

SEQWATER'S 2 APRIL 2013 SUBMISSION ON PIE CREEK ELECTRICITY

2 April 2013

From: Colin Nicolson
Sent: Tuesday, 2 April 2013 4:08 PM
To: Angus MacDonald
Cc: Damian Scholz
Subject: Pie Creek Electricity

Hello Angus

Please find attached my updated spreadsheet setting out the result of my analysis of the Pie Creek electricity costs.

The source data was the actual electricity meter readings from December 2008 to March 2012 and the actual pumping log records for the same period. I found there was not a one-to-one match between the meter readings and the electricity invoices. However, by adding meter readings together and adding invoices together over multiple periods, I was able to reconcile the meter readings with the invoices and with the pumping records. In the process, I identified a shortfall in the pumping volumes at row 12 where the original Seqwater data showed 3.67 ML pumped instead of 11.25 ML pumped. This increased the total volume pumped from 310.49 ML to 317.97 ML and improved the pump efficiency from 329.4 kWh/ML to 321.6 kWh/ML. I have also calculated average distribution efficiency to be 95%. In doing so, I used the full-year pumping volumes for 2008-09 (7 months used in your calculations) and also the pumping volumes and usage volumes for the six months to 31 December 2012 which were not available to you previously.

Based on the updated calculations in the attached spreadsheet, Seqwater submits that the electricity charge per ML taken is \$75.52 (\$2013-14).



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ATTACHMENT: PIE CREEK HISTORICAL ELECTRICITY DATA

NMI	Site Name	Peak Rate c/kWh	Off Peak Rate c/kWh	Month	FY	Start	End	# of billing days	Peak kWh	Offpeak kWh	Total kWh	Period total	ML Pumped	Pumping Records From Logs
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	16.04	8.830	Dec-08	08/09	1/12/2008	12/12/2008	12	512	137	649		1.57	1.47
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	16.04	8.830	Jan-09	08/09	13/12/2008	29/01/2009	48	4,209	658	4,867		18.93	18.93
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	16.04	8.830	Mar-09	08/09	30/01/2009	16/03/2009	46	840	486	1,326		14.13	14.13
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	16.04	8.830	Jun-09	08/09	17/03/2009	28/06/2009	93	1,928	1,007	2,935	9,777	1.59	1.59
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	16.04	8.830	Jul-09	09/10	29/06/2009	26/07/2009	28	1,800	28	1,828		0.00	-
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	19.56	10.770	Sep-09	09/10	27/07/2009	15/09/2009	51	3,282	57	3,339		13.61	13.61
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	19.56	10.770	Dec-09	09/10	16/09/2009	15/12/2009	91	5,930	99	6,029		139.89	139.89
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	19.56	10.770	Mar-10	09/10	16/12/2009	15/03/2010	90	28,365	25,647	54,012		36.85	36.85
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	19.56	10.770	Jun-10	09/10	16/03/2010	16/06/2010	93	1,866	443	2,309		6.17	6.17
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	19.56	10.770	Jul-10	09/10	17/06/2010	22/07/2010	36	2,343	170	2,513	70,030	3.67	11.25
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	22.16	12.200	Sep-10	10/11	23/07/2010	16/09/2010	56	3,647	269	3,916		7.00	7.00
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	22.16	12.200	Dec-10	10/11	17/09/2010	15/12/2010	90	1,613	1,048	2,661		9.53	9.53
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	22.16	12.200	Mar-11	10/11	16/12/2010	13/03/2011	88	-	-	-		0.00	-
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	26.43	9.310	Jun-11	10/11	14/03/2011	15/06/2011	93	-	-	-		0.00	-
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	26.43	9.310	Jun-11	10/11	16/06/2011	30/06/2011	15	487	1	488	7,065	0.00	-
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	26.43	9.310	Aug-11	11/12	1/07/2011	2/08/2011	33	1,072	2	1,074		0.00	-
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	28.17	9.920	Sep-11	11/12	3/08/2011	15/09/2011	44	1,430	2	1,432		10.32	10.32
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	28.17	9.920	Dec-11	11/12	15/09/2011	13/12/2011	89	7,764	3,893	11,657	14,163	42.68	42.68
QB021771110	1111 Lagoon Pocket Rd, Lagoon Pocket	28.17	9.920	Mar-12	11/12	13/12/2011	15/03/2012	93	1,093	139	1,232	1,232	4.55	4.55
									68,181	34,086	102,267	102,267	310.49	317.97
									67%	33%				

Year	Pumped	Used	Rainfall
2008-09	64.08	63.07	185.30
2009-10	204.10	205.92	646.60
2010-11	20.20	16.99	1,240.90
2011-12	57.55	68.94	1,066.20
2012-13*	146.88	111.88	Not available
Total	492.81	466.81	
Distribution efficiency =		95%	

* Six months to December 2012

kWh per ML Pumped			
Total kWh for period 1/12/08 to 15/3/2012			102267 kWh
Total ML pumped for period			317.97 ML
kWh per ML pumped			321.6 kWh / ML
2. Determine unit cost \$/kWh			
		Peak	Offpeak
Peak/Off-peak pumping		67%	33%
Tariff 22 (2013-14) \$/kWh		0.2392	0.19077
Variable electricity cost (pumped) \$/ML		51.29	20.45
Total variable electricity cost (pumped) \$/ML		71.74	
3. Apply distribution loss factor			
Assumed distribution efficiency		95%	
Variable electricity cost per ML delivered		\$ 75.52	2013-14
Indexation		0.00%	
Variable charge (\$/ML taken)		\$ 75.52	