MEMORANDUM

TO: Commissioners, Kate, Justin, Mandi, Will, Eric Eck, Dagan, Jeremiah

FROM: Neil Templeton

DATE: August 26, 2015

RE: Description of RevReq1 Excel file in Docket No. D2013.5.34

Commissioner Kavulla requested staff to create a spreadsheet to explain in simple form the differences between MCC's proposed method for recovering the fixed costs of the NFR and Devon natural gas production plants through annually updated revenue requirements, and NorthWestern's proposal to recover fixed costs using bridge rates and traditional rate review. Staff created RevReq1 in response to this request (*See* attached). The underlying models have not been vetted by the parties. The primary result is that the net present value of expected revenues may differ significantly between the MCC and NorthWestern methods.

The two tabs, "AnalysisNFR" and "AnalysisDevon" each adopt very general and possibly debatable methods and assumptions to illustrate the potential impact to customers if the Commission were to approve Donkin's proposal. The most important assumptions are:

- NorthWestern will file for rate approval in 2016 using 2015 as test year.
- NorthWestern will conduct rate cases on a periodic basis, with a constant interval set as a control parameter.
- The weighted average cost of capital (WACC) estimated in NorthWestern's preliminary analysis of the assets is used to discount expected recovered revenues and refund under-recovered revenues. Customers are refunded over-collections with interest at 9.8%, NorthWestern's current authorized return on equity.
- Load growth is set as a control parameter. The default setting is 0%.
- Under and over-collections in 2012-15 are refunded in 2016.
- Net present value estimates are based in 2016 with inflation equal to zero.
- The values for the NFR and Devon fixed cost requirements and other variables are taken from the responses to data requests PSC-041 and PSC-042, and from recent trackers. The analyses provided in PSC-041 and PSC-042 may be calendar year, tracker values are not. No adjustments were made to compensate for this.

- Consistent with PSC-041 and PSC-042, the NFR NPV analysis is 47 years and the Devon NPV analysis is 31 years.

AnalysisNFR

Control Parameters & NPV
Actual Values
Refunding Year

Customer Refund Rate	Discount Rate (NWE WACC)	Annually Adjusted NPV	Load Growth	Rate Case Period (Years)	Traditional NPV
9.80%	7.80%	23,530,193	0.00%	5	25,657,720

Years from Last Rate Case		Year	NFR Fixed Cost Rev Require	Fixed Cost RR + Refunds	Discounted Fixed Cost RR	Billing Units (Dkt)	Billed Fixed Cost Rate	Billed Fixed Cost Revenues	Billed Revenues and Refund	Discounted Revenues
	1	2012	$ 4,740,045	$ (1,641,651)		16,483,477	$ 0.18170	$ 2,995,048	$ 280,708	
	2	2013	4,176,310	(582,916)		20,423,390	0.18170	3,710,930	316,760	
	3	2014	3,766,529	(443,017)		18,631,086	0.18170	3,385,268	263,172	
	4	2015	3,408,918	257,993		20,054,398	0.18170	3,643,884	257,993	
1	5	2016	3,117,103	5,526,694	5,526,694	20,054,398	0.16998	3,408,918	2,290,285	2,290,285
2	6	2017	2,867,755	2,867,755	2,660,374	20,054,398	0.16998	3,408,918	3,408,918	3,162,402
3	7	2018	2,604,434	2,604,434	2,241,375	20,054,398	0.16998	3,408,918	3,408,918	2,933,713
4	8	2019	2,382,718	2,382,718	1,902,280	20,054,398	0.16998	3,408,918	3,408,918	2,721,562
5	9	2020	2,190,486	2,190,486	1,622,344	20,054,398	0.16998	3,408,918	3,408,918	2,524,753
1	10	2021	2,008,913	2,008,913	1,380,270	20,054,398	0.10923	2,190,486	2,190,486	1,505,024
2	11	2022	1,844,753	1,844,753	1,175,822	20,054,398	0.10923	2,190,486	2,190,486	1,396,188
3	12	2023	1,699,682	1,699,682	1,005,013	20,054,398	0.10923	2,190,486	2,190,486	1,295,223
4	13	2024	1,554,814	1,554,814	852,871	20,054,398	0.10923	2,190,486	2,190,486	1,201,559
5	14	2025	1,429,458	1,429,458	727,405	20,054,398	0.10923	2,190,486	2,190,486	1,114,669
1	15	2026	1,318,222	1,318,222	622,292	20,054,398	0.07128	1,429,458	1,429,458	674,803
2	16	2027	1,225,695	1,225,695	536,771	20,054,398	0.07128	1,429,458	1,429,458	626,005
3	17	2028	1,147,521	1,147,521	466,195	20,054,398	0.07128	1,429,458	1,429,458	580,735
4	18	2029	1,073,417	1,073,417	404,554	20,054,398	0.07128	1,429,458	1,429,458	538,739
5	19	2030	1,005,278	1,005,278	351,475	20,054,398	0.07128	1,429,458	1,429,458	499,781
1	20	2031	913,952	913,952	296,437	20,054,398	0.05013	1,005,278	1,005,278	326,058
2	21	2032	855,246	855,246	257,336	20,054,398	0.05013	1,005,278	1,005,278	302,479
3	22	2033	803,070	803,070	224,163	20,054,398	0.05013	1,005,278	1,005,278	280,605
4	23	2034	725,075	725,075	187,756	20,054,398	0.05013	1,005,278	1,005,278	260,313
5	24	2035	681,964	681,964	163,822	20,054,398	0.05013	1,005,278	1,005,278	241,489
1	25	2036	639,580	639,580	142,530	20,054,398	0.03401	681,964	681,964	151,975
2	26	2037	572,595	572,595	118,375	20,054,398	0.03401	681,964	681,964	140,985
3	27	2038	537,704	537,704	103,123	20,054,398	0.03401	681,964	681,964	130,790
4	28	2039	506,124	506,124	90,047	20,054,398	0.03401	681,964	681,964	121,332
5	29	2040	474,424	474,424	78,303	20,054,398	0.03401	681,964	681,964	112,558
1	30	2041	447,896	447,896	68,579	20,054,398	0.02366	474,424	474,424	72,641
2	31	2042	420,943	420,943	59,791	20,054,398	0.02366	474,424	474,424	67,388
3	32	2043	396,318	396,318	52,223	20,054,398	0.02366	474,424	474,424	62,515
4	33	2044	372,484	372,484	45,533	20,054,398	0.02366	474,424	474,424	57,994
5	34	2045	350,467	350,467	39,743	20,054,398	0.02366	474,424	474,424	53,800
1	35	2046	346,068	346,068	36,407	20,054,398	0.01748	350,467	350,467	36,869
2	36	2047	166,724	166,724	16,271	20,054,398	0.01748	350,467	350,467	34,203
3	37	2048	152,055	152,055	13,766	20,054,398	0.01748	350,467	350,467	31,730
4	38	2049	138,077	138,077	11,597	20,054,398	0.01748	350,467	350,467	29,435
5	39	2050	124,771	124,771	9,722	20,054,398	0.01748	350,467	350,467	27,307
1	40	2051	114,029	114,029	8,242	20,054,398	0.00622	124,771	124,771	9,019
2	41	2052	103,796	103,796	6,960	20,054,398	0.00622	124,771	124,771	8,366
3	42	2053	94,055	94,055	5,851	20,054,398	0.00622	124,771	124,771	7,761
4	43	2054	84,792	84,792	4,893	20,054,398	0.00622	124,771	124,771	7,200
5	44	2055	77,902	77,902	4,170	20,054,398	0.00622	124,771	124,771	6,679
1	45	2056	69,424	69,424	3,448	20,054,398	0.00388	77,902	77,902	3,869
2	46	2057	63,294	63,294	2,916	20,054,398	0.00388	77,902	77,902	3,589
3	47	2058	57,463	57,463	2,456	20,054,398	0.00388	77,902	77,902	3,329
					23,530,193					25,657,720

2012 Bill Dkt	18,554,776
Difference	$ 2,127,527
% increase	9.04%

$ 0.24157	
$ 3,981,837	$ (986,789)
4,933,583	(1,222,653)
4,500,625	(1,115,356)
4,844,447	(1,200,563)
$ 18,260,492	$ (4,525,361)
13,735,130	
$ 4,525,361	

AnalysisDevon

Control Parameters & NPV
Actuals and 2015 Expected
Refunding Year

Customer Refund Rate	Discount Rate (NWE WACC)	Annually Adjusted NPV	Load Growth	Rate Case Period (Years)	Traditional NPV
9.80%	6.77%	119,633,917	0.00%	5	136,683,501

Years from Last Rate Case		Year	Devon Fixed Cost Rev Require	Devon Fixed Cost RR + Refunds	Discounted Devon Fixed Cost RR	Billing Units (Dkt)	Billed Fixed Cost Rate	Billed Fixed Cost Revenues	Billed Revenues and Refund	Discounted Revenues
	1	2013	$ 17,904,451	$ 1,167,972		16,298,204	$ 0.93080	$ 15,170,368	$ 3,203,264	
	2	2014	16,723,101	745,923		18,631,086	0.93080	17,341,815	3,334,946	
	3	2015	15,689,107	3,269,324		20,054,398	0.93080	18,666,634	3,269,324	
1	4	2016	14,764,787	9,581,568	9,581,568	20,054,398	0.78233	15,689,107	5,881,573	5,881,573
2	5	2017	13,924,849	13,924,849	13,042,522	20,054,398	0.78233	15,689,107	15,689,107	14,694,991
3	6	2018	13,161,378	13,161,378	11,546,319	20,054,398	0.78233	15,689,107	15,689,107	13,763,866
4	7	2019	12,455,309	12,455,309	10,234,527	20,054,398	0.78233	15,689,107	15,689,107	12,891,739
5	8	2020	11,803,289	11,803,289	9,084,215	20,054,398	0.78233	15,689,107	15,689,107	12,074,874
1	9	2021	11,185,352	11,185,352	8,063,158	20,054,398	0.58856	11,803,289	11,803,289	8,508,608
2	10	2022	10,591,564	10,591,564	7,151,328	20,054,398	0.58856	11,803,289	11,803,289	7,969,473
3	11	2023	10,023,204	10,023,204	6,338,759	20,054,398	0.58856	11,803,289	11,803,289	7,464,500
4	12	2024	9,492,753	9,492,753	5,622,908	20,054,398	0.58856	11,803,289	11,803,289	6,991,523
5	13	2025	9,007,126	9,007,126	4,997,193	20,054,398	0.58856	11,803,289	11,803,289	6,548,516
1	14	2026	8,532,990	8,532,990	4,434,169	20,054,398	0.44913	9,007,126	9,007,126	4,680,553
2	15	2027	8,081,452	8,081,452	3,933,430	20,054,398	0.44913	9,007,126	9,007,126	4,383,977
3	16	2028	7,727,279	7,727,279	3,522,733	20,054,398	0.44913	9,007,126	9,007,126	4,106,193
4	17	2029	7,261,707	7,261,707	3,100,723	20,054,398	0.44913	9,007,126	9,007,126	3,846,011
5	18	2030	6,824,624	6,824,624	2,729,443	20,054,398	0.44913	9,007,126	9,007,126	3,602,314
1	19	2031	6,415,435	6,415,435	2,403,215	20,054,398	0.34031	6,824,624	6,824,624	2,556,496
2	20	2032	6,034,554	6,034,554	2,117,301	20,054,398	0.34031	6,824,624	6,824,624	2,394,508
3	21	2033	5,679,592	5,679,592	1,866,490	20,054,398	0.34031	6,824,624	6,824,624	2,242,784
4	22	2034	5,349,558	5,349,558	1,646,636	20,054,398	0.34031	6,824,624	6,824,624	2,100,673
5	23	2035	5,036,026	5,036,026	1,451,907	20,054,398	0.34031	6,824,624	6,824,624	1,967,567
1	24	2036	4,733,576	4,733,576	1,278,237	20,054,398	0.25112	5,036,026	5,036,026	1,359,909
2	25	2037	4,448,999	4,448,999	1,125,266	20,054,398	0.25112	5,036,026	5,036,026	1,273,741
3	26	2038	4,181,148	4,181,148	990,512	20,054,398	0.25112	5,036,026	5,036,026	1,193,032
4	27	2039	3,928,955	3,928,955	871,791	20,054,398	0.25112	5,036,026	5,036,026	1,117,437
5	28	2040	3,691,420	3,691,420	767,184	20,054,398	0.25112	5,036,026	5,036,026	1,046,633
1	29	2041	3,467,606	3,467,606	675,005	20,054,398	0.18407	3,691,420	3,691,420	718,573
2	30	2042	3,260,567	3,260,567	594,486	20,054,398	0.18407	3,691,420	3,691,420	673,042
3	31	2043	2,710,569	2,710,569	462,892	20,054,398	0.18407	3,691,420	3,691,420	630,395
					119,633,917					136,683,501

2013 Bill Dkt	20,423,390
Difference	$ 17,049,584
% increase	14.25%