

Appendix D.10 Residential Lighting Program 2010-2018

Net kW						Incremental Energy Savings / Participant Net kWh/Participant			Incremental Capacity Savings / Participant Net kW/Participant		
VA			NC		System	VA	NC	System	VA	NC	System
6,037			-		6,037	9	-	9	0.003	-	0.003
6,934			112		7,046	19	7	16	0.003	0.003	0.003
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-

Net kW						Annualized Energy Savings / Participant Net kWh/Participant			Annualized Capacity Savings / Participant Net kW/Participant		
VA			NC		System	VA	NC	System	VA	NC	System
6,037			-		6,037	28	-	28	0.003	-	0.003
6,934			112		7,046	29	28	29	0.003	0.003	0.003
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-

Net kW						PPI Energy Savings/Participant Net kWh/Participant			PPI Capacity Savings/Participant Net kW/Participant		
VA			NC		System	VA	NC	System	VA	NC	System
6,037			-		6,037	9	-	9	0.003	0.003	0.003
12,971			112		13,083	23	7	23	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
6,934			112		7,046	29	28	29	0.003	0.003	0.003
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
0			0		0	-	-	-	-	-	-
N/A			N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A

Net kW						IRP Energy Savings/Participant Net kWh/Participant			IRP Capacity Savings/Participant Net kW/Participant		
VA			NC		System	VA	NC	System	VA	NC	System
6,037			-		6,037	9	-	9	0.003	-	0.003
12,971			112		13,083	23	7	23	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003
12,971			112		13,083	28	28	28	0.003	0.003	0.003

Net kW						NC Lost Revenue Savings/Participant Net kWh/Participant			NC Lost Revenue Capacity Savings/Participant Net kW/Participant		
VA			NC		System	VA	NC	System	VA	NC	System
						9	-	9			
						23	7	23			
						28	28	28			
						28	28	28			
						13	23	13			
						-	-	-			
						N/A	N/A	N/A			

Appendix D.11 Residential Low-income Program 2010-2018

PROBABLE Residential Low Income
 DDM Phase 1 Program
 Typical Energy Efficiency
 Measure Life: 10.6 years (10 years, 7 months)

Table 1		Participation Program Participants										Energy Savings									
Month	Year	VA Monthly Cum.			NC Monthly Cum.			System Monthly Cum.			VA Monthly Cum.			NC Monthly Cum.			System Monthly Cum.				
		Σ(A)	Σ(-A retired)	Σ(A retired)	Σ(C)	Σ(-C retired)	Σ(C retired)	Σ(E)	Σ(-E retired)	Σ(E retired)	Σ(G)	Σ(-G retired)	Σ(G retired)	Σ(I)	Σ(-I retired)	Σ(I retired)	Σ(K)	Σ(-K retired)	Σ(K retired)		
April	2010	16		16							16	564									
May	2010	130		130							130	5,198									
June	2010	310		310							310	12,789									
July	2010	490		490							490	21,891									
August	2010	684		684							684	31,401									
September	2010	872		872							872	39,373									
October	2010	1,061		1,061							1,061	46,774									
November	2010	1,241		1,241							1,241	54,741									
December	2010	1,431		1,431							1,431	63,911									
January	2011	1,680		1,680	0			0			1,680	73,749		0			73,749	0			
February	2011	1,979		1,979	0			0			1,979	85,880		0			85,880	0			
March	2011	2,284		2,284	0			0			2,284	100,256		0			100,256	0			
April	2011	2,628		2,628	0			0			2,628	117,924		0			117,924	0			
May	2011	2,976		2,976	0			0			2,976	133,569		0			133,569	0			
June	2011	3,263		3,263	0			0			3,263	151,652		0			151,652	0			
July	2011	3,659		3,659	18			18			3,676	161,520		504			162,023	504			
August	2011	4,000		4,000	52			52			4,052	173,962		1,449			175,431	1,449			
September	2011	4,344		4,344	73			73			4,417	189,028		2,099			191,126	2,099			
October	2011	4,743		4,743	96			96			4,839	205,193		2,849			208,042	2,849			
November	2011	5,101		5,101	119			119			5,220	219,180		3,724			222,904	3,724			
December	2011	5,344		5,344	207			207			5,551	226,039		7,349			233,388	7,349			
January	2012	5,889		5,889	282			282			6,171	242,218		9,859			252,077	9,859			
February	2012	6,029		6,029	306			306			6,337	256,953		11,861			268,814	11,861			
March	2012	6,445		6,445	343			343			6,788	274,282		13,396			287,678	13,396			
April	2012	6,830		6,830	383			383			7,183	289,918		14,864			304,782	14,864			
May	2012	7,172		7,172	383			383			7,555	304,250		14,864			319,114	14,864			
June	2012	7,380		7,380	383			383			7,733	311,138		14,864			325,999	14,864			
July	2012	7,471		7,471	383			383			7,834	315,197		14,864			329,961	14,864			
August	2012	7,531		7,531	383			383			7,894	317,676		14,864			332,540	14,864			
September	2012	7,580		7,580	383			383			7,943	318,845		14,864			334,709	14,864			
October	2012	7,629		7,629	383			383			7,992	320,599		14,864			335,463	14,864			
November	2012	7,700		7,700	383			383			8,063	322,864		14,864			337,728	14,864			
December	2012	7,734		7,734	383			383			8,097	323,724		14,864			338,588	14,864			
January	2013	7,880		7,880	376			376			8,236	330,738		14,809			345,548	14,809			
February	2013	8,026		8,026	389			389			8,417	340,147		15,439			355,585	15,439			
March	2013	8,215		8,215	402			402			8,618	349,992		16,123			366,115	16,123			
April	2013	8,426		8,426	405			405			8,833	361,314		16,211			377,525	16,211			
May	2013	8,617		8,617	405			405			9,025	371,084		16,403			387,486	16,403			
June	2013	8,764		8,764	405			405			9,172	379,213		16,403			395,615	16,403			
July	2013	8,954		8,954	409			409			9,393	389,790		16,428			406,218	16,428			
August	2013	9,125		9,125	434			434			9,580	397,101		17,488			414,589	17,488			
September	2013	9,288		9,288	449			449			9,717	403,951		18,078			422,029	18,078			
October	2013	9,449		9,449	463			463			9,912	413,134		18,888			432,022	18,888			
November	2013	9,585		9,585	474			474			10,039	419,102		19,862			438,964	19,862			
December	2013	9,697		9,697	483			483			10,080	421,240		20,317			441,557	20,317			
January	2014	9,765		9,765	492			492			10,257	426,689		20,713			449,402	20,713			
February	2014	9,815		9,815	504			504			10,419	435,270		21,252			458,522	21,252			
March	2014	10,075		10,075	514			514			10,580	443,536		21,484			464,020	21,484			
April	2014	10,227		10,227	525			525			10,732	448,837		22,028			470,865	22,028			
May	2014	10,387		10,387	535			535			10,892	455,445		22,360			477,804	22,360			
June	2014	10,547		10,547	547			547			11,094	461,713		22,786			484,499	22,786			
July	2014	10,707		10,707	561			561			11,296	468,987		23,418			492,404	23,418			
August	2014	10,869		10,869	572			572			11,441	475,916		23,903			499,819	23,903			
September	2014	11,033		11,033	594			594			11,617	483,943		24,488			506,431	24,488			
October	2014	11,198		11,198	595			595			11,792	487,094		24,997			512,091	24,997			
November	2014	11,376		11,376	603			603			11,979	490,123		25,479			517,602	25,479			
December	2014	11,487		11,487	603			603			12,090	495,094		25,934			523,028	25,934			
January	2015	11,487		11,487	649			649			12,136	505,534		26,796			532,330	26,796			
February	2015	11,487		11,487	669			669			12,186	505,534		26,797			534,332	26,797			
March	2015	11,487		11,487	764			764			12,186	505,534		31,243			536,777	31,243			
April	2015	11,487		11,487	831			831			12,251	505,534		33,850			539,384	33,850			
May	2015	11,487		11,487	881			881			12,318	505,534		35,720			541,504	35,720			
June	2015	11,487		11,487	928			928			12,398	505,534		37,709			543,243	37,709			
July	2015	11,487		11,487	978			978			12,415	505,534		39,687			545,207	39,687			
August	2015	11,487		11,487	1,040			1,040			12,485	505,534		42,188			547,702	42,188			
September	2015	11,487		11,487	1,100			1,100			12,527	505,534		45,014			550,541	45,014			
October	2015	11,487		11,487	1,180			1,180			12,587	505,534		47,454			552,988	47,454			
November	2015	11,487		11,487	1,217			1,217			12,657	505,534		49,473			554,727	49,473			
December	2015	11,487		11,487	1,286			1,286			12,704	505,534		51,279			556,003	51,279			

Appendix D.11 Residential Low-income Program 2010-2018

Table 1		Capacity Savings						Energy Savings / Participant			Capacity Savings / Participant			
		Net kW						Net kWh / Participant for IRP			Net kW / Participant for IRP			
		VA		NC		System		VA	NC	System	VA	NC	System	
Month	Year	Monthly Cum.	VA Monthly Cum. Retired	VA Cum. for IRP (New + Retired)	NC Monthly Cum.	NC Monthly Cum. Retired	NC Cum. for IRP (New + Retired)	System Cum. for IRP	VA	NC	System	VA	NC	System
April	2010	2		2	-			102	36	-	36	0.14	-	0.35
May	2010	23		23	-			143	40	-	40	0.18	-	1.10
June	2010	61		61	-			184	41	-	41	0.20	-	0.58
July	2010	102		102	-			226	45	-	45	0.21	-	0.46
August	2010	143		143	-			266	46	-	46	0.21	-	0.39
September	2010	184		184	-			304	45	-	45	0.21	-	0.36
October	2010	226		226	-			304	44	-	44	0.21	-	0.29
November	2010	285		285	-			347	44	-	44	0.21	-	0.28
December	2010	304		304	-			407	46	-	46	0.21	-	0.28
January	2011	304		304	0		0	544	43	-	43	0.18	-	0.32
February	2011	347		347	0		0	601	43	-	43	0.18	-	0.30
March	2011	407		407	0		0	671	44	-	44	0.18	-	0.28
April	2011	544		544	0		0	706	45	-	45	0.21	-	0.27
May	2011	601		601	0		0	747	45	-	45	0.20	-	0.25
June	2011	671		671	0		0	795	45	-	45	0.20	-	0.24
July	2011	706		706	1		1	855	44	28	44	0.19	0.08	0.23
August	2011	747		747	5		5	914	43	28	43	0.19	0.09	0.22
September	2011	795		795	8		8	947	44	29	43	0.18	0.11	0.21
October	2011	854		854	12		12	951	43	30	43	0.18	0.12	0.20
November	2011	909		909	15		15	990	43	31	43	0.18	0.12	0.18
December	2011	909		909	27		27	1,088	42	30	42	0.18	0.13	0.18
January	2012	909		909	33		33	1,118	43	38	42	0.17	0.13	0.18
February	2012	975		975	38		38	1,157	43	39	42	0.16	0.12	0.17
March	2012	1,011		1,011	41		41	1,176	43	39	42	0.16	0.12	0.17
April	2012	1,085		1,085	43		43	1,187	42	39	42	0.16	0.12	0.16
May	2012	1,118		1,118	43		43	1,192	42	39	42	0.16	0.12	0.16
June	2012	1,134		1,134	43		43	1,195	42	39	42	0.15	0.12	0.15
July	2012	1,144		1,144	43		43	1,199	42	39	42	0.15	0.12	0.15
August	2012	1,150		1,150	43		43	1,203	42	39	42	0.15	0.12	0.15
September	2012	1,152		1,152	43		43	1,205	42	39	42	0.15	0.12	0.15
October	2012	1,156		1,156	43		43	1,222	42	39	42	0.15	0.12	0.15
November	2012	1,161		1,161	43		43	1,222	42	39	42	0.15	0.12	0.15
December	2012	1,162		1,162	43		43	1,240	42	39	42	0.15	0.12	0.15
January	2013	1,179		1,179	45		45	1,301	42	39	42	0.15	0.12	0.15
February	2013	1,179		1,179	47		47	1,326	42	40	42	0.15	0.12	0.15
March	2013	1,200		1,200	49		49	1,350	43	40	42	0.15	0.12	0.15
April	2013	1,256		1,256	49		49	1,377	43	40	43	0.15	0.12	0.16
May	2013	1,279		1,279	50		50	1,393	43	40	43	0.15	0.12	0.15
June	2013	1,301		1,301	50		50	1,410	43	40	43	0.15	0.12	0.15
July	2013	1,326		1,326	50		50	1,434	44	40	43	0.15	0.12	0.15
August	2013	1,344		1,344	53		53	1,452	44	40	43	0.15	0.12	0.15
September	2013	1,361		1,361	54		54	1,459	44	40	43	0.15	0.12	0.15
October	2013	1,384		1,384	57		57	1,462	44	41	44	0.15	0.12	0.15
November	2013	1,389		1,389	60		60	1,482	44	42	44	0.15	0.13	0.15
December	2013	1,405		1,405	62		62	1,519	44	42	44	0.15	0.13	0.15
January	2014	1,405		1,405	70		70	1,543	44	42	44	0.14	0.14	0.15
February	2014	1,422		1,422	72		72	1,560	44	42	44	0.14	0.14	0.15
March	2014	1,458		1,458	73		73	1,574	44	42	44	0.14	0.14	0.15
April	2014	1,473		1,473	74		74	1,647	44	42	44	0.14	0.14	0.14
May	2014	1,488		1,488	75		75	1,663	44	42	44	0.14	0.14	0.14
June	2014	1,501		1,501	76		76	1,677	44	42	44	0.14	0.14	0.14
July	2014	1,517		1,517	78		78	1,686	44	42	44	0.14	0.14	0.14
August	2014	1,523		1,523	79		79	1,812	44	42	44	0.14	0.14	0.14
September	2014	1,551		1,551	80		80	1,831	44	42	44	0.14	0.14	0.14
October	2014	1,586		1,586	82		82	1,849	44	42	44	0.14	0.14	0.14
November	2014	1,586		1,586	82		82	1,870	44	42	44	0.14	0.14	0.14
December	2014	1,600		1,600	82		82	1,888	44	42	44	0.14	0.14	0.14
January	2015	1,800		1,800	86		86	1,885	44	41	44	0.14	0.13	0.14
February	2015	1,800		1,800	91		91	1,880	44	41	44	0.14	0.13	0.14
March	2015	1,800		1,800	97		97	1,887	44	41	44	0.14	0.13	0.14
April	2015	1,800		1,800	103		103	1,703	44	41	44	0.14	0.12	0.14
May	2015	1,800		1,800	108		108	1,708	44	41	44	0.14	0.12	0.14
June	2015	1,800		1,800	113		113	1,713	44	41	44	0.14	0.12	0.14
July	2015	1,800		1,800	118		118	1,718	44	41	44	0.14	0.12	0.14
August	2015	1,800		1,800	125		125	1,725	44	41	44	0.14	0.12	0.14
September	2015	1,800		1,800	134		134	1,734	44	41	44	0.14	0.12	0.14
October	2015	1,800		1,800	142		142	1,742	44	41	44	0.14	0.12	0.14
November	2015	1,800		1,800	148		148	1,747	44	41	44	0.14	0.12	0.14
December	2015	1,800		1,800	154		154	1,764	44	41	44	0.14	0.12	0.14

Appendix D.11 Residential Low-income Program 2010-2018

Table 1		Participation Program Participants							Energy Savings						
Month	Year	VA Monthly Cum.	VA Monthly Cum. Retired	VA Cum. for IRP (New + Retired) [E] = Σ(A) + Σ(L)	NC Monthly Cum.	NC Monthly Cum. Retired	NC Cum. for IRP (New + Retired) [G] = Σ(C) + Σ(C retired)	System Monthly Cum.	VA Monthly Cum.	VA Monthly Cum. Retired	VA Cum. for IRP (New + Retired)	NC Monthly Cum.	NC Monthly Cum. Retired	NC Cum. for IRP (New + Retired)	System Monthly Cum.
		Σ(A)	Σ(L-A retired)	A retired	Σ(C)	Σ(C-C retired)	C retired	Total							
January	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
February	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
March	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
April	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
May	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
June	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
July	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
August	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
September	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
October	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
November	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
December	2016	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
January	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
February	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
March	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
April	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
May	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
June	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
July	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
August	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
September	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
October	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
November	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
December	2017	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
January	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
February	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
March	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
April	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
May	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
June	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
July	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
August	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
September	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
October	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
November	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807
December	2018	11,487		11,487	1,256		1,256	12,743	505,534		505,534	51,272		51,272	556,807

Table 2. EM&V Data Incremental by Vintage Year		Program Participants (Gross)				Energy Savings (Incremental)			
Vintage Year		VA	NC	System		VA	NC	System	
2010		1,431	-	1,431		276,642	-	276,642	
2011		3,913	207	4,120		1,073,623	17,983	1,091,606	
2012		2,380	156	2,536		855,451	73,801	929,252	
2013		1,893	120	2,003		882,197	37,499	919,697	
2014		1,890	120	2,000		542,010	34,207	576,218	
2015		0	614	614		0	165,828	165,828	
2016		0	0	0		0	0	0	
2017		0	0	0		0	0	0	
2018		0	0	0		0	0	0	

Table 3. EM&V Data Annualized by Vintage Year		Program Participants (Gross)				Energy Savings (Annualized)			
Vintage Year		VA	NC	System		VA	NC	System	
2010		1,431	-	1,431		766,933.91	-	766,933.91	
2011		3,913	207	4,120		1,975,499	88,191	2,063,690	
2012		2,380	156	2,536		1,142,267	80,577	1,222,845	
2013		1,893	120	2,003		1,171,368	75,040	1,246,407	
2014		1,890	120	2,000		1,010,333	59,538	1,069,871	
2015		0	614	614		0	311,824	311,824	
2016		0	0	0		0	0	0	
2017		0	0	0		0	0	0	
2018		0	0	0		0	0	0	

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Program Participants (Gross)				Energy Savings for Program Performance Incentives (PPI)			
Vintage Year		VA	NC	System		VA	NC	System	
2010		1,431	-	1,431		276,642	-	276,642	
2011		5,344	207	5,551		1,840,567	17,983	1,858,550	
2012		7,724	363	8,087		3,597,853	161,792	3,759,644	
2013		8,176	483	8,659		3,809,953	206,268	4,016,220	
2014		6,143	395	6,539		2,855,685	180,824	3,036,509	
2015		3,763	654	4,417		2,181,721	300,436	2,482,157	
2016		0	734	734		1,010,333	371,462	1,381,795	
2017		NA	NA	NA		NA	NA	NA	

Table 5. EM&V Data Accumulated through Vintage Year (for IRP)		Program Participants (Gross)				Energy Savings for Integrated Resource Planning (IRP)			
Vintage Year		VA	NC	System		VA	NC	System	
2010		1,431	-	1,431		276,642	-	276,642	
2011		5,344	207	5,551		1,840,567	17,983	1,858,550	
2012		7,724	363	8,087		3,597,853	161,792	3,759,644	
2013		8,607	483	9,090		4,576,887	206,268	4,783,154	
2014		11,487	603	12,090		5,988,087	278,015	6,266,102	
2015		11,487	1,217	12,704		6,066,410	469,174	6,535,584	
2016		11,487	1,256	12,743		6,066,410	615,270	6,681,680	
2017		11,487	1,256	12,743		6,066,410	615,270	6,681,680	
2018		11,487	1,256	12,743		6,066,410	615,270	6,681,680	

Table 6. EM&V Data Accumulated through Vintage Year (for NC Lost Revenue)		Program Participants (Gross)				Energy Savings for NC Lost Revenue			
Vintage Year		VA	NC	System		VA	NC	System	
2010		1,431	-	1,431		276,642	-	276,642	
2011		5,344	207	5,551		1,840,567	17,983	1,858,550	
2012		7,724	363	8,087		3,597,853	161,792	3,759,644	
2013		8,607	483	9,090		4,584,156	206,268	4,790,423	
2014		10,056	603	10,659		5,922,152	267,381	6,189,534	
2015		6,143	1,010	7,153		2,563,746	314,087	2,877,833	
2016		3,763	893	4,656		1,587,139	415,256	2,002,395	
2017		NA	NA	NA		NA	NA	NA	

Appendix D.11 Residential Low-income Program 2010-2018

Table 1		Capacity Savings						Energy Savings / Participant						
Month	Year	Net kW						Net kWh/Participant for IRP						
		VA			NC			System			System			
		VA Monthly Cum.	VA Monthly Cum. Retired	VA Cum. for IRP (New + Retired)	NC Monthly Cum.	NC Monthly Cum. Retired	NC Cum. for IRP (New + Retired)	VA	NC	System	VA	NC	System	
January	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
February	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
March	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
April	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
May	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
June	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
July	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
August	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
September	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
October	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
November	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
December	2016	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
January	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
February	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
March	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
April	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
May	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
June	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
July	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
August	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
September	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
October	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
November	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
December	2017	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
January	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
February	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
March	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
April	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
May	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
June	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
July	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
August	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
September	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
October	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
November	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14
December	2018	1,600		1,600	154		154	1,754	44	41	44	0.14	0.12	0.14

Table 2. EM&V Data Incremental by Vintage Year	Incremental																	
	Net kW Participant						Incremental Energy Savings / Participant Net kWh/Participant											
	VA			NC			System			VA			NC			System		
	VA	NC	System	VA	NC	System	VA	NC	System	VA	NC	System	VA	NC	System			
2010		304				304	71	-		193	0.2	-			0.2			
2011		635				635	451	87		269	0.2	0.1			0.2			
2012		223				223	464	472		368	0.1	0.1			0.1			
2013		243				243	358	-		354	0.1	0.2			0.1			
2014		195				195	216	-		285	0.1	0.2			0.1			
2015		0				0	71	-		270	-	0.1			0.1			
2016		0				0	0	-		-	-	-			-			
2017		0				0	0	-		-	-	-			-			
2018		0				0	0	-		-	-	-			-			

Table 3. EM&V Data Annualized by Vintage Year							Annualized Energy Savings / Participant Net kWh/Participant			Annualized Capacity Savings / Participant Net kW/Participant		
	Net KW											
	VA				NC	System	VA	NC	System	VA	NC	System
2010	304					304	535		535	0.2		0.2
2011	635				27	662	505	428	501	0.2	-	0.2
2012	223				15	238	480	517	462	0.1	-	0.1
2013	243				19	261	622	625	622	0.1	-	0.1
2014	195				21	216	537	496	535	0.1	-	0.1
2015	0				71	71	-	478	478	-	-	0.1
2016	0				0	0	-	-	-	-	-	-
2017	0				0	0	-	-	-	-	-	-
2018	0				0	0	-	-	-	-	-	-

Table 4. EM&V Data Accumulated through Vintage Year (for PFI)							PPI Energy Savings/Participant Net kWh/Participant			PPI Capacity Savings/Participant Net kW/Participant		
	Net kW											
	VA	NC	System	VA	NC	System	VA	NC	System	VA	NC	System
2010	304	-	304	193	-	193	0.2	-	0.2	-	-	-
2011	939	-	939	344	-	335	0.2	0.1	0.2	-	-	-
2012	1,162	-	1,205	466	-	465	0.2	0.1	0.2	-	-	-
2013	1,101	-	1,182	466	-	464	0.1	0.1	0.1	-	-	-
2014	881	-	716	465	-	466	0.1	0.1	0.1	-	-	-
2015	437	-	548	580	-	538	0.1	0.1	0.1	-	-	-
2016	195	-	287	-	-	195	-	0.1	0.4	-	-	-
2017	N/A	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-	-

Table 5, EM&V Data Accumulated through Vintage Year (for IRP)	Net kW						IRP Energy Savings/Participant Net kWh/Participant			IRP Capacity Savings/Participant Net kW/Participant		
	VA				NC	System	VA	NC	System	VA	NC	System
2010	304					304	193	-	193	0.2	-	0.2
2011	939			27	965	344	87	335	335	0.2	0.1	0.2
2012	1,162			43	1,205	466	446	465	465	0.2	0.1	0.1
2013	1,405			62	1,468	670	427	474	474	0.1	0.1	0.1
2014	1,600			82	1,682	497	461	495	495	0.1	0.1	0.1
2015	1,600			154	1,754	528	386	514	514	0	0.1	0.1
2016	1,600			154	1,754	528	490	524	524	0	0.1	0.1
2017	1,600			154	1,754	528	490	524	524	0	0.1	0.1
2018	1,600			154	1,754	528	490	524	524	0	0.1	0.1

Table 6, EM&V Data Accumulated through Vintage Year (for NC Lost Revenue)	Net kW						NC Lost Revenue Savings/Participant Net kWh/Participant			NC Lost Revenue Capacity Savings/Participant Net kW/Participant		
	VA	NC	System	VA	NC	System	VA	NC	System	VA	NC	System
2010				193		193						
2011				344	87	333						
2012				466	446	466						
2013				454	427	453						
2014				390	443	393						
2015				417	311	403						
2016				422	465	426						
2017				N/A	N/A	N/A						

Appendix D.12 Residential Heat Pump Upgrade Program 2012-2018

PROGRAM: Residential Heat Pump Upgrade
 DSM Phase II Program
 Type: Energy Efficiency
 Program Measure Life: 15.0 years

Table 1		Participation Program Participants										System Cum for IRP
Month	Year	VA					NC					
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
		[A]	[-A retired]	[E] = Σ[A] + Σ[-A retired]	[B]	[F] = Σ[A] + Σ[-A retired] + B	[C]	[-C retired]	[G] = Σ[C] + Σ[-C retired]	[D]	[H] = Σ[C] + Σ[-C retired] + D	
October	2012	16		16		16						
November	2012	33		49		49						
December	2012	37		86		86						
January	2013	34		120		120						
February	2013	165		285		285						
March	2013	202		487		487						
April	2013	149		636		636						
May	2013	261		897		897						
June	2013	309		1,206		1,206						
July	2013	465		1,671		1,671						
August	2013	343		2,014		2,014						
September	2013	415		2,429		2,429						
October	2013	452		2,881		2,881						
November	2013	176		3,057		3,057						
December	2013	324		3,381		3,381						
January	2014	284		3,665		3,665	0		0		0	
February	2014	281		3,946		3,946	0		0		0	
March	2014	254		4,200		4,200	0		0		0	
April	2014	298		4,498		4,498	0		0		0	
May	2014	241		4,739		4,739	0		0		0	
June	2014	322		5,061		5,061	1		1		1	
July	2014	586		5,647		5,647	0		1		1	
August	2014	334		5,981		5,981	4		5		5	
September	2014	418		6,399		6,399	5		10		10	
October	2014	243		6,642		6,642	9		19		19	
November	2014	169		6,811		6,811	12		31		31	
December	2014	219		7,030		7,030	13		44		44	
January	2015	301		7,331		7,331	34		78		78	
February	2015	327		7,658		7,658	15		93		93	
March	2015	258		7,916		7,916	20		113		113	
April	2015	335		8,251		8,251	58		171		171	
May	2015	258		8,509		8,509	57		228		228	
June	2015	694		9,203		9,203	99		327		327	
July	2015	459		9,662		9,662	83		410		410	
August	2015	445		10,107		10,107	48		458		458	
September	2015	412		10,519		10,519	103		561		561	
October	2015	322		10,841		10,841	43		604		604	
November	2015	289		11,130		11,130	29		633		633	
December	2015	110		11,240		11,240	8		641		641	
January	2016	420		11,660		11,660	23		664		664	
February	2016	444		12,104		12,104	72		736		736	
March	2016	415		12,519		12,519	48		784		784	
April	2016	418		12,937		12,937	65		849		849	
May	2016	384		13,321		13,321	44		893		893	
June	2016	499		13,820		13,820	88		981		981	
July	2016	598		14,418		14,418	70		1,051	70	1,051	
August	2016	729		15,147		15,147	105		1,156	175	1,156	
September	2016	414		15,561		15,561	37		1,193	212	1,193	
October	2016	392		15,953		15,953	57		1,250	269	1,250	
November	2016	470		16,423		16,423	46		1,296	315	1,296	
December	2016	212		16,635		16,635	10		1,306		325	
January	2017	828		17,463		17,463	76		1,382		401	
February	2017	235		17,698		17,698	36		1,418		437	
March	2017	86		17,784		17,784	6		1,424		443	
April	2017	0		17,784		17,784	0		1,424		443	
May	2017	0		17,784		17,784	0		1,424		443	
June	2017	0		17,784		17,784	0		1,424		443	
July	2017	0		17,784		17,784	0		1,424		443	
August	2017	0		17,784		17,784	0		1,424		443	
September	2017	0		17,784		17,784	0		1,424		443	
October	2017	0		17,784		17,784	0		1,424		443	
November	2017	0		17,784		17,784	0		1,424		443	
December	2017	0		17,784		17,784	0		1,424		443	

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Appendix D.12 Residential Heat Pump Upgrade Program 2012-2018

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Table 1		Energy Savings										System Cum for IRP
Month	Year	Net kWh		VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC		NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
		VA Monthly New	VA Monthly Retired				NC Monthly New	NC Monthly Retired				
October	2012	3,099		3,099		3,099						
November	2012	6,191		9,290		9,290						
December	2012	5,784		15,074		15,074						
January	2013	4,407		19,481		19,481						
February	2013	26,135		45,615		45,615						
March	2013	31,240		76,855		76,855						
April	2013	21,926		98,781		98,781						
May	2013	40,740		139,521		139,521						
June	2013	47,820		187,341		187,341						
July	2013	72,945		260,286		260,286						
August	2013	51,353		311,639		311,639						
September	2013	63,936		375,575		375,575						
October	2013	63,368		438,943		438,943						
November	2013	27,915		466,858		466,858						
December	2013	52,004		518,862		518,862						
January	2014	39,921		558,782		558,782	0		0		0	
February	2014	36,620		595,402		595,402	0		0		0	
March	2014	35,279		630,682		630,682	0		0		0	
April	2014	41,917		672,599		672,599	0		0		0	
May	2014	31,488		704,087		704,087	0		0		0	
June	2014	44,686		748,772		748,772	299		299		299	
July	2014	57,993		806,765		806,765	0		299		299	
August	2014	34,782		841,547		841,547	487		787		787	
September	2014	41,890		883,437		883,437	759		1,546		1,546	
October	2014	25,347		908,785		908,785	696		2,242		2,242	
November	2014	16,360		925,144		925,144	1,357		3,598		3,598	
December	2014	22,025		947,169		947,169	1,877		5,476		5,476	
January	2015	5,700		952,869		952,869	705		6,180		6,180	
February	2015	6,142		959,010		959,010	1,146		7,326		7,326	
March	2015	4,436		963,447		963,447	150		7,476		7,476	
April	2015	4,985		968,432		968,432	922		8,398		8,398	
May	2015	4,787		973,219		973,219	875		9,273		9,273	
June	2015	11,261		984,480		984,480	1,039		10,313		10,313	
July	2015	7,902		992,382		992,382	888		11,200		11,200	
August	2015	6,741		999,123		999,123	416		11,616		11,616	
September	2015	6,393		1,005,515		1,005,515	1,058		12,674		12,674	
October	2015	4,742		1,010,257		1,010,257	578		13,252		13,252	
November	2015	4,978		1,015,235		1,015,235	345		13,597		13,597	
December	2015	2,103		1,017,338		1,017,338	108		13,705		13,705	
January	2016	7,722		1,025,060		1,025,060	286		13,991		13,991	
February	2016	7,923		1,032,983		1,032,983	1,260		15,251		15,251	
March	2016	5,986		1,038,970		1,038,970	541		15,792		15,792	
April	2016	6,274		1,045,243		1,045,243	606		16,398		16,398	
May	2016	6,607		1,051,851		1,051,851	584		16,981		16,981	
June	2016	8,018		1,059,869		1,059,869	1,453		18,434		18,434	1,078,303
July	2016	9,680		1,069,549		1,069,549	762		19,196	762	19,196	1,088,745
August	2016	11,831		1,081,380		1,081,380	1,368		20,564	2,130	20,564	1,101,945
September	2016	7,279		1,088,660		1,088,660	483		21,047	2,613	21,047	1,109,207
October	2016	6,296		1,094,955		1,094,955	756		21,804	3,370	21,804	1,116,259
November	2016	8,651		1,103,607		1,103,607	1,015		22,819	4,385	22,819	1,126,426
December	2016	3,332		1,106,939		1,106,939	148		22,967	4,533	22,967	1,129,906
January	2017	11,769		1,118,707		1,118,707	1,227		24,194		5,760	1,140,554
February	2017	3,352		1,122,060		1,122,060	467		24,662		6,227	1,147,011
March	2017	1,034		1,123,094		1,123,094	145		24,807		6,373	1,147,901
April	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
May	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
June	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
July	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
August	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
September	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
October	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
November	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901
December	2017	0		1,123,094		1,123,094	0		24,807		6,373	1,147,901

Appendix D.12 Residential Heat Pump Upgrade Program 2012-2018

Table 1		Capacity Savings											Energy Savings / Participant			Capacity Savings / Participant		
Month	Year	Net kW											Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA					NC					System	VA	NC	System	VA	NC	System
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP						
October	2012	7		7		7							194		194	0.43		0.43
November	2012	16		23		23							190		190	0.47		0.47
December	2012	19		42		42							175		175	0.49		0.49
January	2013	17		59		59							162		162	0.49		0.49
February	2013	88		147		147							160		160	0.51		0.51
March	2013	107		253		253							158		158	0.52		0.52
April	2013	80		333		333							155		155	0.52		0.52
May	2013	145		478		478							156		156	0.53		0.53
June	2013	165		644		644							155		155	0.53		0.53
July	2013	232		875		875							156		156	0.52		0.52
August	2013	171		1,047		1,047							155		155	0.52		0.52
September	2013	210		1,257		1,257							155		155	0.52		0.52
October	2013	219		1,475		1,475							152		152	0.51		0.51
November	2013	82		1,558		1,558							153		153	0.51		0.51
December	2013	175		1,733		1,733							153		153	0.51		0.51
January	2014	153		1,886		1,886	0		0		0	0	152		152	0.51		0.51
February	2014	137		2,023		2,023	0		0		0	0	151		151	0.51		0.51
March	2014	136		2,158		2,158	0		0		0	0	150		150	0.51		0.51
April	2014	155		2,313		2,313	0		0		0	0	150		150	0.51		0.51
May	2014	126		2,439		2,439	0		0		0	0	149		149	0.51		0.51
June	2014	171		2,610		2,610	1		1		1	1	148	299	148	0.52	0.59	0.52
July	2014	176		2,785		2,785	0		1		1	1	143	299	143	0.49	0.71	0.49
August	2014	112		2,897		2,897	1		1		1	1	141	157	141	0.48	0.30	0.48
September	2014	134		3,031		3,031	0		2		2	2	138	155	138	0.47	0.20	0.47
October	2014	94		3,125		3,125	3		5		5	5	137	118	137	0.47	0.24	0.47
November	2014	62		3,187		3,187	1		6		6	6	136	116	136	0.47	0.19	0.47
December	2014	78		3,265		3,265	8		14		14	14	135	124	135	0.46	0.31	0.46
January	2015	15		3,280		3,280	2		16		16	16	130	79	129	0.45	0.20	0.44
February	2015	14		3,294		3,294	2		18		18	18	125	79	125	0.43	0.19	0.43
March	2015	13		3,307		3,307	1		19		19	19	122	66	121	0.42	0.16	0.41
April	2015	14		3,321		3,321	2		20		20	20	117	49	116	0.40	0.12	0.40
May	2015	14		3,335		3,335	2		23		23	23	114	41	112	0.39	0.10	0.38
June	2015	30		3,365		3,365	3		26		26	26	107	32	104	0.37	0.08	0.36
July	2015	19		3,385		3,385	3		29		29	29	103	27	100	0.35	0.07	0.34
August	2015	19		3,403		3,403	1		30		30	30	99	25	96	0.34	0.07	0.32
September	2015	17		3,420		3,420	3		33		33	33	96	23	92	0.33	0.06	0.31
October	2015	13		3,434		3,434	2		35		35	35	93	22	89	0.32	0.06	0.30
November	2015	14		3,448		3,448	1		36		36	36	91	21	87	0.31	0.06	0.30
December	2015	6		3,454		3,454	0		37		37	37	91	21	87	0.31	0.06	0.29
January	2016	18		3,472		3,472	1		37		37	37	88	21	84	0.30	0.06	0.28
February	2016	23		3,495		3,495	4		41		41	41	85	21	82	0.29	0.06	0.28
March	2016	18		3,514		3,514	2		43		43	43	83	20	79	0.28	0.06	0.27
April	2016	19		3,532		3,532	3		46		46	46	81	19	77	0.27	0.05	0.26
May	2016	18		3,550		3,550	2		48		48	48	79	19	75	0.27	0.05	0.25
June	2016	23		3,573		3,573	4		51		51	51	77	19	73	0.26	0.05	0.24
July	2016	28		3,601		3,601	2		54	2	54	54	74	18	70	0.25	0.05	0.24
August	2016	33		3,634		3,634	4		58	7	58	58	71	18	68	0.24	0.05	0.23
September	2016	19		3,653		3,653	1		59	8	59	59	70	18	66	0.23	0.05	0.22
October	2016	19		3,671		3,671	2		61	10	61	61	69	17	65	0.23	0.05	0.22
November	2016	24		3,695		3,695	2		64	12	64	64	67	19	64	0.22	0.05	0.21
December	2016	9		3,704		3,704	1		64		64	64	67	18	63	0.22	0.05	0.21
January	2017	38		3,742		3,742	4		68		68	68	64	18	61	0.21	0.05	0.20
February	2017	10		3,752		3,752	1		70		70	70	63	17	60	0.21	0.05	0.20
March	2017	4		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
April	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
May	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
June	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
July	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
August	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
September	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
October	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
November	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20
December	2017	0		3,756		3,756	0		70		70	70	63	17	60	0.21	0.05	0.20

Appendix D.12 Residential Heat Pump Upgrade Program 2012-2018

Table 1		Participation										
Month	Year	Program Participants										System Cum for IRP
		VA					NC					
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj. [B]	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.) [F] = Σ[A] + Σ[-A retired] + B	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
January	2018	0		17,784			0		1,424		443	19,208
February	2018	0		17,784			0		1,424		443	19,208
March	2018	0		17,784			0		1,424		443	19,208
April	2018	0		17,784			0		1,424		443	19,208
May	2018	0		17,784			0		1,424		443	19,208
June	2018	0		17,784			0		1,424		443	19,208
July	2018	0		17,784			0		1,424		443	19,208
August	2018	0		17,784			0		1,424		443	19,208
September	2018	0		17,784			0		1,424		443	19,208
October	2018	0		17,784			0		1,424		443	19,208
November	2018	0		17,784			0		1,424		443	19,208
December	2018	0		17,784			0		1,424		443	19,208

Table 2. EM&V Data Incremental by Vintage Year		Program Participants									
		VA IRP					NC IRP				
		VA NLR					NC NLR				
		System IRP					System NLR				
2012		86		86							86
2013		3,295		3,295							3,295
2014		3,649		3,649		44					3,693
2015		4,210		4,210		597					4,807
2016		5,395		5,395		665					6,060
2017		1,149		1,149		118					1,267
2018		0		N/A		0					0

Table 3. EM&V Data Annualized by Vintage Year		Program Participants									
		VA IRP					NC IRP				
		VA NLR					NC NLR				
		System IRP					System NLR				
2012		86		86							86
2013		3,295		3,295							3,295
2014		3,649		3,649		44					3,693
2015		4,210		4,210		597					4,807
2016		5,395		5,395		665					6,060
2017		1,149		1,149		118					1,267
2018		0		N/A		0					0

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Program Participants									
		VA PPI					NC PPI				
		System PPI					System PPI				
2012											
2013											
2014						44					
2015						641					
2016						1,306					
2017						1,382					

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		Program Participants									
		VA IRP					NC IRP				
		VA NLR					NC NLR				
		System IRP					System NLR				
2012		86		86							86
2013		3,381		3,381							3,381
2014		7,030		7,030		44					7,074
2015		11,240		11,240		641					11,881
2016		16,635		16,635		1,306					17,941
2017		17,784		17,784		1,424					19,208
2018		17,784		N/A		1,424					19,208

Appendix D.12 Residential Heat Pump Upgrade Program 2012-2018

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Table 1		Energy Savings										
Month	Year	Net kWh		VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC		NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP
		VA Monthly New	VA Monthly Retired				NC Monthly New	NC Monthly Retired				
January	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
February	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
March	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
April	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
May	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
June	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
July	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
August	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
September	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
October	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
November	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094
December	2018	0		1,123,094		1,123,094	0		24,807		6,373	1,123,094

Table 2. EM&V Data Incremental by Vintage Year		Net Incremental Energy (kWh)						
Year	System	VA IRP		VA NLR		NC IRP		NC NLR
		VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR	System IRP
2012		27,464	27,464	-	-	27,464	-	27,464
2013		2,758,867	2,758,867	-	-	2,758,867	-	2,758,867
2014		2,996,832	2,996,832	14,247	14,247	3,011,078	14,247	3,011,078
2015		475,277	475,277	59,304	59,304	534,580	59,304	534,580
2016		591,012	591,012	60,784	54,328	651,795	54,328	651,795
2017		188,443	188,443	21,323	21,323	209,766	21,323	209,766
2018		0	0	0	0	0	0	0

Table 3. EM&V Data Annualized by Vintage Year		Net Annualized Energy (kWh/year)						
Year	System	VA IRP		VA NLR		NC IRP		NC NLR
		VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR	System IRP
2012		180,889	180,889	-	-	180,889	-	180,889
2013		6,045,452	6,045,452	-	-	6,045,452	-	6,045,452
2014		5,139,687	5,139,687	65,708	65,708	5,205,395	65,708	5,205,395
2015		842,026	842,026	98,753	98,753	940,779	98,753	940,779
2016		1,075,210	1,075,210	111,143	54,394	1,186,354	54,394	1,186,354
2017		193,864	193,864	22,081	22,081	215,945	22,081	215,945
2018		0	N/A	N/A	N/A	N/A	N/A	N/A

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Net (kWh)						
Year	System	VA IRP		VA NLR		NC IRP		NC PPI
		VA IRP	VA NLR	NC IRP	NC PPI	System IRP	System PPI	System IRP
2012		27,464	27,464	-	-	27,464	-	27,464
2013		2,758,867	2,758,867	-	-	2,758,867	-	2,758,867
2014		2,996,832	2,996,832	14,247	14,247	3,011,078	14,247	3,011,078
2015		475,277	475,277	59,304	59,304	534,580	59,304	534,580
2016		591,012	591,012	60,784	54,328	651,795	54,328	651,795
2017		188,443	188,443	21,323	21,323	209,766	21,323	209,766

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		Net Energy (kWh)						
Year	System	VA IRP		VA NLR		NC IRP		NC NLR
		VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR	System IRP
2012		27,464	27,464	-	-	27,464	-	27,464
2013		2,939,756	2,939,756	-	-	2,939,756	-	2,939,756
2014		9,223,172	9,223,172	14,247	14,247	9,237,419	14,247	9,237,419
2015		11,841,305	11,841,305	125,011	125,011	11,966,316	125,011	11,966,316
2016		12,799,066	12,799,066	225,244	188,376	13,024,310	188,376	13,024,310
2017		13,471,707	13,471,707	296,926	75,716	13,768,634	75,716	13,768,634
2018		13,477,128	N/A	297,685	N/A	13,774,813	N/A	13,774,813

Appendix D.12 Residential Heat Pump Upgrade Program 2012-2018

Capacity Savings													Energy Savings / Participant			Capacity Savings / Participant		
Month	Year	Net kW											Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA					NC					System	VA	NC	System	VA	NC	System
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP						
January	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
February	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
March	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
April	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
May	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
June	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
July	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
August	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
September	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
October	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
November	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20
December	2018	0		3,756		3,756	0		70		19	3,402	63	17	60	0.21	0.05	0.20

Table 2. EM&V Data Incremental by Vintage Year											Incremental Energy Savings/Participant			Incremental Capacity Savings/Participant		
	Net Peak Demand (kW)									Net kWh/Participant for IRP			Net kW/Participant for IRP			
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System	
2012		42		42		-		-	42	319	-	319	0.49	-	0.49	
2013		1,691		1,691		-		-	1,691	837	-	837	0.51	-	0.51	
2014		1,532		1,532		14		14	1,546	821	324	815	0.42	0.31	0.42	
2015		189		189		23		23	212	113	99	111	0.04	0.04	0.04	
2016		250		250		27		13	278	110	91	108	0.05	0.04	0.05	
2017		52		52		6		6	58	164	180.70	166	0.05	0.05	0.05	
2018		0		N/A		0		N/A	0	-	-	-	-	-	-	

Table 3. EM&V Data Annualized by Vintage Year										Annualized Energy Savings/Participant			Annualized Capacity Savings/Participant		
	Net Peak Demand (kW)									Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System
2012		42		42		-		-	42	2,103	-	2,103	0.49	-	0.49
2013		1,691		1,691		-		-	1,691	1,835	-	1,835	0.51	-	0.51
2014		1,532		1,532		14		14	1,546	1,409	1,493	1,410	0.42	0.31	0.42
2015		189		189		23		23	212	200	165	196	0.04	0.04	0.04
2016		250		250		27		13	278	199	167	196	0.05	0.04	0.05
2017		52		52		6		6	58	169	187	170	0.05	0.05	0.05
2018		0		N/A		0		N/A	0	-	-	-	-	-	-

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)													PPI Energy Savings/Participant			PPI Capacity Savings/Participant		
Net Peak Demand (kW)													Net kWh/Participant			Net kW/Participant		
						NC PPI							VA	NC	System	VA	NC	System
2012						-							-	-	-	-	-	-
2013						-							-	-	-	-	-	-
2014						14							324	-	-	0.31	-	-
2015						37							195	-	-	0.06	-	-
2016						64							172	-	-	0.05	-	-
2017						56							168	-	-	0.04	-	-

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)											IRP Energy Savings/Participant			IRP Capacity Savings/Participant		
Net Peak Demand (kW)											Net kWh/Participant			Net kW/Participant		
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System	
2012		42		42		-		-	42	319	-	319	0.49	-	0.49	
2013		1,733		1,733		-		-	1,733	869	-	869	0.51	-	0.51	
2014		3,265		3,265		14		14	3,278	1,312	324	1,306	0.46	0.31	0.46	
2015		3,454		3,454		37		37	3,491	1,053	195	1,007	0.31	0.06	0.29	
2016		3,704		3,704		64		13	3,768	769	172	728	0.22	0.05	0.21	
2017		3,756		3,756		70		19	3,826	758	209	717	0.21	0.05	0.20	
2018		3,756		3,756		70		N/A	3,826	758	209	717	0.21	0.05	0.20	

Appendix D.13 Residential Heat Pump Tune-Up Program 2012-2018

PROGRAM: Residential Heat Pump Tune-Up
DSM Phase II Program
Type: Energy Efficiency
Program Measure Life: 5.0 years

Table 1		Participation											System
Month	Year	Program Participants											
		VA					NC						
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP	
[A]	[-A retired]	[E] = Σ[A] + Σ[-A retired]	[B]	[F] = Σ[A] + Σ[-A retired] + B	[C]	[-C retired]	[G] = Σ[C] + Σ[-C retired]	[D]	[H] = Σ[C] + Σ[-C retired] + D	[I] = [G]			
October	2012	139		139		139							
November	2012	577		716		716							
December	2012	493		1,209		1,209							
January	2013	536		1,745		1,745							
February	2013	2,124		3,869		3,869							
March	2013	2,194		6,063		6,063							
April	2013	876		6,939		6,939							
May	2013	1,779		8,718		8,718							
June	2013	1,236		9,954		9,954							
July	2013	891		10,845		10,845							
August	2013	570		11,415		11,415							
September	2013	1,275		12,690		12,690							
October	2013	1,408		14,098		14,098							
November	2013	1,323		15,421		15,421							
December	2013	1,424		16,845		16,845							
January	2014	995		17,840		17,840	0		0		0		
February	2014	1,178		19,018		19,018	0		0		0		
March	2014	949		19,967		19,967	0		0		0		
April	2014	1,865		21,832		21,832	0		0		0		
May	2014	2,465		24,297		24,297	3		3		3		
June	2014	3,699		27,996		27,996	3		6		6		
July	2014	3,427		31,423		31,423	2		8		8		
August	2014	2,727		34,150		34,150	17		25		25		
September	2014	2,248		36,398		36,398	14		39		39		
October	2014	1,621		38,019		38,019	82		121		121		
November	2014	1,833		39,852		39,852	263		384		384		
December	2014	1,680		41,532		41,532	197		581		581		
January	2015	1,968		43,500		43,500	448		1,029		1,029		
February	2015	1,931		45,431		45,431	316		1,345		1,345		
March	2015	1,219		46,650		46,650	254		1,599		1,599		
April	2015	3,141		49,791		49,791	342		1,941		1,941		
May	2015	2,128		51,919		51,919	313		2,254		2,254		
June	2015	2,085		54,004		54,004	523		2,777		2,777		
July	2015	2,133		56,137		56,137	282		3,059		3,059		
August	2015	1,931		58,068		58,068	171		3,230		3,230		
September	2015	1,873		59,941		59,941	336		3,566		3,566		
October	2015	1,900		61,841		61,841	169		3,735		3,735		
November	2015	1,866		63,707		63,707	102		3,837		3,837		
December	2015	1,939		65,646		65,646	51		3,888		3,888		
January	2016	1,761		67,407		67,407	94		3,982		3,982		
February	2016	2,101		69,508		69,508	170		4,152		4,152		
March	2016	1,113		70,621		70,621	117		4,269		4,269		
April	2016	1,726		72,347		72,347	159		4,428		4,428		
May	2016	1,550		73,897		73,897	96		4,524		4,524		
June	2016	1,649		75,546		75,546	179		4,703		4,703		
July	2016	1,259		76,805		76,805	100		4,803	100	4,803		
August	2016	1,754		78,559		78,559	113		4,916	213	4,916		
September	2016	1,313		79,872		79,872	54		4,970	267	4,970		
October	2016	1,644		81,516		81,516	54		5,024	321	5,024		
November	2016	2,249		83,765		83,765	71		5,095	392	5,095		
December	2016	889		84,654		84,654	67		5,162		459		
January	2017	2,221		86,875		86,875	80		5,242		539		
February	2017	219		87,094		87,094	29		5,271		568		
March	2017	32		87,126		87,126	16		5,287		584		
April	2017	0		87,126		87,126	0		5,287		584		
May	2017	0		87,126		87,126	0		5,287		584		
June	2017	0		87,126		87,126	0		5,287		584		
July	2017	0		87,126		87,126	0		5,287		584		
August	2017	0		87,126		87,126	0		5,287		584		
September	2017	0		87,126		87,126	0		5,287		584		
October	2017	0		87,126		87,126	0		5,287		584		
November	2017	0	-139	86,987		86,987	0		5,287		584		
December	2017	0	-577	86,410		86,410	0		5,287		584		

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Appendix D.13 Residential Heat Pump Tune-Up Program 2012-2018

Table 1		Energy Savings										System
		Net kWh		VA		NC		NC		NC		
Month	Year	VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP
October	2012	3,189		3,189		3,189						
November	2012	12,957		16,147		16,147						
December	2012	10,999		27,145		27,145						
January	2013	12,127		39,272		39,272						
February	2013	47,924		87,197		87,197						
March	2013	48,133		135,329		135,329						
April	2013	19,345		154,674		154,674						
May	2013	39,019		193,693		193,693						
June	2013	27,616		221,309		221,309						
July	2013	19,673		240,983		240,983						
August	2013	12,476		253,458		253,458						
September	2013	27,894		281,352		281,352						
October	2013	30,686		312,038		312,038						
November	2013	28,180		340,217		340,217						
December	2013	29,600		369,817		369,817						
January	2014	18,599		388,416		388,416	0		0		0	
February	2014	22,592		411,008		411,008	0		0		0	
March	2014	17,780		428,787		428,787	0		0		0	
April	2014	33,914		462,701		462,701	0		0		0	
May	2014	47,076		509,777		509,777	102		102		102	
June	2014	67,857		577,634		577,634	91		192		192	
July	2014	65,372		643,006		643,006	41		234		234	
August	2014	50,683		693,689		693,689	338		572		572	
September	2014	40,462		734,151		734,151	268		840		840	
October	2014	31,759		765,910		765,910	1,576		2,416		2,416	
November	2014	37,238		803,148		803,148	5,058		7,474		7,474	
December	2014	33,156		836,304		836,304	4,047		11,521		11,521	
January	2015	33,289		869,593		869,593	8,491		20,012		20,012	
February	2015	30,500		900,092		900,092	5,792		25,804		25,804	
March	2015	20,185		920,277		920,277	4,915		30,719		30,719	
April	2015	48,505		968,783		968,783	6,677		37,396		37,396	
May	2015	33,052		1,001,834		1,001,834	5,895		43,292		43,292	
June	2015	31,820		1,033,655		1,033,655	10,037		53,329		53,329	
July	2015	30,506		1,064,161		1,064,161	5,362		58,691		58,691	
August	2015	28,564		1,092,725		1,092,725	3,187		61,877		61,877	
September	2015	29,206		1,121,930		1,121,930	6,309		68,186		68,186	
October	2015	31,005		1,152,935		1,152,935	3,252		71,438		71,438	
November	2015	29,424		1,182,359		1,182,359	1,934		73,373		73,373	
December	2015	30,939		1,213,298		1,213,298	919		74,292		74,292	
January	2016	27,623		1,240,921		1,240,921	1,838		76,130		76,130	
February	2016	33,849		1,274,820		1,274,820	3,040		79,170		79,170	
March	2016	17,552		1,292,372		1,292,372	2,222		81,392		81,392	
April	2016	27,594		1,319,966		1,319,966	2,934		84,326		84,326	
May	2016	26,473		1,346,439		1,346,439	1,794		86,120		86,120	
June	2016	28,151		1,374,590		1,374,590	3,401		89,521		89,521	1,464,111
July	2016	20,517		1,395,107		1,395,107	2,003		91,524	2,003	91,524	1,486,631
August	2016	27,380		1,422,487		1,422,487	2,175		93,699	4,178	93,699	1,516,186
September	2016	19,544		1,442,031		1,442,031	960		94,659	5,138	94,659	1,536,689
October	2016	24,041		1,466,071		1,466,071	1,001		95,660	6,139	95,660	1,561,731
November	2016	33,887		1,499,959		1,499,959	1,423		97,083	7,562	97,083	1,597,041
December	2016	13,589		1,513,527		1,513,527	1,217		98,299	7,562	98,299	1,611,826
January	2017	33,076		1,546,603		1,546,603	1,515		99,814		10,293	
February	2017	3,615		1,550,218		1,550,218	528		100,342		10,821	
March	2017	569		1,550,787		1,550,787	342		100,684		11,163	
April	2017	0		1,550,787		1,550,787	0		100,684		11,163	
May	2017	0		1,550,787		1,550,787	0		100,684		11,163	
June	2017	0		1,550,787		1,550,787	0		100,684		11,163	
July	2017	0		1,550,787		1,550,787	0		100,684		11,163	
August	2017	0		1,550,787		1,550,787	0		100,684		11,163	
September	2017	0		1,550,787		1,550,787	0		100,684		11,163	
October	2017	0		1,550,787		1,550,787	0		100,684		11,163	
November	2017	0	-3,189	1,547,597		1,547,597	0		100,684		11,163	
December	2017	0	-12,957	1,534,640		1,534,640	0		100,684		11,163	

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Appendix D.13 Residential Heat Pump Tune-Up Program 2012-2018

Table 1		Capacity Savings											Energy Savings / Participant			Capacity Savings / Participant		
Month	Year	Net kW											Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA					NC					System	VA	NC	System	VA	NC	System
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP						
October	2012	26		26		26							23		23	0.19		0.19
November	2012	106		133		133							23		23	0.19		0.19
December	2012	90		223		223							22		22	0.18		0.18
January	2013	99		322		322							23		23	0.18		0.18
February	2013	393		715		715							23		23	0.18		0.18
March	2013	396		1,111		1,111							22		22	0.18		0.18
April	2013	160		1,271		1,271							22		22	0.18		0.18
May	2013	323		1,594		1,594							22		22	0.18		0.18
June	2013	239		1,823		1,823							22		22	0.18		0.18
July	2013	162		1,985		1,985							22		22	0.18		0.18
August	2013	103		2,088		2,088							22		22	0.18		0.18
September	2013	229		2,317		2,317							22		22	0.18		0.18
October	2013	252		2,569		2,569							22		22	0.18		0.18
November	2013	232		2,801		2,801							22		22	0.18		0.18
December	2013	244		3,044		3,044							22		22	0.18		0.18
January	2014	119		3,163		3,163	0		0		0	0	22	-	22	0.18	-	0.18
February	2014	143		3,306		3,306	0		0		0	0	22	-	22	0.17	-	0.17
March	2014	113		3,419		3,419	0		0		0	0	21	-	21	0.17	-	0.17
April	2014	213		3,631		3,631	0		0		0	0	21	-	21	0.17	-	0.17
May	2014	290		3,921		3,921	1		1		1	1	21	34	21	0.16	0.21	0.16
June	2014	423		4,344		4,344	1		1		1	1	21	32	21	0.16	0.20	0.16
July	2014	398		4,742		4,742	0		0		0	0	20	29	20	0.15	0.18	0.15
August	2014	310		5,052		5,052	2		2		2	2	20	23	20	0.15	0.14	0.15
September	2014	252		5,304		5,304	2		2		2	2	20	22	20	0.15	0.13	0.15
October	2014	187		5,491		5,491	10		15		15	15	20	20	20	0.14	0.12	0.14
November	2014	213		5,704		5,704	32		47		47	47	20	19	20	0.14	0.12	0.14
December	2014	196		5,900		5,900	24		71		71	71	20	20	20	0.14	0.12	0.14
January	2015	1,804		7,704		7,704	75		146		146	146	20	19	20	0.18	0.14	0.18
February	2015	273		7,977		7,977	52		198		198	198	20	19	20	0.18	0.15	0.17
March	2015	182		8,159		8,159	44		241		241	241	20	19	20	0.17	0.15	0.17
April	2015	431		8,590		8,590	59		301		301	301	19	19	19	0.17	0.15	0.17
May	2015	296		8,886		8,886	53		353		353	353	19	19	19	0.17	0.16	0.17
June	2015	284		9,170		9,170	89		442		442	442	19	19	19	0.17	0.16	0.17
July	2015	266		9,437		9,437	47		490		490	490	19	19	19	0.17	0.16	0.17
August	2015	251		9,688		9,688	29		518		518	518	19	19	19	0.17	0.16	0.17
September	2015	260		9,948		9,948	56		575		575	575	19	19	19	0.17	0.16	0.17
October	2015	275		10,223		10,223	29		604		604	604	19	19	19	0.17	0.16	0.17
November	2015	258		10,481		10,481	17		621		621	621	19	19	19	0.16	0.16	0.16
December	2015	271		10,752		10,752	8		630		630	630	18	19	19	0.16	0.16	0.16
January	2016	246		10,998		10,998	16		646		646	646	18	19	18	0.16	0.16	0.16
February	2016	300		11,298		11,298	27		673		673	673	18	19	18	0.16	0.16	0.16
March	2016	156		11,454		11,454	20		693		693	693	18	19	18	0.16	0.16	0.16
April	2016	244		11,698		11,698	26		719		719	719	18	19	18	0.16	0.16	0.16
May	2016	237		11,936		11,936	16		735		735	735	18	19	18	0.16	0.16	0.16
June	2016	254		12,190		12,190	31		766		766	766	18	19	18	0.16	0.16	0.16
July	2016	183		12,373		12,373	18		784	18	784	784	18	19	18	0.16	0.16	0.16
August	2016	240		12,613		12,613	20		803	38	803	803	18	19	18	0.16	0.16	0.16
September	2016	175		12,788		12,788	9		812	46	812	812	18	19	18	0.16	0.16	0.16
October	2016	217		13,005		13,005	9		821	55	821	821	18	19	18	0.16	0.16	0.16
November	2016	308		13,313		13,313	13		833	68	833	833	18	19	18	0.16	0.16	0.16
December	2016	130		13,433		13,433	11		844	79	844	844	18	19	18	0.16	0.16	0.16
January	2017	310		13,743		13,743	14		858		858	858	19	19	18	0.16	0.16	0.16
February	2017	34		13,776		13,776	5		863		863	863	18	19	18	0.16	0.16	0.16
March	2017	5		13,782		13,782	3		867		867	867	18	19	18	0.16	0.16	0.16
April	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
May	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
June	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
July	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
August	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
September	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
October	2017	0		13,782		13,782	0		867		867	867	18	19	18	0.16	0.16	0.16
November	2017	0	-26	13,756		13,756	0		867		867	867	18	19	18	0.16	0.16	0.16
December	2017	0	-106	13,649		13,649	0		867		867	867	18	19	18	0.16	0.16	0.16

Appendix D.13 Residential Heat Pump Tune-Up Program 2012-2018

Table 1		Participation										
Month	Year	Program Participants						NC				System Cum for IRP
		VA		VA Cum. for IRP (New + Retired)	VA Rate Reset Adj. [B]	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.) [F] =Σ[A] + Σ[-A retired] + B	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
		VA Monthly New	VA Monthly Retired									
January	2018	0	-493	85,917			0		5,287		584	
February	2018	0	-536	85,381			0		5,287		584	
March	2018	0	-2,124	83,257			0		5,287		584	
April	2018	0	-2,194	81,063			0		5,287		584	
May	2018	0	-876	80,187			0		5,287		584	
June	2018	0	-1,779	78,408			0		5,287		584	
July	2018	0	-1,236	77,172			0		5,287		584	
August	2018	0	-891	76,281			0		5,287		584	
September	2018	0	-570	75,711			0		5,287		584	
October	2018	0	-1,275	74,436			0		5,287		584	
November	2018	0	-1,408	73,028			0		5,287		584	
December	2018	0	-1,323	71,705			0		5,287		584	

Table 2. EM&V Data Incremental by Vintage Year		Program Participants						System IRP	
Year	Vintage	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR
2012	2012	1,209	1,209	1,209	1,209	-	-	1,209	1,209
2013	2013	15,636	15,636	15,636	15,636	-	-	15,636	15,636
2014	2014	24,687	24,687	24,687	24,687	581	581	25,268	25,268
2015	2015	24,114	24,114	24,114	24,114	3,307	3,307	27,421	27,421
2016	2016	19,008	19,008	19,008	19,008	1,274	459	20,282	20,282
2017	2017	1,756	1,756	1,756	1,756	125	125	1,881	1,881
2018	2018	-14,705	-14,705	-14,705	-14,705	0	0	-14,705	-14,705

Table 3. EM&V Data Annualized by Vintage Year		Program Participants						System IRP	
Year	Vintage	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR
2012	2012	1,209	1,209	1,209	1,209	-	-	1,209	1,209
2013	2013	15,636	15,636	15,636	15,636	-	-	15,636	15,636
2014	2014	24,687	24,687	24,687	24,687	581	581	25,268	25,268
2015	2015	24,114	24,114	24,114	24,114	3,307	3,307	27,421	27,421
2016	2016	19,008	19,008	19,008	19,008	1,274	459	20,282	20,282
2017	2017	1,756	1,756	1,756	1,756	125	125	1,881	1,881
2018	2018	-14,705	-14,705	-14,705	-14,705	0	0	-14,705	-14,705

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Program Participants						System IRP	
Year	Vintage	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR
2012	2012	1,209	1,209	1,209	1,209	-	-	1,209	1,209
2013	2013	15,636	15,636	15,636	15,636	-	-	15,636	15,636
2014	2014	24,687	24,687	24,687	24,687	581	581	25,268	25,268
2015	2015	24,114	24,114	24,114	24,114	3,307	3,307	27,421	27,421
2016	2016	19,008	19,008	19,008	19,008	1,274	459	20,282	20,282
2017	2017	1,756	1,756	1,756	1,756	125	125	1,881	1,881
2018	2018	-14,705	-14,705	-14,705	-14,705	0	0	-14,705	-14,705

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		Program Participants						System IRP	
Year	Vintage	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	System IRP	System NLR
2012	2012	1,209	1,209	1,209	1,209	-	-	1,209	1,209
2013	2013	16,845	16,845	16,845	16,845	-	-	16,845	16,845
2014	2014	41,532	41,532	41,532	41,532	581	581	42,113	42,113
2015	2015	65,646	65,646	65,646	65,646	3,888	3,888	69,534	69,534
2016	2016	84,654	84,654	84,654	84,654	5,162	459	89,816	89,816
2017	2017	86,410	86,410	86,410	86,410	5,287	584	91,697	91,697
2018	2018	71,705	71,705	71,705	71,705	5,287	584	76,992	76,992

Appendix D.13 Residential Heat Pump Tune-Up Program 2012-2018

Table 1		Energy Savings										
Month	Year	Net kWh					NC					System Cum for IRP
		VA					NC					
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
January	2018	0	-10,999	1,523,641		1,523,641	0		100,684		11,163	
February	2018	0	-12,127	1,511,514		1,511,514	0		100,684		11,163	
March	2018	0	-47,924	1,463,590		1,463,590	0		100,684		11,163	
April	2018	0	-48,133	1,415,458		1,415,458	0		100,684		11,163	
May	2018	0	-19,345	1,396,112		1,396,112	0		100,684		11,163	
June	2018	0	-39,019	1,357,093		1,357,093	0		100,684		11,163	
July	2018	0	-27,616	1,329,477		1,329,477	0		100,684		11,163	
August	2018	0	-19,673	1,309,804		1,309,804	0		100,684		11,163	
September	2018	0	-12,476	1,297,328		1,297,328	0		100,684		11,163	
October	2018	0	-27,894	1,269,435		1,269,435	0		100,684		11,163	
November	2018	0	-30,686	1,238,749		1,238,749	0		100,684		11,163	
December	2018	0	-28,180	1,210,569		1,210,569	0		100,684		11,163	

Table 2. EM&V Data Incremental by Vintage Year		Net Incremental Energy (kWh)					
		VA IRP		VA NLR		NC IRP	
							System IRP
2012		46,481		46,481		-	46,481
2013		2,303,596		2,303,596		-	2,303,596
2014		2,816,729		2,816,729		23,352	2,840,081
2015		2,485,994		2,485,994		480,153	2,966,147
2016		2,028,763		2,028,763		176,079	2,204,841
2017		423,025		423,025		27,402	450,427
2018		-2,092,907		-2,092,907		0	-2,092,907

Table 3. EM&V Data Annualized by Vintage Year		Net Annualized Energy (kWh/year)					
		VA IRP		VA NLR		NC IRP	
							System IRP
2012		325,743		325,743		-	325,743
2013		4,112,059		4,112,059		-	4,112,059
2014		5,597,846		5,597,846		138,256	5,736,102
2015		4,523,928		4,523,928		753,248	5,277,175
2016		3,602,750		3,602,750		288,088	3,890,838
2017		253,353		253,353		28,614	281,967
2018		-3,888,847		-3,888,847		0	-3,888,847

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Net (kWh)					
						NC PPI	
							System
2012						-	
2013						-	
2014						23,352	
2015						618,409	
2016						1,067,582	
2017						1,068,738	

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		Net Energy (kWh)					
		VA IRP		VA NLR		NC IRP	
							System IRP
2012		46,481		46,481		-	46,481
2013		2,629,339		2,629,339		-	2,629,339
2014		7,254,531		7,254,531		23,352	7,277,883
2015		12,521,642		12,521,642		618,409	13,140,051
2016		16,588,339		16,588,339		1,067,582	17,655,921
2017		18,585,351		18,585,351		1,206,994	19,792,345
2018		16,322,772		16,322,772		1,206,206	17,530,978

Appendix D.13 Residential Heat Pump Tune-Up Program 2012-2018

Table 1		Capacity Savings											Energy Savings / Participant			Capacity Savings / Participant		
Month	Year	Net kW											Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA					NC					System	VA	NC	System	VA	NC	System
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP						
January	2018	0	-90	13,559			0		867		101	1,429	18	19	18	0.16	0.16	0.16
February	2018	0	-99	13,460			0		867		101	1,429	18	19	18	0.16	0.16	0.16
March	2018	0	-393	13,067			0		867		101	1,429	18	19	18	0.16	0.16	0.16
April	2018	0	-396	12,671			0		867		101	1,429	17	19	18	0.16	0.16	0.16
May	2018	0	-160	12,510			0		867		101	1,429	17	19	18	0.16	0.16	0.16
June	2018	0	-323	12,188			0		867		101	1,429	17	19	17	0.16	0.16	0.16
July	2018	0	-229	11,958			0		867		101	1,429	17	19	17	0.15	0.16	0.16
August	2018	0	-162	11,796			0		867		101	1,429	17	19	17	0.15	0.16	0.16
September	2018	0	-103	11,694			0		867		101	1,429	17	19	17	0.15	0.16	0.16
October	2018	0	-229	11,465			0		867		101	1,429	17	19	17	0.15	0.16	0.15
November	2018	0	-252	11,213			0		867		101	1,429	17	19	17	0.15	0.16	0.15
December	2018	0	-232	10,981			0		867		101	1,429	17	19	17	0.15	0.16	0.15

Table 2. EM&V Data Incremental by Vintage Year		Incremental Energy Savings/Participant											Incremental Capacity Savings/Participant		
		Net kWh/Participant for IRP											Net kW/Participant for IRP		
		VA IRP					VA NLR					System IRP	VA	NC	System
2012		223				223						223	38	-	38
2013		2,822				2,822						2,822	147	-	147
2014		2,855				2,855						2,927	114	40	112
2015		4,852				4,852						5,411	103	145	108
2016		2,681				2,681						2,896	107	138	109
2017		216				216						238	241	219.22	239
2018		-2,668				-2,668						-2,668	142	-	142

Table 3. EM&V Data Annualized by Vintage Year		Annualized Energy Savings/Participant											Annualized Capacity Savings/Participant		
		Net kWh/Participant for IRP											Net kW/Participant for IRP		
		VA IRP					VA NLR					System IRP	VA	NC	System
2012		223				223						223	269	-	269
2013		2,822				2,822						2,822	263	-	263
2014		2,855				2,855						2,927	227	238	227
2015		4,852				4,852						5,411	188	228	192
2016		2,681				2,681						2,896	190	226	192
2017		216				216						238	144	229	150
2018		-2,668				-2,668						-2,668	264	-	264

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		PPI Energy Savings/Participant											PPI Capacity Savings/Participant		
		Net kWh/Participant											Net kW/Participant		
		VA PPI					VA NLR					System PPI	VA	NC	System
2012															
2013															
2014															
2015															
2016															
2017															

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		IRP Energy Savings/Participant											IRP Capacity Savings/Participant		
		Net kWh/Participant											Net kW/Participant		
		VA IRP					VA NLR					System IRP	VA	NC	System
2012		223				223						223	38	-	38
2013		3,044				3,044						3,044	156	-	156
2014		5,900				5,900						5,971	175	40	173
2015		10,752				10,752						11,382	191	159	189
2016		13,433				13,433						14,277	196	207	197
2017		13,649				13,649						14,516	215	228	216
2018		10,981				10,981						11,848	228	229	228

Appendix D.14 Residential Duct Sealing Program 2012-2018

PROGRAM:	Residential Duct Sealing
DSM Phase II Program	
Type:	Energy Efficiency
Program Measure Life:	18.0 years

Table 1		Participation Program Participants											System
Month	Year	VA					NC					System Cum for IRP	IRP
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)		
		[A]	[-A retired]	[E] = Σ[A] + Σ[-A retired]	[B]	[F] = Σ[A] + Σ[-A retired] + B	[C]	[-C retired]	[G] = Σ[C] + Σ[-C retired]	[D]	[H] = Σ[C] + Σ[-C retired] + D		
October	2012	2		2		2							
November	2012	6		8		8							
December	2012	0		8		8							
January	2013	0		8		8							
February	2013	16		24		24							
March	2013	4		28		28							
April	2013	23		51		51							
May	2013	17		68		68							
June	2013	11		79		79							
July	2013	4		83		83							
August	2013	7		90		90							
September	2013	3		93		93							
October	2013	10		103		103							
November	2013	6		109		109							
December	2013	7		116		116							
January	2014	15		131		131	0		0		0		
February	2014	6		137		137	0		0		0		
March	2014	3		140		140	0		0		0		
April	2014	9		149		149	0		0		0		
May	2014	6		155		155	0		0		0		
June	2014	6		161		161	0		0		0		
July	2014	9		170		170	0		0		0		
August	2014	5		175		175	0		0		0		
September	2014	26		201		201	0		0		0		
October	2014	82		283		283	0		0		0		
November	2014	117		400		400	0		0		0		
December	2014	117		517		517	0		0		0		
January	2015	106		623		623	1		1		1		
February	2015	163		786		786	28		29		29		
March	2015	132		918		918	85		114		114		
April	2015	201		1,119		1,119	60		174		174		
May	2015	233		1,352		1,352	77		251		251		
June	2015	262		1,614		1,614	59		310		310		
July	2015	168		1,782		1,782	12		322		322		
August	2015	185		1,967		1,967	0		322		322		
September	2015	134		2,101		2,101	0		322		322		
October	2015	68		2,169		2,169	1		323		323		
November	2015	59		2,228		2,228	0		323		323		
December	2015	149		2,377		2,377	0		323		323		
January	2016	53		2,430		2,430	1		324		324		
February	2016	96		2,526		2,526	26		350		350		
March	2016	48		2,574		2,574	66		416		416		
April	2016	48		2,622		2,622	49		465		465		
May	2016	40		2,662		2,662	25		490		490		
June	2016	48		2,710		2,710	21		511		511	3,221	
July	2016	14		2,724		2,724	19		530	19	530	3,254	
August	2016	36		2,760		2,760	6		536	25	536	3,296	
September	2016	55		2,815		2,815	1		537	26	537	3,352	
October	2016	67		2,882		2,882	3		540	29	540	3,422	
November	2016	95		2,977		2,977	0		540	29	540	3,517	
December	2016	58		3,035		3,035	0		540	29	540	3,575	
January	2017	101		3,136		3,136	8		548		548	3,643	
February	2017	147		3,283		3,283	5		553		553	3,700	
March	2017	16		3,299		3,299	1		554		554	3,754	
April	2017	0		3,299		3,299	0		554		554	3,808	
May	2017	0		3,299		3,299	0		554		554	3,862	
June	2017	0		3,299		3,299	0		554		554	3,916	
July	2017	0		3,299		3,299	0		554		554	3,970	
August	2017	0		3,299		3,299	0		554		554	4,024	
September	2017	0		3,299		3,299	0		554		554	4,078	
October	2017	0		3,299		3,299	0		554		554	4,132	
November	2017	0		3,299		3,299	0		554		554	4,186	
December	2017	0		3,299		3,299	0		554		554	4,240	

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Appendix D.14 Residential Duct Sealing Program 2012-2018

Table 1		Energy Savings										
Month	Year	Net kWh					NC					System Cum for IRP
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
October	2012	104		104		104						
November	2012	228		332		332						
December	2012	0		332		332						
January	2013	0		332		332						
February	2013	1,141		1,474		1,474						
March	2013	67		1,541		1,541						
April	2013	678		2,219		2,219						
May	2013	494		2,713		2,713						
June	2013	464		3,177		3,177						
July	2013	125		3,302		3,302						
August	2013	270		3,572		3,572						
September	2013	128		3,700		3,700						
October	2013	211		3,911		3,911						
November	2013	162		4,073		4,073						
December	2013	237		4,310		4,310						
January	2014	292		4,602		4,602	0		0		0	
February	2014	107		4,709		4,709	0		0		0	
March	2014	67		4,775		4,775	0		0		0	
April	2014	223		4,999		4,999	0		0		0	
May	2014	147		5,146		5,146	0		0		0	
June	2014	189		5,335		5,335	0		0		0	
July	2014	170		5,505		5,505	0		0		0	
August	2014	104		5,609		5,609	0		0		0	
September	2014	1,032		6,642		6,642	0		0		0	
October	2014	1,798		8,440		8,440	0		0		0	
November	2014	2,250		10,689		10,689	0		0		0	
December	2014	2,334		13,023		13,023	0		0		0	
January	2015	2,153		15,176		15,176	23		23		23	
February	2015	3,020		18,196		18,196	652		674		674	
March	2015	2,484		20,681		20,681	1,711		2,386		2,386	
April	2015	3,596		24,276		24,276	1,253		3,639		3,639	
May	2015	4,462		28,739		28,739	1,522		5,161		5,161	
June	2015	4,796		33,535		33,535	1,188		6,348		6,348	
July	2015	2,764		36,299		36,299	268		6,616		6,616	
August	2015	3,383		39,682		39,682	0		6,616		6,616	
September	2015	2,355		42,037		42,037	0		6,616		6,616	
October	2015	1,191		43,228		43,228	20		6,636		6,636	
November	2015	1,086		44,314		44,314	0		6,636		6,636	
December	2015	2,443		46,757		46,757	0		6,636		6,636	
January	2016	1,244		48,000		48,000	16		6,651		6,651	
February	2016	1,851		49,851		49,851	489		7,140		7,140	
March	2016	786		50,637		50,637	1,455		8,595		8,595	
April	2016	859		51,496		51,496	933		9,529		9,529	
May	2016	944		52,440		52,440	494		10,023		10,023	
June	2016	903		53,342		53,342	341		10,365		10,365	63,707
July	2016	242		53,584		53,584	307		10,672	307	10,672	64,256
August	2016	590		54,174		54,174	164		10,836	471	10,836	65,010
September	2016	947		55,121		55,121	16		10,851	486	10,851	65,922
October	2016	1,268		56,389		56,389	38		10,889	524	10,889	67,278
November	2016	1,752		58,141		58,141	0		10,889	524	10,889	69,029
December	2016	779		58,920		58,920	0		10,889	524	10,889	69,608
January	2017	1,904		60,824		60,824	172		11,061		11,061	69,780
February	2017	2,591		63,415		63,415	76		11,137		11,137	70,117
March	2017	301		63,716		63,716	15		11,152		11,152	70,418
April	2017	0		63,716		63,716	0		11,152		11,152	70,670
May	2017	0		63,716		63,716	0		11,152		11,152	70,922
June	2017	0		63,716		63,716	0		11,152		11,152	71,174
July	2017	0		63,716		63,716	0		11,152		11,152	71,426
August	2017	0		63,716		63,716	0		11,152		11,152	71,678
September	2017	0		63,716		63,716	0		11,152		11,152	71,930
October	2017	0		63,716		63,716	0		11,152		11,152	72,182
November	2017	0		63,716		63,716	0		11,152		11,152	72,434
December	2017	0		63,716		63,716	0		11,152		11,152	72,686

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Appendix D.14 Residential Duct Sealing Program 2012-2018

Table 1		Capacity Savings										Energy Savings / Participant			Capacity Savings / Participant			
Month	Year	Net kW					NC					System	Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)		VA	NC	System	VA	NC	System
October	2012	1		1		1							52		52	0.62		0.62
November	2012	3		4		4							42		42	0.49		0.49
December	2012	0		4		4							42		42	0.49		0.49
January	2013	0		4		4							42		42	0.49		0.49
February	2013	14		17		17							61		61	0.73		0.73
March	2013	1		18		18							55		55	0.64		0.64
April	2013	8		26		26							44		44	0.51		0.51
May	2013	6		32		32							40		40	0.47		0.47
June	2013	6		37		37							40		40	0.47		0.47
July	2013	1		39		39							40		40	0.47		0.47
August	2013	3		42		42							40		40	0.47		0.47
September	2013	2		44		44							40		40	0.47		0.47
October	2013	3		46		46							38		38	0.45		0.45
November	2013	2		48		48							37		37	0.44		0.44
December	2013	3		51		51							37		37	0.44		0.44
January	2014	2		53		53	0		0		0	0	35	-	35	0.41	-	0.41
February	2014	1		54		54	0		0		0	0	34	-	34	0.40	-	0.40
March	2014	1		55		55	0		0		0	0	34	-	34	0.39	-	0.39
April	2014	2		57		57	0		0		0	0	34	-	34	0.38	-	0.38
May	2014	1		58		58	0		0		0	0	33	-	33	0.37	-	0.37
June	2014	2		59		59	0		0		0	0	33	-	33	0.37	-	0.37
July	2014	1		61		61	0		0		0	0	32	-	32	0.36	-	0.36
August	2014	1		62		62	0		0		0	0	32	-	32	0.35	-	0.35
September	2014	9		70		70	0		0		0	0	33	-	33	0.35	-	0.35
October	2014	15		86		86	0		0		0	0	30	-	30	0.30	-	0.30
November	2014	19		105		105	0		0		0	0	27	-	27	0.26	-	0.26
December	2014	20		124		124	0		0		0	0	25	-	25	0.24	-	0.24
January	2015	18		143		143	0		0		0	0	24	23	24	0.23	0.17	0.23
February	2015	26		168		168	5		5		5	5	23	23	23	0.21	0.18	0.21
March	2015	21		189		189	13		18		18	18	23	21	22	0.21	0.16	0.20
April	2015	30		220		220	10		28		28	28	22	21	22	0.20	0.16	0.19
May	2015	38		257		257	12		39		39	39	21	21	21	0.19	0.16	0.19
June	2015	41		298		298	9		48		48	48	21	20	21	0.18	0.16	0.18
July	2015	23		321		321	2		50		50	50	20	21	20	0.18	0.16	0.18
August	2015	29		350		350	0		50		50	50	20	21	20	0.18	0.16	0.17
September	2015	20		370		370	0		50		50	50	20	21	20	0.18	0.16	0.17
October	2015	10		380		380	0		50		50	50	20	21	20	0.18	0.16	0.17
November	2015	9		389		389	0		50		50	50	20	21	20	0.17	0.16	0.17
December	2015	21		410		410	0		50		50	50	20	21	20	0.17	0.16	0.17
January	2016	10		420		420	0		50		50	50	20	21	20	0.17	0.16	0.17
February	2016	16		436		436	4		54		54	54	20	20	20	0.17	0.15	0.17
March	2016	7		443		443	11		65		65	65	20	21	20	0.17	0.16	0.17
April	2016	7		450		450	7		72		72	72	20	20	20	0.17	0.16	0.17
May	2016	8		458		458	4		76		76	76	20	20	20	0.17	0.16	0.17
June	2016	8		465		465	3		79		79	79	20	20	20	0.17	0.15	0.17
July	2016	2		468		468	2		81	2	81	81	20	20	20	0.17	0.15	0.17
August	2016	5		473		473	1		82	4	82	82	20	20	20	0.17	0.15	0.17
September	2016	8		481		481	0		82	4	82	82	20	20	20	0.17	0.15	0.17
October	2016	11		491		491	0		83	4	83	83	20	20	20	0.17	0.15	0.17
November	2016	15		506		506	0		83	4	83	83	20	20	20	0.17	0.15	0.17
December	2016	7		513		513	0		83	4	83	83	19	20	20	0.17	0.15	0.17
January	2017	16		529		529	1		84		84	84	19	20	20	0.17	0.15	0.17
February	2017	22		551		551	1		84		84	84	19	20	19	0.17	0.15	0.17
March	2017	3		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
April	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
May	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
June	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
July	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
August	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
September	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
October	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
November	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17
December	2017	0		553		553	0		85		85	85	19	20	19	0.17	0.15	0.17

Appendix D.14 Residential Duct Sealing Program 2012-2018

Table 1		Participation									
Month	Year	Program Participants					NC				
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj. [B]	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.) [F] = I[A] + I[-A retired] + B	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)
January	2018	0		3,299			0		554		43
February	2018	0		3,299			0		554		43
March	2018	0		3,299			0		554		43
April	2018	0		3,299			0		554		43
May	2018	0		3,299			0		554		43
June	2018	0		3,299			0		554		43
July	2018	0		3,299			0		554		43
August	2018	0		3,299			0		554		43
September	2018	0		3,299			0		554		43
October	2018	0		3,299			0		554		43
November	2018	0		3,299			0		554		43
December	2018	0		3,299			0		554		43

Table 2. EM&V Data Incremental by Vintage Year		Program Participants									
		VA IRP		VA NLR		NC IRP		NC NLR		System IRP	
2012		8		8		-		-		8	
2013		108		108		-		-		108	
2014		401		401		-		-		401	
2015		1,860		1,860		323		323		2,183	
2016		658		658		217		29		875	
2017		264		264		14		14		278	
2018		0		0		0		0		0	

Table 3. EM&V Data Annualized by Vintage Year		Program Participants									
		VA IRP		VA NLR		NC IRP		NC NLR		System IRP	
2012		8		8		-		-		8	
2013		108		108		-		-		108	
2014		401		401		-		-		401	
2015		1,860		1,860		323		323		2,183	
2016		658		658		217		29		875	
2017		264		264		14		14		278	
2018		0		0		0		0		0	

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Program Participants									
		VA IRP		VA NLR		NC PPI		NC NLR		System IRP	
2012		8		8		-		-		8	
2013		116		116		-		-		116	
2014		517		517		-		-		517	
2015		2,377		2,377		323		323		2,700	
2016		3,035		3,035		540		29		3,575	
2017		3,299		3,299		554		43		3,853	
2018		3,299		3,299		554		43		3,853	

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		Program Participants									
		VA IRP		VA NLR		NC IRP		NC NLR		System IRP	
2012		8		8		-		-		8	
2013		116		116		-		-		116	
2014		517		517		-		-		517	
2015		2,377		2,377		323		323		2,700	
2016		3,035		3,035		540		29		3,575	
2017		3,299		3,299		554		43		3,853	
2018		3,299		3,299		554		43		3,853	

Appendix D.14 Residential Duct Sealing Program 2012-2018

Table 1		Energy Savings										
Month	Year	Net kWh					NC					System Cum for IRP
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
January	2018	0		63,716		63,716	0		11,152		788	
February	2018	0		63,716		63,716	0		11,152		788	
March	2018	0		63,716		63,716	0		11,152		788	
April	2018	0		63,716		63,716	0		11,152		788	
May	2018	0		63,716		63,716	0		11,152		788	
June	2018	0		63,716		63,716	0		11,152		788	
July	2018	0		63,716		63,716	0		11,152		788	
August	2018	0		63,716		63,716	0		11,152		788	
September	2018	0		63,716		63,716	0		11,152		788	
October	2018	0		63,716		63,716	0		11,152		788	
November	2018	0		63,716		63,716	0		11,152		788	
December	2018	0		63,716		63,716	0		11,152		788	

Table 2. EM&V Data Incremental by Vintage Year										
Net Incremental Energy (kWh)										
		VA IRP		VA NLR			NC IRP		NC NLR	System IRP
2012		769		769			-		-	769
2013		30,335		30,335			-		-	30,335
2014		27,757		27,757			-		-	27,757
2015		236,643		236,643			57,988		57,988	294,630
2016		81,016		81,016			37,698		30,240	118,714
2017		54,362		54,362			3,057		3,057	57,419
2018		0		0			0		0	0

Table 3. EM&V Data Annualized by Vintage Year									
Net Annualized Energy (kWh/year)									
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP
2012		3,989		3,989		-		-	3,989
2013		47,729		47,729		-		-	47,729
2014		104,558		104,558		-		-	104,558
2015		404,803		404,803		79,631		79,631	484,434
2016		145,957		145,957		51,034		6,290	196,992
2017		57,556		57,556		3,163		3,163	60,719
2018		0		0		0		0	0

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)									
Net (kWh)									
						NC PPI			
2012						-			
2013						-			
2014						-			
2015						57,988			
2016						117,328			
2017						133,722			

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)									
Net Energy (kWh)									
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP
2012		769		769		-		-	769
2013		34,324		34,324		-		-	34,324
2014		79,474		79,474		-		-	79,474
2015		392,918		392,918		57,988		57,988	450,906
2016		642,095		642,095		117,328		96,599	759,424
2017		761,399		761,399		133,722		9,346	895,120
2018		764,592		764,592		133,828			898,420

Appendix D.14 Residential Duct Sealing Program 2012-2018

Table 1		Capacity Savings											Energy Savings / Participant			Capacity Savings / Participant				
Month	Year	Net kW					NC					System			Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA																		
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP	VA	NC	System	VA	NC	System		
January	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
February	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
March	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
April	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
May	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
June	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
July	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
August	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
September	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
October	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
November	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		
December	2018	0		553			0		85		6	6	19	20	19	0.17	0.15	0.17		

Table 2. EM&V Data Incremental by Vintage Year												Incremental Energy Savings/Participant			Incremental Capacity Savings/Participant		
	Net Peak Demand (kW)										System IRP	Net kWh/Participant for IRP			Net kW/Participant for IRP		
	VA IRP					VA NLR						VA	NC	System	VA	NC	System
2012				4				4			-	96	-	96	0.49	-	0.49
2013				47				47			-	281	-	281	0.43	-	0.43
2014				74				74			-	69	-	69	0.18	-	0.18
2015				285				285		50	50	127	180	135	0.15	0.16	0.15
2016				103				103		32	4	135	123	174	0.16	0.15	0.15
2017				41				41		2	2	43	206	218.32	0.15	0.14	0.15
2018				0				0		0	-	-	-	-	-	-	-

Table 3. EM&V Data Annualized by Vintage Year												Annualized Energy Savings/Participant			Annualized Capacity Savings/Participant			
	Net Peak Demand (kW)										System IRP	Net kWh/Participant for IRP			Net kW/Participant for IRP			
	VA IRP					VA NLR						VA	NC	System	VA	NC	System	
2012				4				4			-	4	499	-	499	0.49	-	0.49
2013				47				47			-	47	442	-	442	0.43	-	0.43
2014				74				74			-	74	261	-	261	0.18	-	0.18
2015				285				285			50	336	218	247	222	0.15	0.16	0.15
2016				103				103			32	135	222	235	225	0.16	0.15	0.15
2017				41				41			2	43	218	226	218	0.15	0.14	0.15
2018				0				0			0	0	-	-	-	-	-	-

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)											PPI Energy Savings/Participant			PPI Capacity Savings/Participant		
	Net Peak Demand (kW)										Net kWh/Participant			Net kW/Participant		
											VA	NC		VA	NC	
2012																
2013																
2014																
2015												180			0.16	
2016												17			0.15	
2017												241			0.15	

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)												IRP Energy Savings/Participant			IRP Capacity Savings/Participant		
	Net Peak Demand (kW)										System IRP	Net kWh/Participant			Net kW/Participant		
	VA IRP					VA NLR						VA	NC	System	VA	NC	System
2012				4				4			4	96	-	96	0.49	-	0.49
2013				51				51			51	296	-	296	0.44	-	0.44
2014				124				124			124	154	-	154	0.24	-	0.24
2015				410				410			50	460	165	180	0.17	0.16	0.17
2016				513				513			83	595	212	217	0.17	0.15	0.17
2017				553				553			6	638	231	241	0.17	0.15	0.17
2018				553				553			85	638	232	242	0.17	0.15	0.17

Appendix D.15 Residential Home Energy Check-Up Program 2012-2018

PROGRAM: Residential Home Energy Check-Up
DSM Phase II Program
Type: Energy Efficiency
Program Measure Life: 10.0 years

Table 1		Participation Program Participants										
Month	Year	VA		VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC		NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum. for IRP
		VA Monthly New	VA Monthly Retired				NC Monthly New	NC Monthly Retired				
		[A]	[A-retired]				[C]	[C-retired]				
October	2012	4		4		4						
November	2012	6		10		10						
December	2012	21		31		31						
January	2013	22		53		53						
February	2013	37		90		90						
March	2013	14		104		104						
April	2013	27		131		131						
May	2013	42		173		173						
June	2013	15		188		188						
July	2013	15		203		203						
August	2013	51		254		254						
September	2013	75		339		339						
October	2013	219		558		558						
November	2013	305		863		863						
December	2013	737		1,600		1,600						
January	2014	540		2,140		2,140	0		0		0	
February	2014	942		3,082		3,082	0		0		0	
March	2014	877		3,959		3,959	0		0		0	
April	2014	1,372		5,331		5,331	0		0		0	
May	2014	1,247		6,578		6,578	0		0		0	
June	2014	1,751		8,329		8,329	0		0		0	
July	2014	2,023		10,352		10,352	0		0		0	
August	2014	2,079		12,431		12,431	0		0		0	
September	2014	3,222		15,653		15,653	0		0		0	
October	2014	1,739		17,392		17,392	0		0		0	
November	2014	544		17,936		17,936	0		0		0	
December	2014	3,366		21,302		21,302	0		0		0	
January	2015	1,829		23,131		23,131	0		0		0	
February	2015	985		24,116		24,116	152		152		152	
March	2015	957		25,073		25,073	156		308		308	
April	2015	906		25,979		25,979	128		436		436	
May	2015	1,038		27,017		27,017	237		673		673	
June	2015	1,227		28,244		28,244	200		873		873	
July	2015	1,219		29,463		29,463	86		959		959	
August	2015	1,355		30,818		30,818	5		964		964	
September	2015	1,500		32,318		32,318	27		991		991	
October	2015	1,121		33,439		33,439	4		995		995	
November	2015	1,107		34,546		34,546	0		995		995	
December	2015	616		35,162		35,162	1		996		996	
January	2016	737		35,899		35,899	3		999		999	
February	2016	889		36,788		36,788	1		1,000		1,000	
March	2016	1,301		38,089		38,089	0		1,000		1,000	
April	2016	1,804		39,893		39,893	0		1,000		1,000	
May	2016	2,211		42,104		42,104	0		1,000		1,000	
June	2016	1,360		43,464		43,464	0		1,000		1,000	
July	2016	1,348		44,812		44,812	0		1,000	0	1,000	44,464
August	2016	1,913		46,725		46,725	0		1,000	0	1,000	45,725
September	2016	880		47,605		47,605	0		1,000	0	1,000	46,605
October	2016	1,074		48,679		48,679	0		1,000	0	1,000	47,679
November	2016	1,328		50,007		50,007	0		1,000	0	1,000	48,679
December	2016	407		50,414		50,414	0		1,000	0	1,000	49,683
January	2017	1,069		51,483		51,483	5		1,005		1,005	50,688
February	2017	377		51,860		51,860	39		1,044		1,044	51,732
March	2017	54		51,914		51,914	5		1,049		1,049	52,781
April	2017	0		51,914		51,914	0		1,049		1,049	53,830
May	2017	0		51,914		51,914	0		1,049		1,049	54,879
June	2017	0		51,914		51,914	0		1,049		1,049	55,928
July	2017	0		51,914		51,914	0		1,049		1,049	56,977
August	2017	0		51,914		51,914	0		1,049		1,049	58,026
September	2017	0		51,914		51,914	0		1,049		1,049	59,075
October	2017	0		51,914		51,914	0		1,049		1,049	60,124
November	2017	0		51,914		51,914	0		1,049		1,049	61,173
December	2017	0		51,914		51,914	0		1,049		1,049	62,222

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Appendix D.15 Residential Home Energy Check-Up Program 2012-2018

Table 1		Energy Savings										System Cum for IRP
Month	Year	Net kWh					NC					
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	
October	2012	308		308		308						
November	2012	529		837		837						
December	2012	1,669		2,506		2,506						
January	2013	1,540		4,046		4,046						
February	2013	2,624		6,670		6,670						
March	2013	1,112		7,781		7,781						
April	2013	2,009		9,790		9,790						
May	2013	3,305		13,094		13,094						
June	2013	1,109		14,203		14,203						
July	2013	1,264		15,467		15,467						
August	2013	4,763		20,230		20,230						
September	2013	5,745		25,975		25,975						
October	2013	16,391		42,366		42,366						
November	2013	23,114		65,480		65,480						
December	2013	55,414		120,894		120,894						
January	2014	25,685		147,579		147,579	0		0		0	
February	2014	48,483		196,062		196,062	0		0		0	
March	2014	42,643		238,705		238,705	0		0		0	
April	2014	71,333		310,038		310,038	0		0		0	
May	2014	61,315		371,353		371,353	0		0		0	
June	2014	83,644		454,997		454,997	0		0		0	
July	2014	90,716		545,713		545,713	0		0		0	
August	2014	98,802		644,515		644,515	0		0		0	
September	2014	203,811		848,325		848,325	0		0		0	
October	2014	110,865		959,191		959,191	0		0		0	
November	2014	36,601		995,791		995,791	0		0		0	
December	2014	207,077		1,202,868		1,202,868	0		0		0	
January	2015	93,614		1,296,482		1,296,482	12,448		12,448		12,448	
February	2015	50,842		1,347,324		1,347,324	10,919		23,368		23,368	
March	2015	47,532		1,394,857		1,394,857	7,814		31,182		31,182	
April	2015	41,987		1,436,844		1,436,844	13,229		44,421		44,421	
May	2015	46,508		1,483,351		1,483,351	11,233		55,654		55,654	
June	2015	61,752		1,545,104		1,545,104	4,218		59,872		59,872	
July	2015	61,442		1,606,545		1,606,545	275		60,147		60,147	
August	2015	69,478		1,676,023		1,676,023	1,653		61,799		61,799	
September	2015	84,995		1,761,019		1,761,019	269		62,068		62,068	
October	2015	58,868		1,819,886		1,819,886	75		62,143		62,143	
November	2015	65,301		1,885,127		1,885,127	123		62,266		62,266	
December	2015	33,697		1,918,824		1,918,824	34		62,300		62,300	
January	2016	32,522		1,951,346		1,951,346	0		62,300		62,300	
February	2016	45,183		1,996,529		1,996,529	0		62,300		62,300	
March	2016	56,223		2,052,752		2,052,752	0		62,300		62,300	
April	2016	77,067		2,129,819		2,129,819	0		62,300		62,300	
May	2016	99,043		2,228,863		2,228,863	0		62,300		62,300	
June	2016	55,345		2,284,208		2,284,208	0		62,300		62,300	
July	2016	64,950		2,349,158		2,349,158	0		62,300		62,300	
August	2016	94,327		2,443,485		2,443,485	0		62,300		62,300	
September	2016	43,829		2,487,314		2,487,314	0		62,300		62,300	
October	2016	50,238		2,537,552		2,537,552	0		62,300		62,300	
November	2016	72,174		2,609,726		2,609,726	0		62,300		62,300	
December	2016	21,855		2,631,582		2,631,582	0		62,300		62,300	
January	2017	62,893		2,694,475		2,694,475	598		62,897		62,897	
February	2017	20,705		2,715,180		2,715,180	2,583		65,481		65,481	
March	2017	3,102		2,718,282		2,718,282	491		65,972		65,972	
April	2017	0		2,718,282		2,718,282	0		65,972		65,972	
May	2017	0		2,718,282		2,718,282	0		65,972		65,972	
June	2017	0		2,718,282		2,718,282	0		65,972		65,972	
July	2017	0		2,718,282		2,718,282	0		65,972		65,972	
August	2017	0		2,718,282		2,718,282	0		65,972		65,972	
September	2017	0		2,718,282		2,718,282	0		65,972		65,972	
October	2017	0		2,718,282		2,718,282	0		65,972		65,972	
November	2017	0		2,718,282		2,718,282	0		65,972		65,972	
December	2017	0		2,718,282		2,718,282	0		65,972		65,972	

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Appendix D.15 Residential Home Energy Check-Up Program 2012-2018

Table 1		Capacity Savings										Energy Savings / Participant			Capacity Savings / Participant			
Month	Year	Net kW										Net kWh/Participant for IRP			Net kW/Participant for IRP			
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum. for IRP	VA	NC	System	VA	NC	System
October	2012	1		1		1							77		77	0.13		0.13
November	2012	1		1		1							84		84	0.13		0.13
December	2012	2		4		4							81		81	0.12		0.12
January	2013	2		6		6							76		76	0.12		0.12
February	2013	4		10		10							74		74	0.12		0.12
March	2013	2		12		12							75		75	0.12		0.12
April	2013	3		15		15							75		75	0.12		0.12
May	2013	5		20		20							76		76	0.12		0.12
June	2013	2		22		22							76		76	0.12		0.12
July	2013	2		24		24							76		76	0.12		0.12
August	2013	7		30		30							77		77	0.12		0.12
September	2013	9		39		39							77		77	0.12		0.12
October	2013	24		63		63							76		76	0.11		0.11
November	2013	34		97		97							76		76	0.11		0.11
December	2013	78		175		175							78		78	0.11		0.11
January	2014	36		211		211	0		0		0		69	-	69	0.10	-	0.10
February	2014	64		275		275	0		0		0		64	-	64	0.09	-	0.09
March	2014	58		333		333	0		0		0		60	-	60	0.08	-	0.08
April	2014	94		427		427	0		0		0		58	-	58	0.08	-	0.08
May	2014	81		508		508	0		0		0		56	-	56	0.08	-	0.08
June	2014	116		624		624	0		0		0		55	-	55	0.07	-	0.07
July	2014	138		761		761	0		0		0		53	-	53	0.07	-	0.07
August	2014	141		903		903	0		0		0		52	-	52	0.07	-	0.07
September	2014	236		1,139		1,139	0		0		0		54	-	54	0.07	-	0.07
October	2014	124		1,262		1,262	0		0		0		55	-	55	0.07	-	0.07
November	2014	37		1,299		1,299	0		0		0		56	-	56	0.07	-	0.07
December	2014	234		1,534		1,534	0		0		0		56	-	56	0.07	-	0.07
January	2015	118		1,652		1,652	0		0		0		56	-	56	0.07	-	0.07
February	2015	65		1,717		1,717	13		13		13		56	82	56	0.07	0.08	0.07
March	2015	62		1,779		1,779	11		24		24		56	76	56	0.07	0.08	0.07
April	2015	52		1,831		1,831	8		32		32		55	72	56	0.07	0.07	0.07
May	2015	58		1,890		1,890	14		46		46		55	66	55	0.07	0.07	0.07
June	2015	77		1,967		1,967	12		58		58		55	64	55	0.07	0.07	0.07
July	2015	74		2,040		2,040	5		63		63		55	62	55	0.07	0.07	0.07
August	2015	83		2,123		2,123	0		63		63		54	62	55	0.07	0.07	0.07
September	2015	98		2,221		2,221	2		65		65		54	62	55	0.07	0.07	0.07
October	2015	70		2,291		2,291	0		65		65		54	62	55	0.07	0.07	0.07
November	2015	76		2,367		2,367	0		65		65		55	62	55	0.07	0.07	0.07
December	2015	41		2,407		2,407	0		65		65		55	62	55	0.07	0.07	0.07
January	2016	41		2,448		2,448	0		66		66		54	62	55	0.07	0.07	0.07
February	2016	54		2,503		2,503	0		66		66		54	62	54	0.07	0.07	0.07
March	2016	71		2,573		2,573	0		66		66		54	62	54	0.07	0.07	0.07
April	2016	98		2,671		2,671	0		66		66		53	62	54	0.07	0.07	0.07
May	2016	125		2,796		2,796	0		66		66		53	62	53	0.07	0.07	0.07
June	2016	71		2,867		2,867	0		66		66		53	62	53	0.07	0.07	0.07
July	2016	79		2,946		2,946	0		66		66		53	62	53	0.07	0.07	0.07
August	2016	111		3,057		3,057	0		66		66		52	62	53	0.07	0.07	0.07
September	2016	52		3,109		3,109	0		66		66		52	62	52	0.07	0.07	0.07
October	2016	60		3,169		3,169	0		66		66		52	62	52	0.07	0.07	0.07
November	2016	83		3,252		3,252	0		66		66		52	62	52	0.07	0.07	0.07
December	2016	26		3,278		3,278	0		66		66		52	62	52	0.07	0.07	0.07
January	2017	69		3,348		3,348	0		66		66		52	63	53	0.07	0.07	0.07
February	2017	24		3,371		3,371	2		68		68		52	63	53	0.07	0.07	0.07
March	2017	3		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
April	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
May	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
June	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
July	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
August	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
September	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
October	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
November	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07
December	2017	0		3,374		3,374	0		69		69		52	63	53	0.07	0.07	0.07

Appendix D.15 Residential Home Energy Check-Up Program 2012-2018

Table 1		Participation										
Month	Year	Program Participants					NC					System Cum for IRP
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Raset Adj.	Revenue (NLR) (New + Retired + [P] = Σ[A] + Σ[-A retired] + B	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Raset Adj.	Revenue (NLR) (New + Retired +	
January	2018	0		\$1,914	(B)		0		1,049		49	
February	2018	0		\$1,914			0		1,049		49	
March	2018	0		\$1,914			0		1,049		49	
April	2018	0		\$1,914			0		1,049		49	
May	2018	0		\$1,914			0		1,049		49	
June	2018	0		\$1,914			0		1,049		49	
July	2018	0		\$1,914			0		1,049		49	
August	2018	0		\$1,914			0		1,049		49	
September	2018	0		\$1,914			0		1,049		49	
October	2018	0		\$1,914			0		1,049		49	
November	2018	0		\$1,914			0		1,049		49	
December	2018	0		\$1,914			0		1,049		49	

Table 2. EM&V Data Incremental by Vintage Year									
Program Participants									
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP
2012		31		31		-		-	31
2013		1,569		1,569		-		-	1,569
2014		19,702		19,702		-		-	19,702
2015		13,860		13,860		996		996	14,856
2016		15,252		15,252		4		-	15,252
2017		1,500		1,500		49		49	1,549
2018		0		0		0		0	0

Table 3. EM&V Data Annualized by Vintage Year															
Program Participants															
			VA IRP			VA NLR			NC IRP			NC NLR			System IRP
2012			31			31			-			-			31
2013			1,569			1,569			-			-			1,569
2014			19,702			19,702			-			-			19,702
2015			13,860			13,860			996			996			14,856
2016			15,252			15,252			4			-			15,256
2017			1,500			1,500			49				49		1,549
2018			0			0			0				0		0

Table 4. EMB&V Data Accumulated through Vintage Year (for PPI)									
		Program Participants							
						NC PPI			
2012						-			
2013						-			
2014						-			
2015						996			
2016						1,000			
2017						1,049			

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)									
	Program Participants								
	VA IRP		VA NLR						
2012	31		31		-		-		31
2013	1,600		1,600		-		-		1,600
2014	21,302		21,302		-		-		21,302
2015	35,162		35,162		996	996	996		36,158
2016	50,414		50,414		1,000		-		51,414
2017	51,914		51,914		1,049		49		52,963
2018	51,914		51,914		1,049				52,963

Appendix D.15 Residential Home Energy Check-Up Program 2012-2018

Table 1		Energy Savings									
Month	Year	Net kWh				NC				System Cum for IRP	
		VA		VA Rate Reset Adj.	Revenue (NLR) (New + Retired +	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.		Revenue (NLR) (New + Retired +
		VA Monthly New	VA Monthly Retired								
January	2018	0		2,718,282		2,718,282	0		65,972	3,672	3,672
February	2018	0		2,718,282		2,718,282	0		65,972	3,672	7,344
March	2018	0		2,718,282		2,718,282	0		65,972	3,672	11,016
April	2018	0		2,718,282		2,718,282	0		65,972	3,672	14,688
May	2018	0		2,718,282		2,718,282	0		65,972	3,672	18,360
June	2018	0		2,718,282		2,718,282	0		65,972	3,672	22,032
July	2018	0		2,718,282		2,718,282	0		65,972	3,672	25,704
August	2018	0		2,718,282		2,718,282	0		65,972	3,672	29,376
September	2018	0		2,718,282		2,718,282	0		65,972	3,672	33,048
October	2018	0		2,718,282		2,718,282	0		65,972	3,672	36,720
November	2018	0		2,718,282		2,718,282	0		65,972	3,672	40,392
December	2018	0		2,718,282		2,718,282	0		65,972	3,672	44,064

Table 2. EM&V Data Incremental by Vintage Year		Net Incremental Energy (kWh)							
Year	VA	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	NC IRP	NC NLR
2012		3,650		3,650		-		-	
2013		315,928		315,928		-		-	
2014		5,464,413		5,464,413		-		-	
2015		4,736,906		4,736,906		535,170		535,170	
2016		4,676,448		4,676,448		1,845		1,845	
2017		1,013,491		1,013,491		40,499		40,499	
2018		0		0		0		0	

Table 3. EM&V Data Annualized by Vintage Year		Net Annualized Energy (kWh/year)							
Year	VA	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	NC IRP	NC NLR
2012		30,066		30,066		-		-	
2013		1,420,658		1,420,658		-		-	
2014		12,983,695		12,983,695		-		-	
2015		8,591,467		8,591,467		745,716		745,716	
2016		8,553,094		8,553,094		1,879		1,879	
2017		1,040,400		1,040,400		44,065		44,065	
2018		0		0		0		0	

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)		Net (kWh)							
Year	VA	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	NC IRP	NC NLR
2012						-		-	
2013						-		-	
2014						-		-	
2015						535,170		535,170	
2016						747,560		747,560	
2017						788,094		788,094	

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)		Net Energy (kWh)							
Year	VA	VA IRP		VA NLR		NC IRP		NC NLR	
		VA IRP	VA NLR	VA IRP	VA NLR	NC IRP	NC NLR	NC IRP	NC NLR
2012		3,650		3,650		-		-	
2013		345,994		345,994		-		-	
2014		6,015,137		6,015,137		-		-	
2015		19,171,326		19,171,326		535,170		535,170	
2016		27,702,335		27,702,335		747,560		747,560	
2017		32,592,472		32,592,472		788,094		788,094	
2018		32,619,381		32,619,381		781,659		781,659	

Appendix D.15 Residential Home Energy Check-Up Program 2012-2018

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Table 1. Capacity Savings													Energy Savings / Participant			Capacity Savings / Participant		
Month	Year	Net kW											Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	Revenue (NLR) (New + Retired +)	System Cum. for IRP	VA	NC	System	VA	NC	System
January	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
February	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
March	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
April	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
May	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
June	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
July	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
August	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
September	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
October	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
November	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07
December	2018	0		3,374			0		69			3	52	63	53	0.07	0.07	0.07

Table 2. EM&V Data Incremental by Vintage Year											Incremental Energy Savings/Participant			Incremental Capacity Savings/Participant		
	Net Peak Demand (kW)										Net kWh/Participant for IRP			Net kW/Participant for IRP		
	VA IRP		VA NLR		NC IRP		NC NLR		System IRP	VA	NC	System	VA	NC	System	
2012		4		4		-		-	4	118	-	118	0.12	-	0.12	
2013		172		172		-		-	172	201	-	201	0.11	-	0.11	
2014		1,358		1,358		-		-	1,358	277	-	277	0.07	-	0.07	
2015		873		873		65		65	939	342	537	355	0.06	0.07	0.06	
2016		871		871		0.21		-	871	307	461	307	0.06	0.05	0.06	
2017		96		96		3		3	90	676	826.52	680	0.06	0.06	0.06	
2018		0		0		0		0	0	-	-	-	-	-	-	

Table 3. EM&V Data Annualized by Vintage Year													Annualized Energy Savings/Participant			Annualized Capacity Savings/Participant		
	Net Peak Demand (kW)											Net kWh/Participant for IRP			Net kW/Participant for IRP			
	VA IRP				VA NLR				NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System
2012	4				4				-		-	4	970	-	970	0.12	-	0.12
2013	172				172				-		-	172	905	-	905	0.11	-	0.11
2014	1,358				1,358				-		-	1,358	459	-	459	0.07	-	0.07
2015	873							65			65	939	620	749	629	0.06	0.07	0.06
2016	871				871			0.21			-	871	561	470	561	0.06	0.05	0.06
2017	96				96						3	99	694	899	700	0.06	0.06	0.06
2018	0							0										

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)										PPI Energy Savings/Participant			PPI Capacity Savings/Participant			
	Net Peak Demand (kW)										Net kWh/Participant			Net kW/Participant		
											NC			NC		
2012																
2013																
2014																
2015	65										537			0.07		
2016	56										748			0.07		
2017	58										751			0.07		

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)											IRP Energy Savings/Participant			IRP Capacity Savings/Participant		
	Net Peak Demand (kW)										Net kWh/Participant			Net kW/Participant		
		VA IRP		VA NLR		NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System	
2012		4		4		-		-	4	118	-	118	0.12	-	0.12	
2013		176		176		-		-	176	216	-	216	0.11	-	0.11	
2014		1,534		1,534		-		-	1,534	325	-	325	0.07	-	0.07	
2015		2,407		2,407		65		65	2,473	545	537	545	0.07	0.07	0.07	
2016		3,278		3,278		66		66	3,344	549	748	553	0.07	0.07	0.07	
2017		3,374		3,374		69		69	3,443	628	751	630	0.07	0.07	0.07	
2018		3,374		3,374		69		69	3,443	628	755	631	0.07	0.07	0.07	

Appendix D.16 Residential Appliance Recycling Program 2015-2018

PROGRAM:	Residential Appliances Recycling Program
DSM Phase:	IV Program
Type:	Energy Efficiency
Program Measure Life:	8.0 years

Table 1		Participation									
		Program Participants									
		VA					NC				
Month	Year	VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired) [E] = Σ[A] + Σ[-A retired]	VA Rate Reset Adj. [B]	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.) [F] = Σ[A] + Σ[-A retired] + B	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)
		[A]	[-A retired]								System Cum for IRP
January	2015	0	0	0		0			0		0
February	2015	0	0	0		0			0		0
March	2015	0	0	0		0			0		0
April	2015	0	0	0		0			0		0
May	2015	0	0	0		0			0		0
June	2015	0	0	0		0			0		0
July	2015	0	0	0		0			0		0
August	2015	0	0	0		0			0		0
September	2015	921		921		921			0		0
October	2015	1,008		1,929		1,929			0		0
November	2015	1,070		2,999		2,999			0		0
December	2015	207		3,206		3,206			0		0
January	2016	203		3,409		3,409	0		0		0
February	2016	4		3,413		3,413	0		0		0
March	2016	876		4,289		4,289	0		0		0
April	2016	653		4,942		4,942	0		0		0
May	2016	525		5,467		5,467	0		0		0
June	2016	1,204		6,671		6,671	0		0		6,671
July	2016	521		7,192		7,192	0		0	0	7,192
August	2016	1,102		8,294		8,294	0		0	0	8,294
September	2016	671		8,965		8,965	0		0	0	8,965
October	2016	615		9,580		9,580	0		0	0	9,580
November	2016	713		10,293		10,293	0		0	0	10,293
December	2016	648		10,941		10,941	0		0	0	10,941
January	2017	816		11,757		11,757	0		0		11,757
February	2017	313		12,070		12,070	0		0		12,070
March	2017	416		12,486		12,486	0		0		12,486
April	2017	511		12,997		12,997	0		0		12,997
May	2017	584		13,581		13,581	0		0		13,581
June	2017	475		14,056		14,056	0		0		14,056
July	2017	16		14,072		14,072	0		0		14,072
August	2017	0		14,072		14,072	0		0		14,072
September	2017	0		14,072		14,072	0		0		14,072
October	2017	0		14,072		14,072	0		0		14,072
November	2017	0		14,072		14,072	0		0		14,072
December	2017	0		14,072		14,072	0		0		14,072
January	2018	0		14,072			0		0		14,072
February	2018	0		14,072			0		0		14,072
March	2018	0		14,072			0		0		14,072
April	2018	0		14,072			0		0		14,072
May	2018	0		14,072			0		0		14,072
June	2018	0		14,072			0		0		14,072
July	2018	0		14,072			0		0		14,072
August	2018	0		14,072			0		0		14,072
September	2018	0		14,072			0		0		14,072
October	2018	0		14,072			0		0		14,072
November	2018	0		14,072			0		0		14,072
December	2018	0		14,072			0		0		14,072

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Appendix D.16 Residential Appliance Recycling Program 2015-2018

Table 1		Energy Savings										
Month	Year	Net kWh					NC					System
		VA					NC					
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New + Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP
January	2015	0		0		0			0		0	
February	2015	0		0		0			0		0	
March	2015	0		0		0			0		0	
April	2015	0		0		0			0		0	
May	2015	0		0		0			0		0	
June	2015	0		0		0			0		0	
July	2015	0		0		0			0		0	
August	2015	0		0		0			0		0	
September	2015	67,411		67,411		67,411			0		0	
October	2015	75,065		142,476		142,476			0		0	
November	2015	74,711		217,187		217,187			0		0	
December	2015	14,991		232,178		232,178			0		0	
January	2016	3,196		235,374		235,374	0		0		0	
February	2016	322		235,696		235,696	0		0		0	
March	2016	50,764		286,460		286,460	0		0		0	
April	2016	40,391		326,851		326,851	0		0		0	
May	2016	31,450		358,301		358,301	0		0		0	
June	2016	76,064		434,366		434,366	0		0		0	434,366
July	2016	32,906		467,271		467,271	0		0	0	0	467,271
August	2016	73,947		541,218		541,218	0		0	0	0	541,218
September	2016	44,800		586,018		586,018	0		0	0	0	586,018
October	2016	40,735		626,752		626,752	0		0	0	0	626,752
November	2016	47,437		674,190		674,190	0		0	0	0	674,190
December	2016	42,582		716,772		716,772	0		0		0	716,772
January	2017	52,108		768,880		768,880	0		0		0	768,880
February	2017	19,757		788,637		788,637	0		0		0	788,637
March	2017	25,379		814,016		814,016	0		0		0	814,016
April	2017	32,073		846,089		846,089	0		0		0	846,089
May	2017	35,762		881,851		881,851	0		0		0	881,851
June	2017	27,777		909,627		909,627	0		0		0	909,627
July	2017	699		910,326		910,326	0		0		0	910,326
August	2017	0		910,326		910,326	0		0		0	910,326
September	2017	0		910,326		910,326	0		0		0	910,326
October	2017	0		910,326		910,326	0		0		0	910,326
November	2017	0		910,326		910,326	0		0		0	910,326
December	2017	0		910,326		910,326	0		0		0	910,326
January	2018	0		910,326		910,326	0		0		0	910,326
February	2018	0		910,326		910,326	0		0		0	910,326
March	2018	0		910,326		910,326	0		0		0	910,326
April	2018	0		910,326		910,326	0		0		0	910,326
May	2018	0		910,326		910,326	0		0		0	910,326
June	2018	0		910,326		910,326	0		0		0	910,326
July	2018	0		910,326		910,326	0		0		0	910,326
August	2018	0		910,326		910,326	0		0		0	910,326
September	2018	0		910,326		910,326	0		0		0	910,326
October	2018	0		910,326		910,326	0		0		0	910,326
November	2018	0		910,326		910,326	0		0		0	910,326
December	2018	0		910,326		910,326	0		0		0	910,326

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Appendix D.16 Residential Appliance Recycling Program 2015-2018

Table 1		Capacity Savings											Energy Savings / Participant			Capacity Savings / Participant		
Month	Year	Net kW											Net kWh/Participant for IRP			Net kW/Participant for IRP		
		VA					NC					System	VA	NC	System	VA	NC	System
		VA Monthly New	VA Monthly Retired	VA Cum. for IRP (New+Retired)	VA Rate Reset Adj.	VA Cum. for Net Lost Revenue (NLR)	NC Monthly New	NC Monthly Retired	NC Cum. for IRP (New + Retired)	NC Rate Reset Adj.	NC Cum. for Net Lost Revenue (NLR) (New + Retired + Rate Reset Adj.)	System Cum for IRP						
January	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
February	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
March	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
April	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
May	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
June	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
July	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
August	2015	0	0	0		0			0		0	0	-	-	-	-	-	-
September	2015	121		121		121			0		0	121	73	-	73	0.13	-	0.13
October	2015	135		256		256			0		0	256	74	-	74	0.13	-	0.13
November	2015	134		390		390			0		0	390	72	-	72	0.13	-	0.13
December	2015	27		417		417			0		0	417	72	-	72	0.13	-	0.13
January	2016	6		423		423	0		0		0	423	69	-	69	0.12	-	0.12
February	2016	1		423		423	0		0		0	423	69	-	69	0.12	-	0.12
March	2016	91		515		515	0		0		0	515	67	-	67	0.12	-	0.12
April	2016	73		587		587	0		0		0	587	66	-	66	0.12	-	0.12
May	2016	56		644		644	0		0		0	644	66	-	66	0.12	-	0.12
June	2016	137		780		780	0		0		0	780	65	-	65	0.12	-	0.12
July	2016	59		839		839	0		0	0	0	839	65	-	65	0.12	-	0.12
August	2016	133		972		972	0		0	0	0	972	65	-	65	0.12	-	0.12
September	2016	80		1,053		1,053	0		0	0	0	1,053	65	-	65	0.12	-	0.12
October	2016	73		1,126		1,126	0		0	0	0	1,126	65	-	65	0.12	-	0.12
November	2016	85		1,211		1,211	0		0	0	0	1,211	65	-	65	0.12	-	0.12
December	2016	76		1,287		1,287	0		0	0	0	1,287	66	-	66	0.12	-	0.12
January	2017	94		1,381		1,381	0		0		0	1,381	65	-	65	0.12	-	0.12
February	2017	35		1,417		1,417	0		0		0	1,417	65	-	65	0.12	-	0.12
March	2017	46		1,462		1,462	0		0		0	1,462	65	-	65	0.12	-	0.12
April	2017	58		1,520		1,520	0		0		0	1,520	65	-	65	0.12	-	0.12
May	2017	64		1,584		1,584	0		0		0	1,584	65	-	65	0.12	-	0.12
June	2017	50		1,634		1,634	0		0		0	1,634	65	-	65	0.12	-	0.12
July	2017	1		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
August	2017	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
September	2017	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
October	2017	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
November	2017	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
December	2017	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
January	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
February	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
March	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
April	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
May	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
June	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
July	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
August	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
September	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
October	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
November	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12
December	2018	0		1,635		1,635	0		0		0	1,635	65	-	65	0.12	-	0.12

Appendix D.16 Residential Appliance Recycling Program 2015-2018

Table 2. EM&V Data Incremental by Vintage Year

	Program Participants										
			VA IRP		VA NLR			NC IRP		NC NLR	System IRP
2015			3,206		3,206			-		-	3,206
2016			7,735		7,735			-		-	7,735
2017			3,131		3,131			-		-	3,131
2018			0					-		-	0

	Program Participants										
			VA IRP		VA NLR			NC IRP		NC NLR	System IRP
2015			3,206		3,206			-		-	3,206
2016			7,735		7,735			-		-	7,735
2017			3,131		3,131			-		-	3,131
2018			0					-		-	0

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)

	Program Participants									
								NC PPI		
2015								-		
2016								-		
2017								-		

	Program Participants										
			VA IRP		VA NLR			NC IRP		NC NLR	System IRP
2015			3,206		3,206			-		-	3,206
2016			10,941		10,941			-		-	10,941
2017			14,072		14,072			-		-	14,072
2018			14,072					-		-	14,072

Appendix D.16 Residential Appliance Recycling Program 2015-2018

Table 2. EM&V Data Incremental by Vintage Year

	Net Incremental Energy (kWh)									
			VA IRP		VA NLR		NC IRP		NC NLR	System IRP
2015			659,253		659,253		-		-	659,253
2016			2,703,133		2,703,133		0		-	2,703,133
2017			1,869,797		1,869,797		0		-	1,869,797
2018			0		0		0		-	0

Table 3. EM&V Data Annualized by Vintage Year

	Net Annualized Energy (kWh)									
			VA IRP		VA NLR		NC IRP		NC NLR	System IRP
2015			2,786,136		2,786,136		-		-	2,786,136
2016			5,815,125		5,815,125		0		-	5,815,125
2017			2,322,653		2,322,653		0		-	2,322,653
2018			0		0		0		-	0

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)

	Net Energy (kWh) for PPI									
							NC PPI			
2015							-			
2016							0			
2017							0			

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)

	Net Energy (kWh)									
			VA IRP		VA NLR		NC IRP		NC NLR	System IRP
2015			659,253		659,253		-		-	659,253
2016			5,489,270		5,489,270		0		-	5,489,270
2017			10,471,058		10,471,058		0		-	10,471,058
2018			10,923,914		10,923,914		0		-	10,923,914

Appendix D.16 Residential Appliance Recycling Program 2015-2018

Table 2. EM&V Data Incremental by Vintage Year											Incremental Energy Savings/Participant			Incremental Capacity Savings/Participant			
	Net Peak Demand (kW)										Net kWh/Participant for IRP			Net kW/Participant for IRP			
			VA IRP		VA NLR			NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System
2015			417		417			-		-	417	206	-	206	0.13	-	0.13
2016			870		870			-		-	870	349	-	349	0.11	-	0.11
2017			348		348			-		-	348	597	-	597	0.11	-	0.11
2018			0					-		-	0	-	-	-	-	-	-

Table 3. EM&V Data Annualized by Vintage Year											Annualized Energy Savings/Participant			Annualized Capacity Savings/Participant			
	Net Peak Demand (kW)										Net kWh/Participant for IRP			Net kW/Participant for IRP			
			VA IRP		VA NLR			NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System
2015			417		417			-		-	417	869	-	869	0.13	-	0.13
2016			870		870			-		-	870	752	-	752	0.11	-	0.11
2017			348		348			-		-	348	742	-	742	0.11	-	0.11
2018			0					-		-	0	-	-	-	-	-	-

Table 4. EM&V Data Accumulated through Vintage Year (for PPI)											PPI Energy Savings/Participant		PPI Capacity Savings/Participant	
	Net Peak Demand (kW)										Net kWh/Participant		Net kW/Participant	
								NC PPI				NC		NC
2015								-				-		-
2016								-				-		-
2017								-				-		-

Table 5. EM&V Data Accumulated through Vintage Year (for IRP and NLR)											IRP Energy Savings/Participant			IRP Capacity Savings/Participant			
	Net Peak Demand (kW)										Net kWh/Participant			Net kW/Participant			
			VA IRP		VA NLR			NC IRP		NC NLR	System IRP	VA	NC	System	VA	NC	System
2015			417		417			-		-	417	206	-	206	0.13	-	0.13
2016			1,287		1,287			-		-	1,287	502	-	502	0.12	-	0.12
2017			1,635		1,635			-		-	1,635	744	-	744	0.12	-	0.12
2018			1,635					-		-	1,635	776	-	776	0.12	-	0.12