result of Funds from Operations in a given year, adjusted for non-operating cash requirements as per the various obligations and financing agreements. Most of the information generated within the LCP models that relate to the post-commissioning period are directly impacted by the calculated results of activities during the pre-commissioning period. Because of this dependence on those results, the full model, from sanctioning to 2070, must be run for every update/change in any, and all, information.

  The MF Exports Dividends presented in the "Dividends to the Province NL" table are the Funds from Operations of Nalcor Energy Marketing Corporation (NEM), a Nalcor subsidiary, that are attributed to the Muskrat Falls Corporation (MF) from NEM export sales, based on MF's entitled energy as a percentage of total energy exported/sold by NEM to outside markets in a given period. Under the current commercial arrangements, MF is entitled to all energy generated at Muskrat Falls after obligations to Newfoundland & Labrador Hydro (NLH) and Emera NL (Emera). The computation of these amounts are the result of NEM's financial models that track the quantity of Nalcor entitled energy available to be exported and various other inputs from internal (Nalcor), and external sources, both of which are commercially sensitive.

With respect to the dollar amounts found in Table 4 in PB/651/2017, it is important to note again, that most of the information generated within the LCP models that relate to the post-commissioning period are directly impacted by the calculated results of activities during the pre-commissioning period. Because of this dependence on those results, the full models, from sanctioning to 2070, must be run for every update/change in any, and all, information. How the amounts specific to Table 4 in PB/651/2017 have been calculated can be explained by the following:

- Return on Equity(ROE)
    - The LIL Return on Equity is a computation of the earnings on the Class A(Nalcor) and Class B(Emera) capital accounts of the LIL Limited Partnership (LIL LP), as defined by the LIL Limited Partnership Agreement, over the term of the Transmission Funding Agreement (TFA) and LIL Lease (Lease).
        - The forecasted annual rate of return on the capital accounts is 8.5%, based on the currently approved NL private utility rate per the Public Utilities Board.
        - The balances of the capital accounts at the start of the TFA/Lease are the result of Equity contributions from the partners (based on the funding requirements as per the LIL Project Financing Agreement, and the LIL Equity Support Agreements), and the recognized ROE on those contributions, accrued over the construction period of the project (ie. LIL AFUDC).
        - Over the term of the TFA/Lease, the balances of the individual capital accounts at any given period are increased by the ROE earned on the capital accounts during that period, less dividends paid out to the partners within that period.

    - The MF and LTA ROE is the annual net income calculated from the forecasted revenues and expenses, as defined in the PPA and the Generator Interconnection Agreement (GIA), over the terms of the agreements.
        - The revenues are determined by multiplying the Supply Price by the forecasted energy entitled to NLH for each year.
            - The Supply Price is calculated through a large number of automated iterations of the MF/LTA financial model in order to achieve a supply price at commissioning that, when escalated at 2% per year thereafter, out to the end of the PPA, will result in providing an Internal Rate of Return(IRR) of 8.4% over the term of the PPA.
            - The forecasted expenses are calculated based on the various components as noted below.

- O&M

    This component of the forecasted Revenue Requirement is composed of the administrative, operating, and maintenance costs, and the allowance for estimated sustaining capital and Emera tax assumptions (LIL only) over the term of the PPA, GIA and TFA/Lease.

- The administrative and O&M costs as presented are calculated based on an annual estimate over a full year of operations, in 2017$, as provided by the LCP project team, and escalated at approximately 2.5% per year.
- The sustaining capital costs are based on projections provided by the LCP project team and the assumption that sustaining capital activities will ramp up in 2039 with an estimated annual escalation of 2% thereafter out to the end of the PPA and TFA.
- The estimate for Emera tax liabilities are calculated based on Emera's percentage ownership of the LIL LP estimated annual taxable income in a given year, less estimated available annual Capital cost allowances(CCA), multiplied by the estimated corporate tax rate of 31%. Based on this calculation, there is no tax liability forecasted until 2038.

- Depreciation

  Estimated annual depreciation for MF, LTA and LIL over the term of the PPA and TFA/Lease are calculated based on the Undepreciated capital asset as at first commercial power (September 2020) divided by the service life of the asset.

  - The undepreciated capital asset is the accumulated construction, financing, and pre-operating costs incurred during the pre-commissioning period that are able to be capitalized for the project. These projected costs are compiled/computed within the LCP models, and any ROE during the pre-commissioning period(specific to LIL) and capitalized financing related inclusions are calculated based on interpretation of the Equity and Financing Agreements and forecasted interest rates.
  - The average service life of the project assets has been estimated at 50 years.

- Interest

  Estimated annual Interest for MF, LTA and LIL over the term of the PPA and TFA/Lease are calculated within the LCP models based on the outstanding debt balances in a given period multiplied by the ascribed interest rate, plus related guarantee and financing fees, less interest earned on balances in the debt servicing & liquidity reserve accounts and proceeds accounts as defined by the financing agreements. The outstanding debt is a combination of the Federal Government guaranteed debt issuances completed in 2013 and 2017. They are made up of 77 tranches in LIL and 67 tranches in MF/LTA with varying maturity dates as defined in the financing agreements.

- Water Power Rentals (Applies to MF only)

  Based on the terms of a Water Power lease with the Government of Newfoundland and Labrador, MF is required to pay a water power royalty of $2.50 per MWh generated, in 2009$ escalating at the consumer price index (CPI). The estimated total annual generation of the Muskrat falls generating station, when completed, is 4.9TWh per year.

- Innu (Applies to MF only)

  MF is forecasting to make annual payments to the Innu Nation as per the terms of the Lower Churchill Innu Impacts and Benefits Agreement (IBA). The annual amounts presented in Table 4 of PB/651/2017 are calculated based on those terms which can be summarized as the greater of 5% of the annual after debt net cashflows of MF (as defined in the IBA), and a minimum of $5M (2012$), escalated to a maximum of 10 years, at CPI.