

1 **Q. Schedule F – 2021 Plan Program Descriptions**

2
3 **Please provide the detailed calculations of the mTRC test for each of the**
4 **electrification programs described in Schedule F, including a description of the non-**
5 **electrical benefits incorporated in the calculation.**
6

7 A. The modified Total Resource Cost Test (“mTRC”) is a ratio of the net present value
8 (“NPV”) of electrification program benefits to program costs. The NPV is determined
9 using a 6.0% discount rate for all programs.

10
11 For the electrification programs outlined in Schedule F, the benefits included in the
12 mTRC are the fuel and maintenance savings customers experience from replacing fossil-
13 fuelled technologies with equivalent electric technologies that are more efficient. These
14 savings are the non-electrical benefits incorporated in the calculation.

15
16 The program costs included in the mTRC include electricity supply costs, incremental
17 equipment purchase costs and program administration costs.

18
19 Benefits and costs are captured annually as appropriate throughout the expected life of
20 the equipment. For example an electric vehicle is expected to last for 10 years. The
21 customer will incur benefits of fuel and maintenance savings over 10 years; however, the
22 program administration costs will be incurred in the year of participation.

23
24 Tables 1, 2 and 3 that follow provide the mTRC calculations for each of the
25 electrification programs described in Schedule F.

1 Table 1 provides the calculation of the mTRC for the Residential EV and Charging
2 Infrastructure program.

Table 1: Residential EV and Charging Infrastructure Program mTRC Analysis 2021 to 2034								
Year	Cumulative Units (EVs & Chargers)	Maintenance Savings	Fuel Savings	Electricity Supply Costs	Incremental Equipment Costs	Program Administration Costs	Total Benefits	Total Costs
	A	B	C	D	E	F	G	H
(\$000s)								
2021	90	7	159	19	933	378	166	1,330
2022	495	42	880	106	4,161	414	922	4,681
2023	1,436	121	2,431	277	9,320	375	2,552	9,972
2024	3,119	249	5,274	607	6,474	434	5,523	7,515
2025	5,738	453	9,817	1,133	10,098	420	10,270	11,651
2026	5,738	462	10,013	1,206			10,475	1,206
2027	5,738	471	10,213	1,244			10,684	1,244
2028	5,738	481	10,417	1,307			10,898	1,307
2029	5,738	490	10,626	1,392			11,116	1,392
2030	5,738	500	10,838	1,420			11,338	1,420
2031	5,648	501	10,861	1,425			11,362	1,425
2032	5,243	470	10,204	1,346			10,674	1,346
2033	4,302	384	8,538	1,128			8,922	1,128
2034	2,619	238	5,303	701			5,541	701

3 Column G (“Total Benefits”) is the sum of column B (“Maintenance Savings”) and
4 column C (“Fuel Savings”).

5
6 Column H (“Total Costs”) is the sum of column D (“Electricity Supply Costs”), column
7 E (“Incremental Equipment Costs”) and column F (“Program Administration Costs”).

8
9 mTRC = NPV Column G / NPV Column H
10 = \$67,330,993 / \$34,825,545
11 = 1.9

1 Table 2 provides the calculation of the mTRC for the Commercial EV and Charging
2 Infrastructure program.

Table 2: Commercial EV and Charging Infrastructure Program mTRC Analysis 2021 to 2034								
Year	Cumulative Units (EVs & Chargers)	Maintenance Savings	Fuel Savings	Electricity Supply Costs	Incremental Equipment Costs	Program Administration Costs	Total Benefits	Total Costs
	A	B	C	D	E	F	G	H
(\$000s)								
2021	16	1	35	5	160	240	36	405
2022	97	5	213	30	805	263	218	1,098
2023	266	13	594	77	1,687	212	607	1,976
2024	620	31	1,416	183	1,299	248	1,447	1,730
2025	1,242	63	2,889	374	2,290	229	2,952	2,893
2026	1,242	64	2,946	395			3,010	395
2027	1,242	65	3,005	407			3,070	407
2028	1,242	67	3,066	426			3,133	426
2029	1,242	68	3,127	451			3,195	451
2030	1,242	69	3,189	460			3,258	460
2031	1,226	70	3,211	463			3,281	463
2032	1,146	66	3,058	441			3,124	441
2033	977	58	2,661	384			2,719	384
2034	622	37	1,726	249			1,763	249

3 Column G (“Total Benefits”) is the sum of column B (“Maintenance Savings”) and
4 column C (“Fuel Savings”).

5
6 Column H (“Total Costs”) is the sum of column D (“Electricity Supply Costs”), column
7 E (“Incremental Equipment Costs”) and column F (“Program Administration Costs”).

8
9 mTRC = NPV Column G / NPV Column H
10 = \$19,264,882 / \$8,642,504
11 = 2.2

1 Table 3 provides the calculation of the mTRC for the Custom Electrification program.

Table 3: Custom Electrification Program mTRC Analysis 2021 to 2034								
Year	Cumulative Units	Maintenance Savings	Fuel Savings	Electricity Supply Costs	Incremental Equipment Costs	Program Administration Costs	Total Benefits	Total Costs
	A	B	C	D	E	F	G	H
(\$000s)								
2021	5	8	32	5	50	165	40	220
2022	35	55	224	37	300	244	279	581
2023	75	121	486	73	400	169	607	642
2024	125	205	819	124	500	260	1,024	884
2025	190	318	1,260	192	650	221	1,578	1,063
2026	190	324	1,275	203			1,599	203
2027	185	322	1,256	204			1,578	204
2028	155	275	1,065	179			1,340	179
2029	115	208	800	141			1,008	141
2030	65	120	457	81			577	81
2031	0							
2032	0							
2033	0							
2034	0							

2 Column G (“Total Benefits”) is the sum of column B (“Maintenance Savings”) and
3 column C (“Fuel Savings”).

4
5 Column H (“Total Costs”) is the sum of column D (“Electricity Supply Costs”), column
6 E (“Incremental Equipment Costs”) and column F (“Program Administration Costs”).

7
8 mTRC = NPV Column G / NPV Column H
9 = \$6,720,365 / \$3,276,950
10 = 2.1