Nova Scotia POWER
An Emera Company

PO Box 910 ● Halifax, Nova Scotia ● Canada ● B3J 2W5

July 22, 2019

Doreen Friis
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
P.O. Box 1692, Unit "M"
Halifax, NS B3J 3S3

Dear Ms. Friis:

Re: P-887 FAM19 - Fuel Adjustment Mechanism (FAM) Monthly Report – June 2019

Please find enclosed Nova Scotia Power's FAM Monthly report for June 2019. The confidential versions of the report and the FAM Calculation Model have been uploaded to the Board's confidential website.

The 2019 Base Cost of Fuel was ordered to be between $671.1 million and $731.8 million, with the higher amount recognizing the election of the Consumer Advocate and Small Business Advocate to assign a January 1, 2020 start date to the delivery of Maritime Link Nova Scotia Block energy. Table 1a and Report M2 use a 2019 BCF of $731.8 million ("FAM Budget"). AA and BA information in Report M2 is compared against the amounts presented in the AA/BA filing on January 21, 2019.

High level adjustments were made to the 2019 BCF Refresh Budget filed May 27, 2016, to arrive at the $671.1 million and $731.8 million BCF figures, meaning detailed fuel cost information is not available for comparison. As a result, all fuel cost variance analysis is based on the 2019 BCF Refresh Budget of $653.7 million ("BCF Refresh Budget"). This includes Figure 1 and 2, Table 1b, Table 2, Table 3, as well as reports M1, M6, and M7.

Report M3 includes NS Power's updated expectations of future month FAM Balances as per NS Power's internal 2019 Q1 Forecast completed in February 2019.

June 2019 Results

As shown in Figure 1 and Figure 2 below, in June 2019 there was no generation from Maritime Link NS Block and decreased generation from imports, COMFIT, and solid fuel, offset by increased generation from natural gas, NSPI Wind & Hydro, and biomass. There was an overall decrease in generation compared to budget due to lower load.

Figure 1

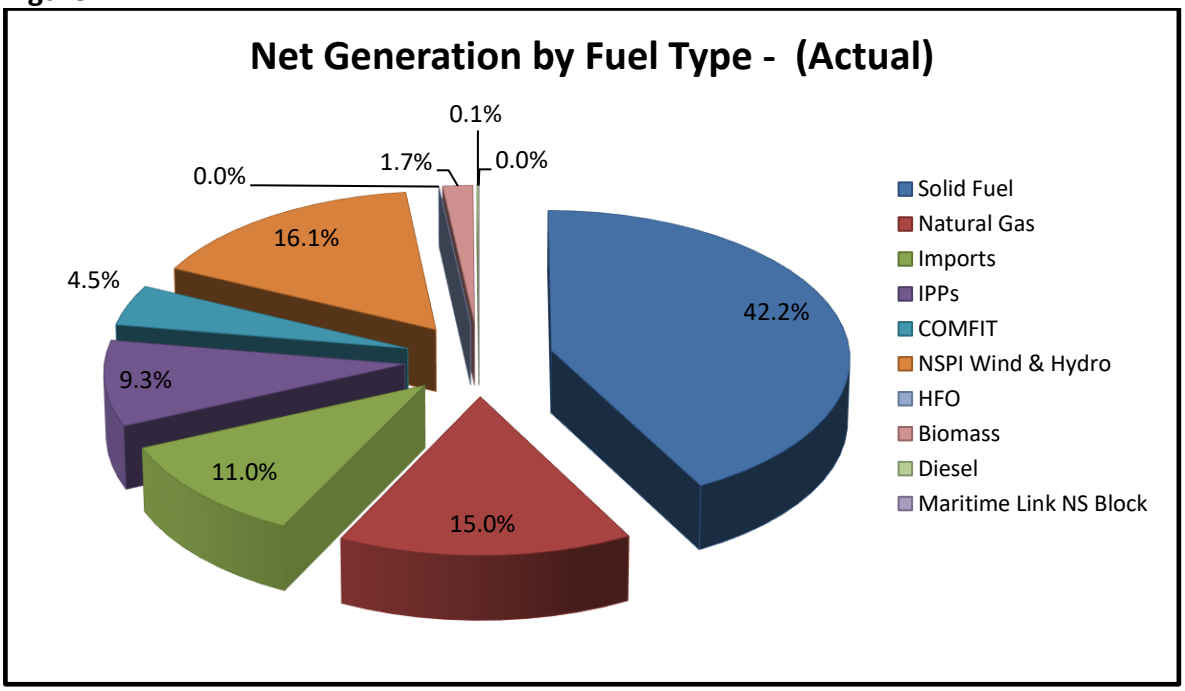


Figure 2

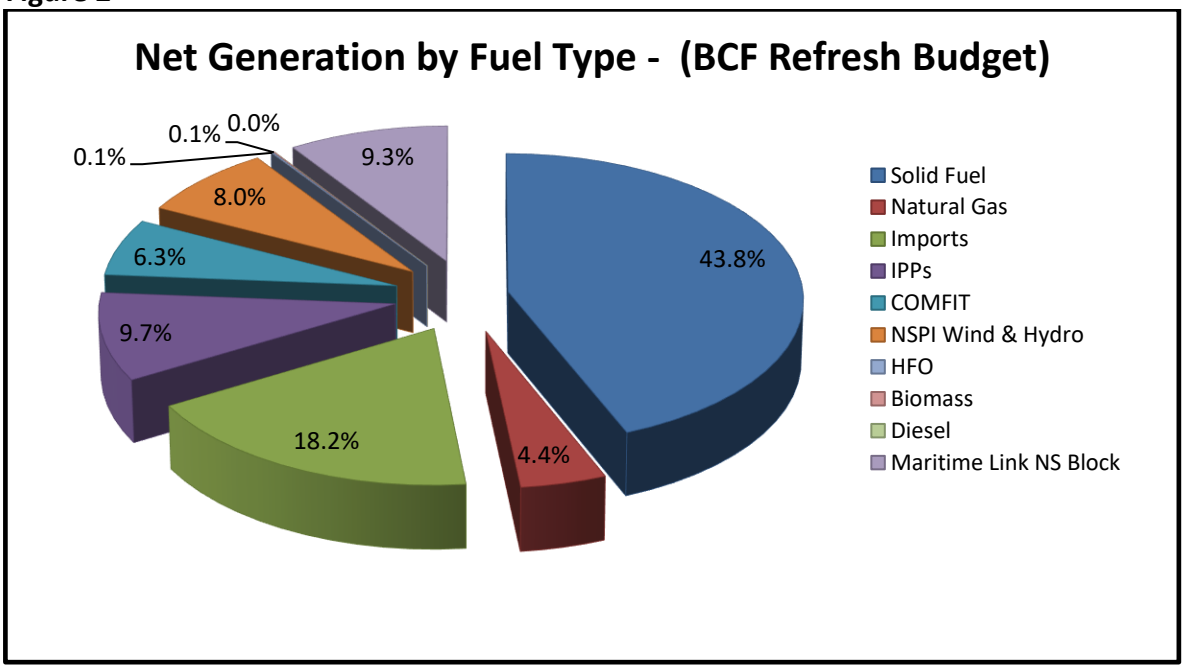


Table 1a

FAM (Over)/Under-Recovery (in $ millions)*			
	Actual	**FAM Budget**	**Variance**
Total fuel and purchased power	$41.4	$54.2	($12.8)
Fuel adjustments	($2.3)	($4.7)	$2.4
Total Adjusted Fuel Costs	**$39.1**	**$49.5**	**($10.4)**
Revenue	($38.3)	($38.9)	$0.6
FAM (Over)/Under Recovery	**$0.8**	**$10.6**	**($9.8)**

*Figures presented are rounded to one decimal place which may cause rounding differences on some line items. Figures are presented as follows: (Favorable)/Unfavorable in the variance column. FAM Budget reflects the 2019 BCF Compliance filing (CA/SBA Request) of $731.8 million.

Table 1b

FAM (Over)/Under-Recovery (in $ millions)*			
	Actual	**BCF Refresh Budget**	**Variance**
Total fuel and purchased power	$41.4	$49.2	($7.8)
Fuel adjustments	($2.3)	($3.5)	$1.2
Total Adjusted Fuel Costs	**$39.1**	**$45.7**	**($6.6)**
Revenue	($38.3)	($37.5)	($0.8)
FAM (Over)/Under Recovery	**$0.8**	**$8.2**	**($7.4)**

*Figures presented are rounded to one decimal place which may cause rounding differences on some line items. Figures are presented as follows: (Favorable)/Unfavorable in the variance column. BCF Refresh Budget reflects the 2019 BCF Refresh filing of $653.7 million.

In June, 2019 there was a variance of ($7.4) million in the (over)/under-recovery as compared to the BCF Refresh Budget ($0.8 million actual under-recovery as compared to $8.2 million under-recovery in the BCF Refresh Budget).

Decreased Port Hawkesbury Paper (PHP) load served by NS Power generation resulted in $1.6 million lower fuel costs than the BCF Refresh Budget. Please note that PHP load is included in the total fuel and purchased power BCF Refresh Budget. Fuel costs for PHP are recovered from the mill under its Load Retention Tariff. As such, PHP's fuel costs have no impact on FAM customers. Information about PHP sales can be found in Report M8.

Excluding PHP, domestic load was approximately 19.9 GWh lower than the BCF Refresh Budget, resulting in a decrease to fuel costs of $0.7 million. Export costs were higher than the FAM Budget by $0.1 million.

The June variance between the actual total fuel and purchased power cost and the FAM Refresh Budget total fuel and purchased power costs (excluding load and PHP fuel cost) is

favorable by $5.7 million. The following table sets out the components of the variance between actual fuel and purchased power cost as compared to the BCF Refresh Budget.

Table 2

Fuel and Purchased Power Variance (in $ millions)*	
	Actual vs BCF Refresh Budget
Solid fuel pricing and mix, additives, and adjustments	$1.2
Maritime Link Assessment	($5.1)
Natural gas, HFO, and LFO pricing and mix	$0.9
Generation Mix	($2.4)
Quarterly Inventory Survey Adjustments	($0.4)
Other	$0.1
Total excluding load and PHP fuel costs	($5.7)

*Figures presented in Table 2 are rounded to one decimal place which may cause rounding differences on some line items. Figures are presented as follows: (Favorable)/Unfavorable. FAM Budget reflects the 2019 BCF Refresh filing of $653.7 million.

As shown in Table 3 below, natural gas consumption was higher than budget. This was as a result of increased natural gas dispatch compared to the BCF Refresh Budget primarily due to favorable pricing relative to other generation sources, as well as increased dispatch due to the later start date for Maritime Link NS Block as compared to the BCF Refresh budget.

Table 3

	Variance from BCF Refresh Budget*
Natural gas consumption (MMBtu)	797,335
Natural gas price ($/MMBtu)	$0.94

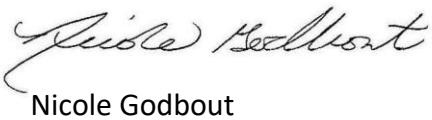
*Variances are against the FAM Budget which reflects the 2019 BCF Refresh filing of $653.7 million. Positive numbers reflect amounts higher than forecast; Negative numbers reflect amounts lower than forecast.

The NSUARB's Order dated September 11, 2017 regarding the NSPML Interim Cost Assessment (M07718) required NS Power to return the $36 million of Maritime Link depreciation and deferred financing amortization costs collected in 2018, plus interest, to customers. As of June 30, 2019, $34.7 million has been returned to customers.

As of June 30, 2019, the 2019 Maritime Link depreciation and deferred financing amortization costs collected through BCF rates totals $28.4 million.

Please contact me with any questions or concerns with respect to the FAM Monthly report for June 2019.

Sincerely,



Nicole Godbout
Director, Regulatory

c. Intervenors – P-887

Encl.

Nova Scotia Power Inc.

Monthly FAM Reporting

For the Period Ended June 30, 2019

NON-CONFIDENTIAL

Nova Scotia POWER
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Nova Scotia Power Inc. **NSPI (FAM) M-1**
Monthly FAM Reporting **NON CONFIDENTIAL**
Summary of Fuel Costs
For the Period Ended June 30, 2019
(millions of dollars)

	Current Month		Year-to-Date		2019 Budget	
	Actual	Budget	Actual	Budget	Full Year Budget	% of Budget Spent
Fuel for Generation - Domestic Load						
Solid Fuel	$ 10.1	$ 11.1	$ 102.4	$ 85.6	$ 152.9	67.0%
Natural Gas	6.5	1.8	40.6	10.0	19.6	207.1%
Biomass	(0.2)	0.2	2.0	1.1	2.7	74.1%
Bunker C	(0.2)	0.1	3.5	9.6	12.3	28.5%
Furnace	0.2	0.1	1.9	0.9	1.7	111.8%
Diesel	0.0	0.0	0.9	0.0	0.0	0.0%
Additives	1.1	0.9	8.5	7.2	13.0	65.4%
Subtotal	$ 17.6	$ 14.2	$ 159.7	$ 114.5	$ 202.2	79.0%
Import Purchases	5.0	5.8	23.6	26.9	62.4	37.8%
Maritime Link	8.6	13.7	54.0	82.0	164.0	32.9%
Non-Wind IPP Purchases	0.8	2.5	5.5	17.1	33.6	16.4%
Wind Purchases	4.7	5.3	43.1	41.4	81.5	52.9%
COMFIT Purchases	4.5	7.7	40.1	54.4	108.9	36.8%
Fuel for Resale Net Margin	(0.0)	0.0	(0.0)	0.0	0.0	0.0%
Exports	0.1	0.0	6.1	0.0	0.0	0.0%
Fuel and Purchased Power	$ 41.3	$ 49.1	$ 332.1	$ 336.3	$ 652.6	50.9%
Water Royalties	0.1	0.1	0.5	0.5	1.1	45.5%
Total Fuel and Purchased Power	$ 41.4	$ 49.2	$ 332.6	$ 336.9	$ 653.7	50.9%
Less: Load Retention Revenue	(1.7)	(3.3)	(23.8)	(20.3)	(39.2)	60.7%
Total Fuel and Purchased Power Less LRT Revenue	$ 39.7	$ 45.9	$ 308.8	$ 316.5	$ 614.5	50.3%
Less: Export Revenues	(0.1)	(0.0)	(7.2)	(1.6)	(2.5)	288.0%
Less: 1PT RTP	(0.1)	(0.0)	(0.2)	(0.1)	(0.3)	66.7%
Less: Shore Power	0.0	(0.0)	(0.0)	(0.0)	(0.0)	0.0%
Less: Back Up / Top Up	(0.2)	0.0	(0.7)	0.0	0.0	0.0%
Less: GRLF Fuel Costs	(0.2)	(0.1)	(0.7)	(0.3)	(0.5)	140.0%
Loss / (Gain): Foreign exchange - Fuel Other	0.0	0.0	0.0	0.0	0.0	0.0%
Net Fuel and Purchased Power	**$ 39.1**	**$ 45.7**	**$ 300.2**	**$ 314.5**	**$ 611.1**	**49.1%**
Total System Requirements (GWh)	725.7	783.3	5,982.3	6,009.0	11,331.1	52.8%
Less: Export Sales and Attributed Losses	(5.8)	0.0	(88.1)	(32.0)	(50.0)	176.2%
Less: GRLF Requirements	(4.1)	(3.5)	(11.0)	(13.2)	(23.9)	46.0%
Less: Load Retention	(46.6)	(87.5)	(423.7)	(516.8)	(1,058.3)	40.0%
Less: Shore Power	0.0	(0.0)	(0.0)	(0.1)	(1.0)	0.0%
Less: 1PT RTP	(1.3)	(1.1)	(3.1)	(2.4)	(9.8)	31.6%
Less: Back Up / Top Up	(2.4)	0.0	(10.8)	0.0	0.0	0.0%
Less: Losses*	(25.7)	(41.1)	(348.4)	(397.7)	(725.6)	48.0%
Total FAM Sales	**639.7**	**650.1**	**5,097.2**	**5,046.8**	**9,462.5**	**53.9%**

Figures presented are rounded to one decimal place which may cause $0.1M in rounding differences on some line items.

The FAM Budget reflects the 2019 BCF Refresh filing of $653.7M.

*Includes losses for all customer classes, with the exception of Export Sales.

Nova Scotia Power Inc. **NSPI (FAM) M-2**
Monthly FAM Reporting **NON CONFIDENTIAL**
Summary of Cost Recovery
For the Period Ended June 30, 2019
(millions of dollars)

Base Fuel Component (BCF)

	Actual	Budget
2019 Beginning BCF Balance	-	-
(Over)/Under-recovered Prior to Current Month	(9.00)	27.39
(Over)/Under-recovered in Current Month	0.83	10.59
Balance Yet to be Recovered	(8.16)	37.98
(Over)/Under-recovery- Remainder of the Year	N/A	56.06
Interest on BCF Balance	(0.24)	0.65

Actual Adjustment Component (AA)

	Actual	Budget
2019 Beginning AA Balance	15.30	15.30
Recovered/(Refunded) Prior to Current Month	(34.61)	(35.89)
Opening Balance as of Jun 1, 2019	49.91	51.19
Recovered/(Refunded) in Current Month	(0.04)	-
Closing Balance as of Jun 30, 2019	49.95	51.19
Recovered/(Refunded) Remainder of the Year	N/A	-
Interest on AA Balance	1.28	1.31

Balancing Adjustment Component (BA)

	Actual	Budget
2019 Beginning BA Balance	(176.62)	(176.62)
Recovered/(Refunded) Prior to Current Month	-	-
Non-fuel amounts applied to FAM prior to current period	(5.52)	(0.05)
Opening Balance as of Jun 1, 2019	(182.13)	(176.67)
Recovered/(Refunded) in Current Month	-	-
Non-fuel amounts applied to FAM in current period	0.05	0.05
Closing Balance as of Jun 30, 2019	(182.18)	(176.72)
Recovered/(Refunded) Remainder of the Year	N/A	0.11
Interest on BA Balance	(6.17)	(6.04)
FAM Deferral (Over)/Under-Recovery	**(145.53)**	**(91.63)**

Figures presented are rounded to two decimal places which Jun cause $0.01M in rounding differences on some line items.

The FAM Budget reflects AA/BA filing on January 21, 2019.

Nova Scotia Power Inc. **NSPI (FAM) M-3**
Monthly FAM Reporting **NON CONFIDENTIAL**
2019 Total Accumulated Unrecovered FAM Balance
For the Period Ended June 30, 2019
(millions of dollars)

Month	BA Total Outstanding	AA Total Outstanding	BCF Variance		Accumulated Interest	Total Outstanding
			To Current Month	Current Month		
January	(176.6)	19.3	0.0	(2.8)	(0.9)	(161.1)
February	(176.6)	19.3	(2.8)	(2.3)	(1.8)	(164.3)
March	(182.1)	36.0	(5.2)	(3.0)	(2.7)	(157.1)
April	(182.1)	49.7	(8.2)	(1.0)	(3.5)	(145.1)
May	(182.1)	49.9	(9.2)	0.2	(4.3)	(145.6)
June	**(182.2)**	**49.9**	**(9.0)**	**0.8**	**(5.1)**	**(145.5)**
July	(182.2)	49.9	(8.2)	7.3	(5.9)	(139.0)
August	(182.2)	49.9	(0.8)	6.7	(6.6)	(133.0)
September	(182.2)	49.9	5.9	10.7	(7.3)	(123.1)
October	(182.2)	49.9	16.5	11.5	(7.9)	(112.2)
November	(182.2)	49.9	28.0	7.4	(8.4)	(105.4)
December	(182.3)	49.9	35.4	5.0	(9.0)	(100.9)

Figures presented are rounded to one decimal place which may cause $0.1M in rounding differences on some line items

Future months reference the NS Power Q1 Forecast from February 2019.

Fuel Manual Updates

No Fuel Manual updates to report.

POA Updates

The three-year BCF (Fuel Stability Plan) application was filed on June 26, 2019. As part of the application, NS Power applied to update the POA. Updates were made to the main document allowing for a specific three-year BCF period from 2020-2022, as well as providing for compliance with the new provincial GHG emission requirements. The updates included updating the Chart of Accounts information for all categories of fuel and power-related transactions, as well as adding the GHG compliance. The AA/BA process as determined by Liberty Consulting and approved by the NSUARB on July 4, 2018 was also updated in the POA main document. Appendix B (Forecasting Methodology) was updated to reflect current practices, and Appendix D (estimated FAM calendar for 2020-2022) was added.

Organizational Updates

No Organizational updates to report.

Nova Scotia Power Inc. **NSPI (FAM) M-5**
Monthly FAM Reporting **NON CONFIDENTIAL**
Mercury Abatement Program
For the Period Ended June 30, 2019
(millions of dollars)

		Current Month				Year-to-Date			
Generating Unit	**Additive Type**	**Quantity**		**Cost**	**$/MWh**	**Quantity**		**Cost**	**$/MWh**
Lingan - Unit 1	Powder Activated Carbon	[redacted]	kgs	[redacted]		[redacted]	kgs	[redacted]	
Lingan - Unit 2	Powder Activated Carbon		kgs				kgs		
Lingan - Unit 3	Powder Activated Carbon		kgs				kgs		
Lingan - Unit 4	Powder Activated Carbon		kgs				kgs		
Point Tupper	Powder Activated Carbon		kgs				kgs		
Trenton 5	Powder Activated Carbon		kgs				kgs		
Trenton 6	Powder Activated Carbon		kgs				kgs		
Lingan	Calcium Chloride		L				L		
Point Tupper	Calcium Chloride		L				L		
Trenton	Calcium Chloride		L				L		
Total Costs - Powder Activated Carbon		**222,805**	**kgs**	**$0.488**		**2,327,679**	**kgs**	**$5.026**	
Total Costs - Calcium Chloride		**41,675**	**L**	**$0.015**		**540,468**	**L**	**$0.199**	
Total Mercury Sorbent Costs				**$0.504**				**$5.225**	

[a] Calculated using actual MWh produced by unit.

Commentary for the month:

YTD emissions are estimated at 37.5 kg. The forecast indicated YTD emissions by Jun 2019 of 34.2 kg.

NSPI Environmental Report for Mercury Emissions (b)

Annual Limit = 65 kg (c)

Month	Reported this month (d)	Reported last month	Variance	Reason for variance	2018 Actuals (e)
Jan	8.0	8.2	(0.2)		8.6
Feb	8.2	8.1	0.1		7.1
Mar	11.4	11.3	0.1		6.5
Apr	5.0	5.5	(0.5)		5.2
May	2.5	2.8	(0.3)	Estimated data updated with actual data	3.4
Jun	2.4				1.8
Jul					
Aug					
Sep					
Oct					
Nov					
Dec					
Year to Date (f)	37.5	35.9	0.2		32.6

[b] As reported by NSPI's Environmental Services.

[c] Province of Nova Scotia Air Quality Regulations - Schedule C section 3(2).

d This value is an estimate based on incomplete laboratory results and consumption figures. Environmental Services will finalize this result next quarter.

[e] Shown for comparative purposes

f Figures presented are rounded to one decimal place which may cause $0.1M in rounding differences on some line items

Nova Scotia Power Inc.
Monthly FAM Reporting
Volume and Pricing Summary
For the Period Ended June 30, 2019

NSPI (FAM) M-6
NON CONFIDENTIAL

	Current Month			Year-to-Date		2019 Budget
	Actual	Budget	% Change	Actual	Budget	Budget
Solid Fuel						
Solid Fuel Consumption Costs ($)						
Solid Fuel Consumption (MMBtu)						
Solid Fuel Price ($/MMBtu)						
Solid Fuel Price ($/MWh)						
Natural Gas						
Natural Gas Consumption Costs ($)						
Natural Gas Consumption (MMBtu)						
Natural Gas Price ($/MMBtu)						
Natural Gas Price ($/MWh)						
Biomass						
Biomass Consumption Costs ($)						
Biomass Consumption (MMBtu)						
Biomass Price ($/MMBtu)						
Biomass Price ($/MWh)						
Bunker						
Bunker Consumption Costs ($)						
Bunker Consumption (MMBtu)						
Bunker Price ($/MMBtu)						
Bunker Price ($/MWh)						
Light Fuel Oil						
Light Fuel Oil Consumption Costs ($)						
Light Fuel Oil Consumption (MMBtu)						
Light Fuel Oil Price ($/MMBtu)						
Light Fuel Oil Price ($/MWh)						
Imports						
Imported Power Volume (MWh)						
Imported Power Price ($/MWh)						
Non-Wind IPP Purchases						
IPP Purchase Volumes (MWh)						
IPP Purchase Price ($/MWh)						
Wind IPP Purchases						
Wind Purchase Volumes (MWh)						
Wind Purchase Price ($/MWh)						
COMFIT						
COMFIT Purchase Volumes (MWh)						
COMFIT Purchase Price ($/MWh)						

The FAM Budget reflects the 2019 BCF Refresh filing of $653.7M.

Consumption cost totals above are at the forecasted effective USD rate for the year. These figures do not include the impact of monthly foreign exchange rate variations that are reflected in Summary of Fuel Costs (Report M-1).

Nova Scotia Power Inc.
Monthly FAM Reporting
Volume and Pricing Summary
For the Period Ended June 30, 2019

NSPI (FAM) M-7
NON CONFIDENTIAL

Category	Variance from budget	Details
Total Fuel and Purchased Power Expense	15.9% below Budget for the month	
Total System Requirements	7.4% below Budget for the month	
Total FAM Sales	1.6% below Budget for the month	June's 639.7 GWh was less than the FAM Budget of 650.1 GWh
Net Fuel and Purchased Power Costs	14.8% below Budget for the month	June's $39.1M was less than the FAM Budget of $45.7M
Purchased Power Costs	29.6% below Budget for the month	June's $15.0M was less than the FAM Budget of $21.3M. This is primarily due to lower COMFIT/IPP generation and lower import purchases.
Solid Fuel Costs	9.0% below Budget for the month	June's $10.1M was less than the FAM Budget of $11.1M. Solid Fuel expenditure was lower primarily due to lower consumption of solid fuel
Natural Gas	261.1% above Budget for the month	June's $6.5M was more than the FAM Budget of $1.8M. Although natural gas pricing was higher than budgeted, there was increased natural gas dispatch primarily due to favorable pricing relative to other generation sources, as well as increased dispatch due to the later start date for Maritime Link NS Block.
Biomass Fuel Costs	200.0% below Budget for the month	June's ($0.2M) was less than the FAM Budget of $0.2M due to inventory adjustments
Heavy Fuel Oil	300.0% below Budget for the month	June's ($0.2M) was less than the FAM Budget of $0.1M due to inventory adjustments.
Mercury Sorbent/Additives	22.2% above Budget for the month	June's $1.1M was more than the FAM Budget of $0.9M.
Mercury Emissions	Below Budget for the month	June's 2.1kg was lower than the forecast of 2.7kg.

Nova Scotia Power Inc.
Monthly FAM Reporting
Load Retention Tariff Revenue
For the Period Ended June 30, 2019

NSPI (FAM) M-8

NON CONFIDENTIAL

	Jun $	Jun MWH
Energy	[redacted]	
Line Losses		
Environmental Adder		
Accrual Booked		
Accrual Reversed		
Prior Period Adjustments		
LRT Credit in Monthly FAM Report (reported on M-1)	$ 1,701,310	46,612

The calculations in this Report and for the purpose of billing PHP in the report period have all been done consistent with the system differential calculation methodology outlined in Confidential Attachment A of the Synapse Audit Report. The individual components of the PHP bill are contained in the table below.

PHP LRT Report												Excess Energy Buyback		
Week	Energy Cost ($)	Total Energy (MWh)	Energy from Biomass (MWh)	Line Losses ($)	Environmental Adder ($)	Var OM&G ($)	Fixed cost ($)	Var Capital ($)	Customer charge ($)	Adjustments ($)	Total Billed ($)	Total import energy bought back (MWh)	Total NSPI paid for excess energy	Buyback Price
27-May-2019 to 02-Jun-2019	[redacted]													
03-Jun-2019 to 09-Jun-2019														
10-Jun-2019 to 16-Jun-2019														
17-Jun-2019 to 23-Jun-2019														
June 2019 Total														

The environmental adder costs attributable to PHP's load include the following two components:

1) The costs associated with blending of solid fuels that are directly attributable to PHP's load.

2) The cost of Powder Activated Carbon (PAC) to abate mercury emissions that are directly attributable to PHP's load.

The costs for PAC are now included in the costs of solid fuel that are input into the modeling software used to calculate PHP's actual cost of energy through the differential system cost methodology. The actual costs for PAC are included in the energy component of PHP's weekly bill.

NS Power now calculates the blending component on a month-after basis when actual environmental emissions for the previous month are known. The blending costs are calculated using the existing methodology to calculate the blending component. Moving to a month-after calculation of the blending component allows NS Power to recover PHP's actual costs associated with blending of solid fuels monthly. It also results in NS Power being able to simplify the existing process by not having to complete annual and quarterly forecasts of PHP's blending costs ($/MMBtu basis) and recovering PHP's costs throughout the year based on a combination of actual and forecast blending costs attributable to PHP's load. It further simplifies the existing process by eliminating the need to complete a true up calculation of PHP's actual blending costs on an annualized basis.