



**YUKON ENERGY
CORPORATION**
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June 30, 2017

Mr. Robert Laking, Chair
Yukon Utilities Board
Box 31728
Whitehorse, Yukon Y1A 6L3

Dear Mr. Laking:

Re: Diesel Contingency Fund (“DCF”) Quarterly Report

Pursuant to Yukon Utilities Board (“YUB” or the “Board”) direction provided in Order 2015-01 and 2015-06, this correspondence provides Yukon Energy Corporation’s (“Yukon Energy” or “YEC”) Quarterly Report summarizing DCF activities up to March 31 2017, and includes DCF calculations and balance updates based on interim determination prior to a fiscal year end.

At this time the Board has not approved an approach for including LNG in the DCF or for an adjusted DCF rate rider (Rider E), and has indicated its desire to review these issues as part of Yukon Energy’s next GRA or as part of a full rate rider application.¹ The 2015 and 2016 Annual DCF Filings with LNG remain interim, for review by the Board as part of Yukon Energy’s next GRA.

Yukon Energy has recently filed a 2017/18 GRA Application with the Board which includes proposed updates (effective the start of 2017) to fuel prices, load forecasts, DCF estimates for long-term average thermal generation related to specific Yukon grid loads, and processes for implementing LNG in DCF reporting. This Quarterly Report for Q1 2017 includes the proposed fuel price, load forecast and DCF updates that are provided in YEC’s 2017/18 GRA Application (excluding January to March figures which are actuals).

DCF Calculations and Balance Updates – Q1 2017

Table 1 provides monthly grid load allocations. Actual monthly results are shown to March 31, 2017, and load forecasts are provided for the remaining months based on YEC’s 2017/18 GRA load forecast for 2017.

¹ Correspondence from the Board to YEC dated March 7, 2016 and March 31, 2016.

Table 2 provides DCF calculations based on the forecast total annual grid load per Table 1.

- a. Based on preliminary actual load for the first 3 months and forecast load for the remaining 9 months, the "expected" (i.e., based on long term average water conditions) thermal requirement for 2017 is 19.638 GW.h (see line 18).
- b. Based on actual thermal generation (net of maintenance, capital and RFID diesel) for the first 3 months and forecast thermal generation for the remaining 9 months based on then current water conditions and forecast loads in the 2017/18 GRA, forecast 2017 actual thermal generation is 6.886 GW.h, including 1.966 GW.h diesel and 4.920 GW.h LNG (see line 20).
- c. Thermal generation to be included in the DCF is equal to the difference between a. and b. above (see line 21). The split between LNG and diesel generation is based on the proposed approach as provided in Appendix 3.4, Tab 3 of 2017/18 GRA application. The 2017/18 GRA assumes total long-term average thermal generation to be supplied 90% by LNG generation and 10% by diesel generation. The split between LNG and diesel generation at line 21 is calculated so that YEC's final fiscal year expense for the total expected thermal generation is 90% LNG and 10% diesel, subject to the constraint that the LNG share of any transfer into or out of the DCF (per line 21) cannot exceed 100%.
- d. Based on the above, and the assumed fuel costs per kW.h for diesel and LNG units², the incremental YEC thermal generation DCF deposit (i.e., YEC payment into the DCF) forecast as at the end of 2017 is \$1.870 million.

Table 3 provides a forecast DCF continuity schedule for 2017. Based on the above and forecast Rider E rebate for 2017 at the current rate of 0.68 cents per kW.h,³ the forecast DCF balance at 2017 year end is \$8.658 million which is above the current approved DCF cap at \$8 million.

As indicated in the approved DCF Term Sheet, the quarterly calculations are to be used as placeholders based on forecast loads for the year at the time of calculation, with ultimate final calculations performed only on the annual actual values.

Yours truly,



Ed Mollard, CGA CPA
Chief Financial Officer
Yukon Energy Corporation

² The DCF estimate for 2017 is calculated using proposed average diesel fuel price and LNG fuel price in the YEC's 2017/18 GRA [LNG fuel cost per kWh of \$0.1467 and the diesel fuel cost per kW.h of \$0.2633].

³ In correspondence dated April 6, 2016 the Board approved the reinstatement of Rider E on an interim basis, at the previously approved level of 0.68 cents per kW.h, effective May 1, 2016 until such time as the final DCF amounts for the years 2015 and forward can be finalized.

Table 1: 2017 Preliminary Actual and Forecast Monthly Grid Load

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
	Preliminary Actual			Forecast										
Generation Report														
L1	YEC Grid Load (MW.h)	49,560	41,098	42,318	33,658	31,416	30,762	28,735	29,918	32,613	35,354	39,911	46,205	441,547
L2	Less Secondary Sales with Losses (MW.h)	-384	-977	-52	-1,156	-1,132	-945	-708	-460	-704	-1,208	-1,349	-1,304	-10,378
L3	AEY Fish Lake (MW.h)	931	786	862	762	746	859	880	666	722	609	772	789	9,387
L4=L1+L2+L3	Total Grid Load excluding secondary sales (MW.h)	50,107	40,907	43,129	33,263	31,030	30,676	28,908	30,124	32,631	34,755	39,335	45,691	440,556
Actual Generation Sources														
L5=L3	AEY Fish Lake (MW.h)	931	786	862	762	746	859	880	666	722	609	772	789	9,387
L6=L1+L2-L7-L8-L9	YEC Hydro (MW.h) [residual: total YEC Grid load less thermal and wind]	46,475	38,327	39,807	32,392	30,149	29,673	27,904	28,739	31,792	34,058	38,502	44,317	422,134
L7	YEC Diesel (MW.h)	880	549	981	1	42	42	42	617	42	42	42	58	3,337
L7a	YEC Diesel Charged to Maintenance	21	9	4	0	42	42	42	21	42	42	42	0	305
L7b	YEC Diesel Charged to Capital and RFID	470	0	0	0	0	0	0	596	0	0	0	0	1,066
L7c=L7-L7a-L7b	YEC Net Diesel	389	540	977	1	0	0	0	0	0	0	0	58	1,966
L8	YEC LNG (MW.h)	1,821	1,245	1,478	11	17	17	17	17	17	17	17	526	5,197
L8a	YEC LNG Charged to Maintenance	0	1	0	0	17	17	17	17	17	17	17	0	118
L8b=L8-L8a	YEC LNG Charged to Capital and RFID	158	0	0	0	0	0	0	0	0	0	0	0	158
L8c=L8-L8a-L8b	YEC Net LNG	1,662	1,243	1,478	11	0	0	0	0	0	0	0	526	4,920
L9	YEC Wind (MW.h)	0	0	0	97	77	85	66	85	59	29	2	0	502
L10=L5+L6+L7+L8+L9	Total Grid Load excluding secondary sales (MW.h)	50,107	40,907	43,129	33,263	31,030	30,676	28,908	30,124	32,631	34,755	39,335	45,691	440,556

Table 2: 2017 DCF Calculation – Forecast with Q1 Preliminary Actuals

<i>L10=L10 (Table 1)</i>	Total Grid Load incl. Fish Lake excl. secondary sales (MW.h)	440,556
	Expected Generation Sources	
<i>L11</i>	AEY Fish Lake (expected) (MW.h)	8,536
<i>L12</i>	YEC Wind (expected) (MW.h)	580
<i>L13=L10-L11-L12</i>	YEC Grid Load net of expected Fish Lake and Wind (MW.h)	431,440
<i>L14</i>	Grid Load Benchmark (MW.h) (Col A of Proposed DCF Term Sheet)	430,000
<i>L15</i>	Thermal as % of incremental Grid Load above line 14 (%) (Col F of Proposed DCF Term Sheet)	52%
<i>L16</i>	Expected Base Thermal Generation at Benchmark (MW.h) (Col C of Proposed DCF Term Sheet)	18,889
<i>L17=(L13-L14)xL15</i>	Expected Incremental Thermal Generation (MW.h)	749
<i>L18=L16+L17</i>	Total Expected Thermal Generation (MW.h)	19,638
<i>L19=L18</i>	Expected Thermal Generation in Rates (MW.h)	19,638
<i>L20=L7c+L8c</i>	Actual YEC Thermal Generation (net of maintenance, capital & RFID Thermal) (MW.h)	6,886
<i>L20a</i>	<i>Diesel</i>	1,966
<i>L20b</i>	<i>LNG</i>	4,920
<i>L21=L20-L19</i>	Thermal Generation to be Included in DCF (MW.h)	(12,752)
<i>L21a</i>	<i>Diesel (determined as per Proposed DCF Term Sheet)</i>	-
<i>L21b=L21-L21a</i>	<i>LNG</i>	(12,752)
<i>L22</i>	Thermal Fuel Cost per kW.h per YEC 2017/18 GRA Application (\$/kW.h)	
<i>L22a</i>	<i>Diesel</i>	0.2633
<i>L22b</i>	<i>LNG</i>	0.1467
<i>L23</i>	Incremental YEC Thermal Generation Cost to Charge (Deposit) DCF (\$000s)	(1,870)
<i>L23a=(L21a)x(L22a)</i>	<i>Diesel</i>	-
<i>L23b=(L21b)x(L22b)</i>	<i>LNG</i>	(1,870)

Note: "Proposed DCF Term Sheet" and thermal fuel cost per YEC 2017/18 GRA Application.

Table 3: 2017 DCF Continuity - Forecast with Q1 Preliminary Actuals

		With \$8 million Cap
<i>L24=L23</i>	Incremental YEC Thermal Generation Cost to Charge (Deposit) DCF	\$1,870
<i>L25</i>	DCF Balance at 2016 Year End (\$000)	\$9,485
<i>L26</i>	Rider E (Rebate) forecast for 2017	(\$2,760)
<i>L27</i>	Interest forecast for 2017	\$63
<i>L28=L24+L25+L26+L27</i>	DCF Balance at 2017 Year End (\$000) [Forecast]	\$8,658

Note: Current refund Rider E is at 0.68 cents/kW.h. The Rider E rebate is estimated with actuals for January-March and forecasts for April through December 2017.