

## Federal Home Loan Bank of Des Moines Monthly Price Report

The Federal Home Loan Bank of Des Moines (Bank) is providing estimated valuations for specific Convertible, Amortizing and Non-Amortizing advances set forth below for members' information and convenience only. The estimated valuations are generated by models used for the Bank's own asset/liability management purposes. The models use specific assumptions, for example, market volatility and discount curve adjusted for the Bank's spread, to estimate the value of the advance. **The valuations represent theoretical market prices only and should not be construed as a liquidation price for the specific advance.**

It is expressly understood that in providing these valuations to members, the Bank is not performing any advisory service. The valuations are provided without representation or warranty and the member is solely responsible for any decision it makes or actions it takes based on the valuations provided. It is recommended that members maintain independent capabilities to value their asset/liability positions, including Convertible, Amortizing and Non-Amortizing advances. You should consult with your own tax, legal, accounting, credit and financial advisors with respect to the transaction structure and information detailed herein.

The table depicts valuation estimates resulting from immediate parallel interest-rate movements of plus/minus 400 basis points in 100 basis point increments. To identify your advance, locate the appropriate maturity date and verify the advance rate. The advances in report are grouped by advance type and then within each type sorted in ascending order by maturity date. Once the appropriate structure is located, read across to view the sensitivity analysis for that advance.

If you have any questions, contact the Money Desk at 800.544.3452, ext. 2122.

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
050812A00050	8/12/2005	4.97	8/12/2025		104.1185	103.2318928	102.3604528	101.5037901	100.6615303	99.83331175	99.01878454	98.21761049	97.42946245
050823A00085	8/23/2005	4.78	8/25/2025		104.20917	103.2848021	102.3768911	101.4850024	100.6087136	99.74761756	98.90132084	98.06944367	97.25161912
050823A00088	8/23/2005	4.78	8/25/2025		104.20917	103.2848021	102.3768911	101.4850024	100.6087136	99.74761756	98.90132085	98.06944367	97.25161912
050902A00032	9/2/2005	4.69	8/22/2025		104.08477	103.1694087	102.2702023	101.3867293	100.5185786	99.6653534	98.82667049	98.00215967	97.19146323
050923A00096	9/23/2005	4.86	9/22/2025		104.69374	103.6884944	102.7026347	101.7356048	100.7868681	99.85590801	98.94222733	98.04534731	97.16480673
051003A00009	10/3/2005	5.15	10/15/2025		105.2561	104.1844355	103.1347123	102.1062642	101.0984476	100.1106449	99.14226256	98.19273067	97.2615013
051107A00075	11/7/2005	5.29	11/17/2025		106.02499	104.8545074	103.7100336	102.5907076	101.495705	100.4242373	99.37554978	98.34891963	97.34365447
060308A00014	3/8/2006	5.44	3/16/2026		108.06439	106.5598745	105.0841769	103.6365426	102.2162384	100.8225566	99.45481326	98.1123475	96.79452044
060808A00022	8/8/2006	5.57	6/15/2026		109.7962	108.0213662	106.2843134	104.5838993	102.9190277	101.2886467	99.69174589	98.12735486	96.59454077
070518A00023	5/18/2007	5.46	5/18/2027		109.31931	107.5838307	105.8913643	104.2404739	102.6297861	101.0579849	99.52380823	98.02604532	96.56353443
091112A00011	11/12/2009	4.77	11/15/2024		100.50523	100.3773767	100.2498688	100.1227008	99.99587117	99.86937858	99.74322163	99.61739892	99.49190908
091210A00005	12/10/2009	5.08	12/16/2024		100.91555	100.7015535	100.4884803	100.2763237	100.0650779	99.85473666	99.6452943	99.43674494	99.2290828
100809A00029	8/9/2010	4.23	8/15/2025		103.50816	102.6161128	101.7394828	100.8778715	100.0308949	99.19818173	98.37937323	97.57412264	96.78209466
100824A00009	8/24/2010	3.91	9/2/2025		103.43632	102.4945352	101.5699172	100.6620026	99.7703415	98.89449998	98.03405942	97.18861588	96.35777943
100930A00008	9/30/2010	3.82	9/30/2025		103.67756	102.6565706	101.6557046	100.6743755	99.71201495	98.76807667	97.84203503	96.93338426	96.04163749
110414A00007	4/14/2011	3.95	1/21/2025		101.21828	100.8514448	100.4872416	100.1256372	99.76660361	99.41011294	99.05613787	98.70465145	98.3556271
110505A00022	5/5/2011	4.59	5/15/2026		107.66113	105.9918998	104.3570075	102.7554623	101.1863083	99.648626	98.14153053	96.6641702	95.21572478
110701A00011	7/1/2011	3.87	7/1/2026		103.6817	102.6961391	101.7290777	100.7799849	99.84835434	98.93369924	98.03555125	97.1534597	96.28699068
110719A00017	7/19/2011	3.68	7/20/2026		103.50336	102.5172535	101.5497054	100.6001851	99.66818706	98.75322508	97.85483119	96.97255488	96.10596229
110805A00014	8/5/2011	4.06	8/17/2026		107.98178	106.0486387	104.1599922	102.3145542	100.511081	98.74837303	97.02527246	95.34066189	93.69346249
110824A00006	8/24/2011	2.69	8/24/2026		103.97199	102.5245835	101.1085177	99.72289691	98.36685528	97.03955788	95.74019924	94.46800204	93.222216
110909A00006	9/9/2011	2.26	9/9/2026		102.32767	101.2701957	100.2334476	99.21683644	98.21979363	97.24177171	96.28224357	95.34070149	94.41665618
111006A00023	10/6/2011	3.81	10/15/2026		108.21111	106.1108448	104.0624478	102.0642952	100.1148284	98.21254864	96.35601419	94.54383777	92.77468405
111007A00007	10/7/2011	3.92	10/7/2031		122.22768	116.0439532	110.2638048	104.8577837	99.79877275	95.06178774	90.62379805	86.46356273	82.56148153
111216A00001	12/16/2011	3.95	12/30/2031		128.78639	120.7541759	113.2952252	106.3652617	99.92366984	93.9331693	88.35952294	83.1712728	78.3395
120113A00012	1/13/2012	3.62	1/15/2027		108.86734	106.5037216	104.2036777	101.9650849	99.78590728	97.6641912	95.59806167	93.58571838	91.62543209
120113A00013	1/13/2012	3.87	1/15/2032		128.32797	120.2670081	112.7847477	105.8363166	99.38055056	93.37967183	87.79899324	82.60665011	77.77335665
120127A00018	1/27/2012	3.64	2/1/2027		109.10663	106.6930631	104.3454828	102.0617236	99.83970505	97.67742618	95.57296244	93.52446211	91.5301432
120127A00019	1/27/2012	3.87	1/30/2032		128.45226	120.3444577	112.8215286	105.8379677	99.35203331	93.32542222	87.72297009	82.51237933	77.66397193
120410A00005	4/10/2012	2.35	4/12/2027		104.00692	102.3968524	100.8256824	99.2921575	97.79507145	96.33326624	94.90562966	93.51109314	92.14862966
120411A00013	4/11/2012	3.59	4/15/2027		109.83335	107.2001346	104.6443864	102.1633583	99.75442107	97.41505514	95.14284548	92.93547643	90.79072688
120621A00009	6/21/2012	3.18	6/21/2032		118.09475	112.0597286	106.431171	101.1779553	96.27155926	91.68582535	87.39675068	83.38229658	79.62221607
120709A00016	7/9/2012	3.2	7/15/2027		109.75345	106.8658953	104.0697309	101.3615224	98.73798383	96.19597354	93.73248699	91.34464975	89.02971093

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
120806A00015	8/6/2012	2.38	8/6/2027		103.78819	102.2491836	100.7482869	99.28423977	97.85583829	96.4619275	95.10139894	93.77318843	92.47627394
120807A00026	8/7/2012	2.42	8/9/2027		103.85063	102.310622	100.808749	99.34375235	97.9144272	96.51961761	95.15821423	93.82915202	92.53140813
120808A00006	8/8/2012	2.06	8/9/2027		103.41596	101.8805412	100.3831814	98.92262841	97.49767827	96.10717609	94.75001352	93.42512659	92.13149346
120827A00048	8/27/2012	2.01	8/27/2027		104.32031	102.3748139	100.4827804	98.64235596	96.85176653	95.10931082	93.413357	91.76233941	90.1547554
120827A00052	8/27/2012	2.01	8/27/2027		104.32031	102.3748139	100.4827804	98.64235595	96.85176653	95.10931082	93.413357	91.76233941	90.1547554
121116A00006	11/16/2012	2.64	11/13/2025		102.86297	101.7242577	100.6107081	99.52149722	98.45583334	97.4129587	96.3921478	95.39270566	94.41396621
121116A00021	11/16/2012	2.35	11/17/2025		102.65754	101.5075789	100.3833076	99.28387374	98.20846108	97.15628869	96.12660918	95.11870696	94.13189648
121116A00022	11/16/2012	2.78	11/16/2029		116.16191	110.7191249	105.5666046	100.6873049	96.06527169	91.68556818	87.53420429	83.59807146	79.86488234
121120A00010	11/20/2012	1.93	11/22/2027		103.65455	101.950818	100.296924	98.69098646	97.13121249	95.6158905	94.14338579	92.71213647	91.32064963
121120A00011	11/20/2012	2.22	11/22/2027		106.54156	103.9152086	101.3782338	98.92697198	96.557937	94.26780972	92.05342854	89.91178072	87.83999423
121217A00009	12/17/2012	2.02	12/17/2027		103.99903	102.2049051	100.4642463	98.77498417	97.13514687	95.54285493	93.99631611	92.4938206	91.03373649
130107A00002	1/7/2013	3.22	1/18/2028		111.67415	108.2341639	104.9193843	101.7245556	98.64467259	95.6749688	92.81090332	90.04814882	87.38258019
130206A00004	2/6/2013	2.14	2/7/2028		104.58601	102.6331279	100.7360468	98.89274856	97.10130037	95.35985209	93.66663213	92.0199436	90.41816071
130206A00009	2/6/2013	2.83	2/7/2028		108.75249	105.8442155	103.039052	100.3326925	97.72103318	95.20016512	92.76636396	90.41608003	88.14592913
130207A00012	2/7/2013	2.9	2/7/2033		113.26714	108.5361066	104.0900869	99.90872353	95.97328123	92.26650752	88.77250515	85.47661617	82.36531658
130211A00017	2/11/2013	3.27	2/15/2028		112.13183	108.6036004	105.2064212	101.9347368	98.78325729	95.7469437	92.82099498	90.00083535	87.28210254
130405A00006	4/5/2013	2.41	4/7/2025		101.04189	100.5183272	100.0001896	99.48739293	98.97985468	98.47749416	97.98023232	97.4879917	97.00069641
130405A00007	4/5/2013	2.91	4/17/2028		111.77175	108.0658393	104.5040415	101.0799592	97.78751374	94.6209299	91.57471862	88.64366127	85.82279461
130424A00004	4/24/2013	2.46	4/24/2025		101.18284	100.6120272	100.0476479	99.4895962	98.93776615	98.392054	97.85235832	97.31857993	96.79062181
130424A00005	4/24/2013	3.07	4/24/2030		118.89328	112.9203327	107.2890249	101.9779677	96.96722675	92.23821186	87.77357972	83.55714362	79.57379034
130531A00021	5/31/2013	3.22	5/30/2028		113.33327	109.4774663	105.7752341	102.2195719	98.80384295	95.52175212	92.3673255	89.33489218	86.41906681
130904A00039	9/4/2013	4.19	9/15/2028		118.34357	114.0817906	110.0007236	106.0917284	102.3466225	98.7576566	95.31748926	92.019163	88.85608228
130913A00018	9/13/2013	3.72	9/13/2028		109.91362	107.2675292	104.7116922	102.2423307	99.85585435	97.54884684	95.31805612	93.16038549	91.07288515
130925A00035	9/25/2013	1.53	6/25/2025		101.01153	100.2227858	99.44625446	98.68165665	97.92871848	97.1871744	96.45676689	95.73724615	95.02836981
130926A00009	9/26/2013	4	10/2/2028		117.78655	113.4861229	109.3702006	105.4298604	101.6566565	98.04259586	94.5801108	91.26203427	88.08157635
131018A00006	10/18/2013	3.28	10/20/2025		103.54968	102.4438077	101.3623068	100.3043681	99.26922029	98.25612539	97.26437716	96.29329934	95.3422441
131217A00024	12/17/2013	4.34	1/2/2029		120.0034	115.4010213	111.0054295	106.8061283	102.7932212	98.95737058	95.28976256	91.78207399	88.42644221
140219A00005	2/19/2014	3.13	2/20/2029		107.96019	105.5650186	103.2514852	101.0161185	98.855622	96.7668625	94.74686103	92.79278413	90.90193571
140423A00036	4/23/2014	4.03	4/23/2029		119.97351	115.0443363	110.3509719	105.8808349	101.6220826	97.56356526	93.69478127	90.00583624	86.48740439
140521A00019	5/21/2014	3.43	5/22/2028		114.0312	110.1849948	106.4911105	102.9426425	99.5330413	96.25609236	93.10589651	90.07685205	87.16363783
140626A00036	6/26/2014	3.55	6/26/2029		118.80613	113.7060326	108.8585866	104.2498419	99.86670077	95.69686044	91.72875968	87.95152967	84.35494831
140717A00027	7/17/2014	3.14	7/17/2026		105.69785	103.9344927	102.2111062	100.5265388	98.8796755	97.26944076	95.69479697	94.15474273	92.64831137
140815A00032	8/15/2014	3.59	10/15/2029		119.65029	114.2249981	109.0832125	104.2085768	99.58576229	95.20040068	91.03901872	87.08897769	83.33841734

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
140911A00033	9/11/2014	3.02	9/13/2027		107.8993	105.3761185	102.9320246	100.5640122	98.26921024	96.04487492	93.88838295	91.79722562	89.76900299
140917A00030	9/17/2014	3.23	9/17/2029		115.27007	110.7564287	106.4661235	102.3866288	98.50619144	94.81378252	91.2990483	87.9522653	84.76429828
140924A00057	9/24/2014	3.25	9/25/2028		113.73465	109.7735281	105.9807984	102.3483037	98.86832757	95.5335699	92.33712198	89.27244324	86.3333394
141015A00029	10/15/2014	2.32	10/15/2024		100.19036	100.0641098	99.93819778	99.81262069	99.68737712	99.56246568	99.437885	99.31363372	99.18971048
141017A00022	10/17/2014	2.78	10/17/2024		100.25128	100.1188312	99.98674564	99.8550241	99.72366507	99.59266702	99.46202842	99.33174775	99.2018235
141117A00011	11/17/2014	3.81	11/17/2034		136.25545	124.8851425	114.6009573	105.2921238	96.85975247	89.21550204	82.28040333	75.98381943	70.26252619
141208A00008	12/8/2014	3.02	12/16/2024		100.47549	100.2621284	100.049689	99.83816414	99.62754787	99.41783428	99.20901749	99.00109169	98.7940511
141215A00062	12/15/2014	2.65	12/16/2024		100.41314	100.1996911	99.98716453	99.775555	99.56485655	99.35506319	99.14616902	98.93816817	98.73105483
150203A00027	2/3/2015	2.26	2/4/2030		107.27249	104.3726392	101.5897631	98.9181055	96.3522361	93.88703013	91.51764922	89.23952334	87.04833412
150213A00014	2/13/2015	2.41	2/13/2025		100.43591	100.19008	99.94567654	99.70268951	99.46110543	99.22091103	98.98209319	98.74463896	98.50853557
150219A00016	2/19/2015	2.68	2/19/2025		101.01559	100.542896	100.0745618	99.61052456	99.15072514	98.69510546	98.24360849	97.79617827	97.35275983
150220A00022	2/20/2015	2.8	2/20/2025		100.86989	100.4738827	100.0809862	99.69116649	99.30438728	98.92061308	98.5398089	98.16194029	97.78697332
150224A00010	2/24/2015	2.34	2/24/2025		100.72967	100.3157335	99.90514463	99.49786068	99.09384182	98.69304892	98.29544348	97.90098759	97.50964395
150227A00011	2/27/2015	2.33	2/27/2025		100.89442	100.4187666	99.94768863	99.48112022	99.01899631	98.56125314	98.10782814	97.65865995	97.21368836
150311A00003	3/11/2015	2.72	3/31/2025		101.2998	100.7245793	100.1559565	99.59381971	99.03805796	98.48856292	97.9452287	97.40795176	96.8766309
150317A00013	3/17/2015	2.58	3/17/2025		100.98468	100.5191275	100.0578793	99.60087259	99.14804874	98.69935036	98.25472109	97.81410558	97.37744948
150319A00012	3/19/2015	3.13	3/19/2029		115.4701	110.7440078	106.2411955	101.9499313	97.8591606	93.9584643	90.23801862	86.68855801	83.30134054
150319A00013	3/19/2015	3.25	3/19/2030		119.15218	113.2921781	107.7615416	102.5400002	97.60863087	92.94976514	88.54689946	84.38461267	80.44848954
150320A00019	3/20/2015	2.25	3/20/2025		100.99183	100.455102	99.92421397	99.39907352	98.87958678	98.36566195	97.85720921	97.35414068	96.85637036
150401A00008	4/1/2015	2.62	4/1/2025		101.06853	100.5618777	100.0602992	99.56371412	99.07204822	98.58522872	98.10318426	97.62584486	97.15314192
150410A00021	4/10/2015	2.27	4/10/2025		100.5471	100.2176412	99.89080789	99.56656842	99.24488889	98.92573601	98.60907709	98.29488002	97.9831133
150414A00037	4/14/2015	2.34	4/14/2025		100.57381	100.242684	99.91422437	99.5883921	99.26515248	98.94447143	98.62631553	98.31065194	97.99744844
150422A00019	4/22/2015	2.62	4/22/2025		101.21486	100.6500103	100.0914592	99.53910556	98.99284648	98.4525814	97.91821197	97.38964195	96.86677721
150427A00014	4/27/2015	2.98	4/27/2035		116.69942	110.7012906	105.1357529	99.9663964	95.16020303	90.68720354	86.5201733	82.63436034	79.00724226
150512A00029	5/12/2015	3.03	5/12/2025		101.61176	100.990515	100.3768727	99.7706918	99.17183653	98.5801745	97.99557645	97.41791621	96.84707062
150519A00013	5/19/2015	2.98	5/19/2025		101.63819	100.9975657	100.365022	99.74040458	99.12356479	98.51435783	97.91264246	97.31828092	96.73113878
150601A00261	6/1/2015	3.19	2/11/2033		114.77741	110.0611448	105.6232591	101.4443531	97.50653914	93.7933126	90.28943528	86.98082919	83.85448004
150601A00270	6/1/2015	3.12	3/21/2031		111.42159	107.8615644	104.4694015	101.2355956	98.15124969	95.20803489	92.39815043	89.71428653	87.14959012
150601A00342	6/1/2015	3.97	8/26/2033		117.97548	113.1129591	108.5447851	104.2497867	100.2084972	96.40300625	92.81682401	89.43475784	86.24280085
150601A00396	6/1/2015	3.61	1/3/2029		108.24219	105.9812663	103.7953743	101.681384	99.63632122	97.65735718	95.74180044	93.88708919	92.09078407
150601A00404	6/1/2015	4.29	1/17/2029		119.69963	115.0611093	110.6328073	106.4040382	102.3647169	98.50532367	94.81686946	91.29086315	87.91928118
150601A00405	6/1/2015	4.63	1/17/2034		140.97485	130.2633173	120.4938718	111.5775311	103.4341874	95.99168214	89.18497824	82.95542212	77.25008608
150601A00411	6/1/2015	3.38	1/24/2029		107.74682	105.4921121	103.3123364	101.204362	99.16521654	97.19207272	95.28224059	93.43315971	91.64239207

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00426	6/1/2015	3.37	2/21/2029		107.8814	105.5819311	103.3600433	101.2124628	99.1360743	97.12791636	95.18517275	93.30516421	91.48534083
150601A00440	6/1/2015	3.27	3/16/2029		107.81072	105.4699261	103.2093125	101.0254449	98.91506458	96.8750758	94.90253593	92.99464705	91.14874779
150601A00450	6/1/2015	3.28	4/27/2029		107.98717	105.6002467	103.2963332	101.0718277	98.9233134	96.84754605	94.84144397	92.90207872	91.02666647
150601A00460	6/1/2015	3.05	5/16/2029		107.59885	105.1759442	102.8385494	100.5829139	98.4054755	96.30285356	94.27183882	92.30938336	90.41259137
150601A00475	6/1/2015	3.04	6/1/2029		107.57783	105.1544481	102.8166466	100.5606619	98.38292659	96.28005574	94.24883591	92.28621539	90.38929488
150601A00477	6/1/2015	3.21	6/1/2029		108.39612	105.8944055	103.481956	101.1548257	98.90927092	96.74174013	94.64886255	92.6274378	90.67442611
150601A00506	6/1/2015	3.14	7/6/2029		108.09794	105.5819862	103.1573396	100.819888	98.56573818	96.39119988	94.29277398	92.26714119	90.31115154
150601A00512	6/1/2015	3.79	7/16/2029		119.48643	114.3260904	109.4233817	104.7640292	100.3346305	96.12259359	92.11608344	88.30397217	84.67579303
150601A00522	6/1/2015	4.52	7/25/2030		127.23551	120.7781434	114.70005	108.9768452	103.5858366	98.50589884	93.71735766	89.20188281	84.94238964
150601A00523	6/1/2015	4.55	7/25/2031		131.12885	123.4743293	116.3354893	109.6746208	103.4569658	97.65047127	92.22556548	87.15495376	82.4134321
150601A00528	6/1/2015	3.08	7/27/2029		107.95549	105.4408734	103.0175864	100.6815181	98.42877176	96.25565406	94.15866275	92.13447566	90.1799401
150601A00559	6/1/2015	3.06	8/31/2029		108.04826	105.4891951	103.024396	100.6495674	98.36064052	96.15376082	94.02527547	91.9717213	89.98981368
150601A00664	6/1/2015	3.78	1/16/2032		127.26832	119.2426193	111.7940361	104.8777805	98.45276459	92.48128268	86.92871536	81.76326193	76.95569692
150601A00665	6/1/2015	3.82	1/14/2033		130.51169	121.3202074	112.8670966	105.0886594	97.92702179	91.32957244	85.24845802	79.64012971	74.46493507
150601A00666	6/1/2015	3.88	1/16/2035		136.85954	125.2906548	114.8418003	105.397262	96.85388771	89.11966305	82.11245524	75.7589044	69.99344429
150601A00667	6/1/2015	3.88	1/16/2036		139.54447	126.8016402	115.3947432	105.1746126	96.0095302	87.78310392	80.39241057	73.74637239	67.76433666
150601A00668	6/1/2015	3.89	1/16/2037		142.22856	128.3080388	115.9564079	104.9855914	95.23107996	86.54886681	78.81279316	71.91224987	65.75018527
150601A00677	6/1/2015	2.39	1/30/2025		100.59776	100.2598538	99.92421279	99.59081584	99.2596405	98.93066461	98.60386633	98.2792241	97.95671664
150601A00678	6/1/2015	2.12	1/30/2025		100.22828	100.0567211	99.88603052	99.7161975	99.54721495	99.3790758	99.21177309	99.04529993	98.87964952
150601A00684	6/1/2015	2.25	2/7/2025		100.30493	100.1010923	99.89841419	99.69688735	99.49650113	99.297245	99.09910856	98.90208155	98.70615384
150601A00688	6/1/2015	2.61	2/21/2025		100.81658	100.4175706	100.0217281	99.62901028	99.2393803	98.85280175	98.4692388	98.08865618	97.71101918
150601A00689	6/1/2015	2.81	2/28/2025		100.91213	100.4939725	100.0792709	99.66798338	99.26006795	98.85548334	98.45418892	98.05614474	97.66131147
150601A00690	6/1/2015	2.34	2/28/2025		100.34281	100.1292629	99.9170221	99.70607685	99.49641408	99.28802085	99.08088439	98.87499215	98.67033171
150601A00696	6/1/2015	2.83	3/13/2025		101.015	100.5608083	100.1107121	99.66465247	99.22257512	98.78442675	98.35015499	97.9197084	97.49303645
150601A00733	6/1/2015	2.72	5/1/2025		101.35999	100.7692902	100.1854595	99.6083828	99.03794339	98.47402727	97.91652302	97.36532177	96.82031707
150601A00734	6/1/2015	2.92	5/1/2025		101.42931	100.8389596	100.2554675	99.67871714	99.1085921	98.54497878	97.98776612	97.43684556	96.89211099
150601A00736	6/1/2015	2.87	5/1/2030		108.6147	105.7040612	102.9125715	100.2342688	97.6635341	95.19507001	92.82387988	90.54524882	88.35472582
150601A00737	6/1/2015	2.68	12/31/2024		100.49958	100.2445651	99.99084206	99.73840024	99.48722995	99.23732162	98.98866577	98.74125303	98.4950741
150601A00739	6/1/2015	2.35	5/6/2025		100.5796	100.2482035	99.91980261	99.59435722	99.27182343	98.95215825	98.63531961	98.32126629	98.00995792
150601A00832	6/1/2015	7.17	8/28/2025		103.08546	102.6125839	102.1456763	101.6846116	101.2292677	100.7795258	100.3352709	99.89639102	99.46277765
150601A00851	6/1/2015	7.12	4/30/2027		109.68265	108.2666483	106.8830539	105.5308591	104.2090912	102.9168159	101.6531353	100.417186	99.20813788
150601A00864	6/1/2015	7.37	3/31/2028		113.93033	111.9452476	110.0165618	108.1422075	106.3202125	104.5486914	102.8258406	101.1499346	99.5193219
150601A00868	6/1/2015	7.08	6/5/2028		114.3993	112.2676966	110.1998654	108.193371	106.2458921	104.3552125	102.5192161	100.7358812	99.00327591



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00871	6/1/2015	6.74	7/31/2028		114.04164	111.8688441	109.7622557	107.7193076	105.7375547	103.8146645	101.9484105	100.1366673	98.37740456
150601A00872	6/1/2015	7.42	7/31/2028		115.47509	113.2740969	111.1401624	109.0706942	107.0632157	105.1153638	103.2248835	101.3896215	99.60752135
150601A00875	6/1/2015	7.14	9/29/2028		115.58306	113.2860136	111.0613442	108.906175	106.8177619	104.7934896	102.8308646	100.9275086	99.08115247
150601A00883	6/1/2015	6.21	11/30/2028		114.14908	111.7885855	109.5049283	107.294965	105.1557052	103.0843019	101.078044	99.13434854	97.25075397
150601A00888	6/1/2015	5.92	3/1/2029		114.36047	111.8561588	109.4372839	107.1002057	104.8414714	102.6577995	100.54607	98.50331564	96.52671307
150601A00889	6/1/2015	6.55	3/2/2029		116.20628	113.6149361	111.1132564	108.6973778	106.3636364	104.1085517	101.928816	99.82128525	97.78296901
150601A00893	6/1/2015	6.49	4/6/2029		116.3778	113.73511	111.1852615	108.7242073	106.3481048	104.053306	101.8363466	99.69393489	97.62294244
150601A00897	6/1/2015	6.15	5/28/2029		115.82459	113.1466782	110.564311	108.0732608	105.6695215	103.3492924	101.1089664	98.94511855	96.85449576
150601A00899	6/1/2015	7.07	6/14/2029		117.31111	114.6881972	112.158134	109.7168136	107.3603466	105.0850433	102.8874023	100.7640995	98.71197789
150601A00905	6/1/2015	6.14	10/29/2029		117.30719	114.3567506	111.5192924	108.7895028	106.1623588	103.6331094	101.1972583	98.85054915	96.5889506
150601A00906	6/1/2015	6.2	11/1/2029		117.47819	114.5231948	111.6813683	108.9473846	106.3162122	103.7830918	101.3435196	98.99323184	96.72819041
150601A00912	6/1/2015	5.96	11/30/2029		117.0897	114.0974583	111.2213694	108.4559021	105.7958332	103.2362253	100.7724087	98.39996559	96.11471406
150601A00916	6/1/2015	7.27	4/5/2030		141.30086	134.7844445	128.627556	122.8081986	117.3058395	112.1013065	107.1766906	102.5152558	98.10135666
150601A00918	6/1/2015	5.62	4/28/2025		101.49915	101.1979354	100.8992239	100.6029779	100.3091634	100.0177473	99.72869688	99.44198032	99.15756621
150601A00927	6/1/2015	6.08	8/7/2030		118.90808	115.6150073	112.461878	109.4414216	106.5468051	103.7716008	101.1097585	98.55558107	96.10370153
150601A00928	6/1/2015	5.94	8/21/2030		118.49453	115.2091285	112.063448	109.0502305	106.1626495	103.3942829	100.7390866	98.19136932	95.74576966
150601A00929	6/1/2015	5.91	8/30/2030		119.52015	116.0311555	112.6939789	109.5006258	106.4435806	103.5157771	100.7105688	98.02170095	95.44328494
150601A00935	6/1/2015	6.46	11/21/2030		122.29636	118.5778614	115.0269642	111.6345538	108.3920818	105.291526	102.3253543	99.48649181	96.76828932
150601A00939	6/1/2015	5.79	1/17/2031		120.49205	116.7330537	113.1473794	109.7254036	106.4581133	103.337061	100.354325	97.50247341	94.7745302
150601A00943	6/1/2015	6.44	5/9/2031		124.06522	119.9946346	116.1201799	112.4305285	108.9150914	105.5639684	102.3678985	99.31821395	96.40679837
150601A00948	6/1/2015	6.04	10/22/2031		122.00745	118.0175405	114.2244396	110.6164296	107.182583	103.9127059	100.7972833	97.82742929	94.99484118
150601A01024	6/1/2015	5.33	2/27/2026		107.52341	106.0698867	104.6433959	103.2432425	101.8687582	100.5192969	99.19423379	97.89296451	96.61490416
150601A01041	6/1/2015	5.99	10/2/2036		140.23257	132.0683363	124.5672399	117.6668087	111.311042	105.4496937	100.0376368	95.03430164	90.40317996
150603A00012	6/3/2015	2.77	6/3/2030		109.3049	106.1740032	103.1759489	100.303899	97.55141652	94.91244189	92.38126816	89.95251806	87.6211227
150603A00017	6/3/2015	2.84	6/3/2025		101.72103	101.0380569	100.3642453	99.6994116	99.04337709	98.3959679	97.75701469	97.12635251	96.5038207
150603A00032	6/3/2015	2.21	6/3/2025		100.72972	100.316043	99.90656563	99.50121806	99.0999315	98.70263878	98.30927427	97.91977386	97.5340749
150604A00039	6/4/2015	2.82	6/4/2030		109.46203	106.3265916	103.3241903	100.4479788	97.69151062	95.04871696	92.51388237	90.08162153	87.746858
150610A00008	6/10/2015	3.58	6/10/2030		122.19191	115.9917021	110.1516039	104.6486883	99.4616117	94.5704972	89.95682578	85.60333604	81.49393193
150610A00009	6/10/2015	3.03	6/10/2025		101.91265	101.209626	100.5163026	99.83247997	99.15796345	98.49256381	97.83609688	97.18838344	96.54924904
150615A00024	6/15/2015	2.26	6/16/2025		100.75948	100.3419999	99.92882546	99.51988106	99.11509481	98.71439656	98.31771783	97.92499175	97.53615301
150617A00017	6/17/2015	2.27	6/17/2025		100.76517	100.3470574	99.93326394	99.52371742	99.11834546	98.71707741	98.31984432	97.92657883	97.53721518
150617A00018	6/17/2015	2.45	6/17/2025		100.80758	100.3896552	99.97604419	99.56667323	99.16147013	98.76036444	98.36328739	97.97017182	97.58095217
150617A00030	6/17/2015	2.91	6/16/2025		102.01329	101.2337334	100.4662928	99.710688	98.96664509	98.23389851	97.51219082	96.80127235	96.10090095

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150701A00056	7/1/2015	2.34	7/1/2025		100.88245	100.4260905	99.97486442	99.52867647	99.08743366	98.65104542	98.21942351	97.79248191	97.37013681
150714A00003	7/14/2015	3.76	7/12/2030		112.62091	109.3492912	106.2182253	103.2203934	100.3489122	97.59730603	94.95947999	92.4296949	90.0025441
150720A00012	7/20/2015	2.99	7/21/2025		102.25072	101.4329365	100.6282288	99.8362871	99.05680905	98.28950187	97.53408187	96.79027411	96.05781209
150721A00027	7/21/2015	3.74	7/22/2030		122.96484	116.6395137	110.6872043	105.0838807	99.8071825	94.83629629	90.15184058	85.73576017	81.57122881
150722A00033	7/22/2015	2.47	7/22/2025		100.92147	100.4595381	100.0029128	99.55149153	99.10517573	98.66386926	98.22747859	97.79591263	97.36908266
150722A00035	7/22/2015	2.92	7/22/2025		102.32843	101.4513921	100.5896792	99.74288682	98.91062742	98.09252676	97.2882234	96.49736817	95.7196236
150727A00013	7/27/2015	3.04	7/28/2025		102.2895	101.453066	100.6302941	99.82085626	99.02443011	98.24070371	97.46937498	96.71015137	95.96274946
150729A00028	7/29/2015	2.25	7/29/2025		100.86103	100.3970302	99.93840747	99.4850556	99.03687352	98.59376289	98.155628	97.72237567	97.29391522
150729A00041	7/29/2015	2.44	7/29/2025		100.91271	100.4488902	99.99043424	99.53724134	99.08921069	98.64624421	98.20824643	97.77512443	97.34678772
150731A00016	7/31/2015	3.04	7/31/2025		102.31657	101.471703	100.6407737	99.82343577	99.01935775	98.22821894	97.44970889	96.68352703	95.92938223
150803A00033	8/3/2015	3.41	8/2/2030		118.24019	112.8094699	107.6884943	102.8575386	98.2982426	93.99351153	89.92742251	86.08513786	82.45282554
150803A00036	8/3/2015	3.41	8/2/2030		118.24019	112.8094699	107.6884943	102.8575386	98.2982426	93.99351153	89.92742251	86.08513786	82.45282554
150803A00037	8/3/2015	3.41	8/2/2030		118.24019	112.8094699	107.6884943	102.8575386	98.2982426	93.99351153	89.92742251	86.08513786	82.45282554
150803A00038	8/3/2015	3.41	8/2/2030		118.24019	112.8094699	107.6884943	102.8575386	98.2982426	93.99351153	89.92742251	86.08513786	82.45282554
150803A00039	8/3/2015	3.01	8/2/2030		110.07806	106.8415357	103.7455485	100.7827072	97.94606922	95.22910624	92.62567684	90.1300008	87.7366354
150803A00041	8/3/2015	3.01	8/2/2030		110.07806	106.8415357	103.7455485	100.7827072	97.94606922	95.22910624	92.62567684	90.1300008	87.7366354
150803A00042	8/3/2015	3.01	8/2/2030		110.07806	106.8415357	103.7455485	100.7827072	97.94606922	95.22910624	92.62567684	90.1300008	87.7366354
150812A00052	8/14/2015	2.13	8/14/2025		100.88989	100.3872714	99.89095011	99.4007926	98.91667167	98.43846384	97.96604916	97.49931112	97.03813647
150814A00029	8/14/2015	2.39	8/14/2025		100.98122	100.4786028	99.9822707	99.4920959	99.00795151	98.5297143	98.05726456	97.59048602	97.12926566
150817A00099	8/17/2015	3.19	8/17/2027		110.0488	107.0659446	104.1801018	101.3875955	98.68491211	96.06868957	93.53571026	91.0828938	88.70729045
150819A00012	8/19/2015	3.04	8/19/2025		102.4932	101.59495	100.7124391	99.84525749	98.99300795	98.15530691	97.33178383	96.52208069	95.72585144
150819A00013	8/19/2015	3.51	8/19/2030		121.81231	115.4411612	109.4507469	103.8162723	98.51468164	93.52452697	88.82584846	84.40006385	80.22986678
150824A00033	8/24/2015	2.22	8/25/2025		100.90183	100.397092	99.89872729	99.40659908	98.92057731	98.44053577	97.96635189	97.49790665	97.03508442
150824A00050	8/24/2015	2.03	8/25/2025		100.84555	100.3406446	99.84211653	99.34983369	98.86366568	98.38348596	97.90917168	97.44060353	96.97766563
150826A00038	8/26/2015	2.94	8/26/2026		106.09177	104.1496584	102.2528801	100.4001074	98.59005774	96.82149456	95.0932251	93.40409863	91.75300469
150826A00039	8/26/2015	3.22	8/27/2029		117.76163	112.5106044	107.5283394	102.7996636	98.31034319	94.047015	89.99712916	86.14889537	82.49123319
150925A00034	9/25/2015	2.36	9/25/2025		101.07743	100.5290913	99.98828834	99.45484938	98.92860725	98.40940013	97.89707132	97.39146903	96.89244617
150929A00076	9/29/2015	2.28	9/29/2025		101.03583	100.4867958	99.94532902	99.41125718	98.88441174	98.36462957	97.85175274	97.34562827	96.84610796
150929A00083	9/29/2015	2.09	9/29/2025		100.97467	100.425461	99.88383598	99.3496156	98.82263096	98.30271854	97.78972007	97.28348222	96.78385649
150929A00087	9/29/2015	2.09	9/29/2025		100.97467	100.425461	99.88383598	99.3496156	98.82263096	98.30271854	97.78972007	97.28348222	96.78385649
151001A00023	10/1/2015	2.02	10/1/2025		101.01507	100.4295483	99.85259309	99.28399358	98.72354919	98.17106609	97.62635694	97.08924052	96.55954157
151013A00033	10/13/2015	2.23	10/14/2025		101.09894	100.5109146	99.931548	99.36062745	98.79794838	98.24331311	97.69653064	97.15741632	96.6257916
151029A00008	10/29/2015	2.28	10/29/2025		101.13783	100.5461673	99.96330829	99.38903332	98.82313152	98.26539933	97.71564015	97.17366402	96.63928736

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
151030A00026	10/30/2015	3.29	10/30/2030		118.06403	112.4574834	107.1814705	102.2142286	97.53555558	93.12669065	88.97020343	85.049892	81.35068946
151106A00011	11/6/2015	3.1	1/15/2026		104.00485	102.6928188	101.4085643	100.1512034	98.91989438	97.71383068	96.53223931	95.37437897	94.23953851
151116A00025	11/16/2015	3.04	11/14/2025		103.3263	102.1820084	101.0630449	99.96857855	98.8978108	97.84997758	96.82434735	95.82021941	94.83692228
151118A00037	11/18/2015	2.75	11/18/2025		102.99273	101.8600537	100.7536082	99.67247449	98.61577731	97.58268149	96.57238984	95.58414096	94.61720726
151120A00019	11/20/2015	2.72	11/20/2030		109.78298	106.4172765	103.2032186	100.13256	97.19756874	94.3909886	91.70600672	89.13622333	86.67562393
151125A00037	11/25/2015	2.41	11/25/2025		101.32369	100.689263	100.0649494	99.45048307	98.84560522	98.25006668	97.66362735	97.08605579	96.51712885
151204A00011	12/4/2015	2.28	12/4/2025		101.39016	100.7163183	100.053844	99.40242284	98.76174905	98.13152854	97.51147853	96.90132697	96.30081195
151209A00024	12/9/2015	2.22	12/9/2025		101.35218	100.6776627	100.0145527	99.36253307	98.72129604	98.0905456	97.46999719	96.85937705	96.25842174
151211A00055	12/11/2015	2.62	12/11/2024		100.37714	100.1775429	99.97875366	99.78076763	99.58357983	99.38718538	99.1915794	98.99675707	98.80271361
151223A00036	12/23/2015	2.64	12/23/2025		102.73614	101.6652456	100.6159846	99.5876833	98.57969591	97.59140359	96.62221325	95.67155614	94.7388866
151223A00072	12/23/2015	2.81	12/23/2025		103.5225	102.2668009	101.0415125	99.84554336	98.67785015	97.53743861	96.42336059	95.33471147	94.27062763
151223A00074	12/23/2015	3.01	12/23/2027		111.0039	107.640237	104.3970285	101.2692222	98.25201257	95.3408271	92.53131339	89.81932681	87.20091909
151223A00077	12/23/2015	3.57	12/24/2035		137.54258	124.9136062	113.6082526	103.4789507	94.39537142	86.24232598	78.91793286	72.33201588	66.40470238
151223A00078	12/23/2015	2.28	12/23/2025		101.4002	100.7227588	100.0568598	99.40217371	98.75838623	98.12519554	97.50231151	96.88945518	96.28635817
151228A00013	12/28/2015	2.27	12/29/2025		101.39603	100.7176898	100.0509348	99.39543452	98.7508724	98.11694453	97.49335885	96.87983453	96.27610148
151229A00026	12/29/2015	2.28	12/29/2025		101.40336	100.7247889	100.0578091	99.40209319	98.7573243	98.12319803	97.49942189	96.88571468	96.28180594
151229A00079	12/29/2015	3	12/30/2025		103.7266	102.4515804	101.2078694	99.99432339	98.80985464	97.65342717	96.5240537	95.42079281	94.34274632
151229A00080	12/29/2015	3.49	12/30/2030		122.68243	115.9048901	109.554026	103.600575	98.01743837	92.77951109	87.86352454	83.24790201	78.91262665
151229A00081	12/29/2015	3.76	12/31/2035		138.69919	126.0464805	114.717057	104.5635154	95.45566807	87.27844524	79.93006553	73.32043616	67.36975326
160106A00042	1/6/2016	2.43	1/6/2026		101.55475	100.8375003	100.1330077	99.44089753	98.76080995	98.09239952	97.43533472	96.78929717	96.15398099
160113A00030	1/13/2016	2.52	1/13/2025		100.54993	100.2590055	99.96977383	99.68222422	99.39634194	99.1121124	98.82952116	98.54855397	98.26919674
160115A00011	1/15/2016	2.18	1/15/2026		101.37868	100.6614692	99.95685454	99.26446984	98.58396547	97.91500574	97.25726822	96.61044304	95.9742323
160119A00019	1/19/2016	2.95	1/19/2027		107.34711	104.9904995	102.6976196	100.4663562	98.29467554	96.18062536	94.12233078	92.11799066	90.16587415
160119A00025	1/19/2016	3.05	1/19/2028		111.11329	107.6799245	104.3716971	101.1833567	98.1098996	95.14656057	92.28879963	89.53229017	86.87290756
160119A00026	1/19/2016	3.14	1/19/2029		114.95432	110.4125579	106.078097	101.9403603	97.98937147	94.21571387	90.61049631	87.16532066	83.87225181
160119A00027	1/19/2016	3.25	1/18/2030		118.67438	113.0034962	107.6423881	102.5724682	97.77636282	93.2378253	88.94165712	84.87363463	81.0204415
160119A00028	1/19/2016	3.34	1/21/2031		121.87288	115.0590887	108.6783487	102.7007831	97.09873018	91.84656579	86.92054299	82.29864531	77.96045211
160119A00029	1/19/2016	3.39	1/20/2032		124.79435	116.8466837	109.4730571	102.6288046	96.27295795	90.36792554	84.87919748	79.77507811	75.02644287
160119A00030	1/19/2016	3.44	1/18/2033		127.79759	118.7053498	110.3468247	102.6585467	95.58286199	89.06736784	83.06440893	77.53062445	72.42654051
160119A00072	1/19/2016	2.77	1/21/2031		110.29966	106.6494476	103.1758855	99.86873254	96.71842261	93.71601091	90.85312974	88.12194741	85.51513041
160122A00029	1/22/2016	2.48	1/22/2025		100.59264	100.276816	99.96298084	99.65112014	99.34121517	99.0332475	98.72719889	98.42305136	98.12078715
160126A00004	1/26/2016	2.52	1/26/2026		103.63152	102.2396089	100.8735522	99.53268512	98.21636866	96.92398513	95.65493714	94.40864682	93.18455503
160129A00066	1/29/2016	3.04	1/29/2031		120.54904	113.7334448	107.3537832	101.379863	95.7837294	90.53949086	85.62315661	81.01248813	76.68686287



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160129A00067	1/29/2016	2.53	1/29/2026		103.47747	102.1372555	100.8213606	99.52917093	98.26008977	97.01354018	95.78896425	94.58582225	93.40359192
160201A00016	2/1/2016	2.1	2/2/2026		101.41634	100.6601826	99.91705039	99.18658147	98.4684305	97.76226527	97.06776605	96.38462498	95.7125455
160209A00006	2/9/2016	1.91	2/9/2026		101.27514	100.5186336	99.77518312	99.04442365	98.32600873	97.61960507	96.92489188	96.24156031	95.56931283
160209A00008	2/9/2016	2.45	2/10/2031		108.91911	105.4550258	102.1521962	99.00158935	95.99475297	93.12376875	90.38121503	87.76013222	85.25399093
160210A00042	2/10/2016	2.57	2/10/2026		103.53196	102.1589768	100.810767	99.486722	98.18624805	96.90877051	95.65373291	94.42059635	93.20883873
160210A00049	2/10/2016	1.78	2/10/2026		101.23684	100.4797167	99.73567373	99.00434674	98.28538827	97.57846405	96.88325238	96.19944353	95.52673912
160210A00051	2/10/2016	2.28	2/10/2031		108.61064	105.150753	101.8521183	98.70570153	95.70304099	92.83621034	90.0977809	87.48078703	84.97869409
160210A00054	2/10/2016	1.78	2/10/2026		101.23684	100.4797167	99.73567373	99.00434674	98.28538827	97.57846405	96.88325238	96.19944353	95.52673912
160211A00035	2/11/2016	2.25	2/11/2025		100.60237	100.2317484	99.8638653	99.49868797	99.13618652	98.7763315	98.41909394	98.06444525	97.71235728
160211A00036	2/11/2016	2.41	2/11/2026		103.31988	101.945447	100.5958694	99.27052768	97.9688254	96.6901852	95.43404809	94.19987271	92.98713466
160211A00038	2/11/2016	1.83	2/11/2026		101.21498	100.4585816	99.71523473	98.98458276	98.26627903	97.55999006	96.86539487	96.18218442	95.51006102
160212A00037	2/12/2016	3.03	2/12/2031		120.01751	113.1974414	106.8157952	100.8420601	95.24800045	90.00747296	85.09626191	80.49192782	76.17366876
160212A00047	2/12/2016	1.94	2/12/2026		101.29935	100.5421463	99.79801069	99.06658629	98.34752597	97.64049574	96.94517419	96.26125182	95.58843052
160222A00005	2/22/2016	2.79	2/22/2028		110.54952	107.0277157	103.6376979	100.3738429	97.23079917	94.20347061	91.28700311	88.47677168	85.76836843
160222A00018	2/22/2016	2.59	2/23/2026		103.68108	102.2682313	100.8815004	99.52022531	98.18376574	96.87150229	95.58283576	94.31718629	93.07399263
160222A00019	2/22/2016	3.09	2/21/2031		120.47065	113.6086829	107.1892807	101.1815405	95.55686747	90.28879349	85.35280907	80.72620889	76.38795045
160303A00020	3/3/2016	2.97	3/3/2031		120.31986	113.4113148	106.9510324	100.9075369	95.25171733	89.95663975	84.99737381	80.35083418	75.99563513
160303A00035	3/3/2016	2.14	3/3/2026		101.71883	100.8422045	99.98166138	99.1367361	98.30698323	97.49197498	96.69130027	95.90456385	95.13138561
160307A00024	3/7/2016	2.17	3/6/2026		101.57843	100.7785458	99.99264743	99.22035234	98.46129062	97.71510627	96.9814565	96.26001115	95.55045206
160307A00027	3/7/2016	2.71	3/6/2026		103.951	102.5050588	101.0863814	99.69426427	98.32802606	96.98700833	95.6705745	94.37810897	93.10901629
160307A00028	3/7/2016	2.91	3/7/2028		111.09399	107.5228455	104.086676	100.7796599	97.59626162	94.53121281	91.57949811	88.73634151	85.99719355
160307A00029	3/7/2016	3.21	3/7/2031		121.34878	114.4180102	107.936326	101.8722055	96.1964951	90.88222172	85.9044187	81.2399671	76.86745001
160328A00038	3/28/2016	2.54	3/30/2026		103.9084	102.4000401	100.9220245	99.47349829	98.05363505	96.66163919	95.29674436	93.95821213	92.64533069
160328A00045	3/28/2016	2.49	3/27/2026		103.9217	102.4174081	100.9425776	99.49641542	98.07815917	96.68707294	95.32244624	93.9835929	92.66984998
160329A00017	3/29/2016	2.48	3/30/2026		103.81697	102.3096495	100.8326546	99.38512962	97.96624864	96.57521661	95.21126767	93.87366387	92.56169388
160330A00054	3/30/2016	2.9	3/31/2031		120.01753	113.0410046	106.5223664	100.4290947	94.73114349	89.40073979	84.4122	79.74176268	75.36743529
160330A00056	3/30/2016	2.26	3/31/2025		100.9199	100.4159585	99.91703286	99.42305279	98.93394503	98.44963782	97.9700608	97.49514494	97.02482261
160401A00016	4/1/2016	2.42	4/1/2025		100.96705	100.4607045	99.95942213	99.46313111	98.97175717	98.48522755	98.0034709	97.52641729	97.05399814
160404A00019	4/4/2016	2.48	4/4/2031		109.23477	105.6737307	102.2821424	99.05033068	95.96924434	93.03041456	90.22591348	87.54831592	84.99066407
160412A00029	4/12/2016	2.48	4/14/2031		109.23524	105.6738939	102.2820411	99.04999813	95.96871023	93.02970553	90.22505338	87.54732609	84.98956358
160413A00014	4/13/2016	2.55	4/14/2031		109.4864	105.9168277	102.5171449	99.27764346	96.18924736	93.24346487	90.43234676	87.74844793	85.18479205
160413A00016	4/13/2016	2.55	4/14/2031		109.4864	105.9168277	102.5171449	99.27764346	96.18924736	93.24346487	90.43234676	87.74844793	85.18479205
160413A00021	4/13/2016	2.48	4/13/2026		104.00539	102.4328983	100.8925811	99.38350802	97.9047866	96.45555852	95.03499768	93.64230876	92.2767257

Parallel-Shift Sensitivity Analysis													
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160413A00033	4/13/2016	2.32	4/13/2026		103.44312	101.9889982	100.5642727	99.16810221	97.79967381	96.45820565	95.1429452	93.85316794	92.58817602
160414A00042	4/13/2016	2.48	4/13/2026		104.00539	102.4328983	100.8925811	99.38350802	97.9047866	96.45555852	95.03499768	93.64230876	92.2767257
160421A00016	4/21/2016	2.26	4/21/2026		103.75027	102.1918394	100.6654894	99.17028598	97.70533004	96.26975717	94.86273594	93.48346628	92.13117801
160422A00026	4/22/2016	2.62	4/22/2026		104.22564	102.6485844	101.1032682	99.58880119	98.10432804	96.64902486	95.22209755	93.82278052	92.4503354
160427A00004	4/27/2016	2.09	4/27/2026		101.62492	100.7800944	99.95034646	99.1352574	98.33442595	97.54746592	96.77400547	96.01368647	95.26616378
160428A00028	4/28/2016	2	4/28/2026		101.61631	100.7705707	99.93994408	99.12400804	98.32235997	97.53461245	96.76039251	95.99934089	95.25111145
160504A00004	5/4/2016	2.3	5/4/2026		103.9463	102.3361292	100.7588001	99.21337949	97.69896573	96.21469094	94.75971941	93.33324615	91.93449537
160511A00015	5/11/2016	2.42	5/11/2026		104.12883	102.4821697	100.8702983	99.29217068	97.74678419	96.23317618	94.75042197	93.29763294	91.87395475
160511A00016	5/11/2016	2.48	5/12/2031		109.33967	105.7314089	102.2967347	99.0256361	95.9087534	92.93733478	90.1031926	87.39866322	84.81656985
160523A00086	5/23/2016	2.2	5/26/2026		103.90625	102.2587511	100.6465843	99.06866345	97.52395124	96.01145274	94.53021322	93.07931606	91.65788078
160524A00015	11/25/2016	2.71	11/25/2026		106.30505	104.1108194	101.9729167	99.88949781	97.858793	95.87910467	93.94880355	92.06632539	90.2301678
160524A00027	5/24/2016	3.06	5/27/2031		120.85714	113.7144861	107.0489209	100.8259594	95.01378456	89.58303081	84.50658259	79.75939037	75.31830273
160603A00014	6/3/2016	1.74	6/3/2026		101.57235	100.6472775	99.73925811	98.84780775	97.97246557	97.11278822	96.26834901	95.43873715	94.62355694
160603A00029	6/3/2016	2.18	6/3/2031		108.64094	105.0067295	101.5494356	98.25874141	95.12501138	92.13924191	89.2930157	86.57845948	83.98820513
160606A00004	6/6/2016	2.43	6/8/2026		104.31032	102.6039469	100.9337268	99.29857659	97.69745568	96.12936494	94.59334451	93.08847185	91.61385988
160606A00005	6/6/2016	2.92	6/6/2031		119.96474	112.8233877	106.1613272	99.94376534	94.1386162	88.71627601	83.64941832	78.91280706	74.48312596
160606A00018	6/6/2016	1.74	6/5/2026		101.57331	100.6478312	99.73941988	98.84759197	97.97188594	97.11185783	96.26708037	95.43714224	94.62164721
160608A00019	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00020	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00023	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00024	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00025	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00026	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00027	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00028	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00029	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00030	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00031	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00032	6/8/2016	2.36	6/8/2026		104.22995	102.5139064	100.8352967	99.1929905	97.5859049	96.01299974	94.4732755	92.96577122	91.48956265
160608A00033	6/8/2016	2.44	6/9/2031		109.29617	105.6459226	102.1731637	98.86755623	95.71944241	92.71979724	89.86018285	87.13270623	84.52998034
160608A00034	6/8/2016	2.44	6/9/2031		109.29617	105.6459226	102.1731637	98.86755623	95.71944241	92.71979724	89.86018285	87.13270623	84.52998034
160609A00075	6/9/2016	1.94	6/9/2026		101.68699	100.7610192	99.85210746	98.9597793	98.08357332	97.22304568	96.37776926	95.54733282	94.73134024
160613A00047	6/15/2016	2.18	6/16/2025		101.29832	100.5819141	99.87562778	99.17924578	98.49256069	97.81537085	97.14748018	96.48869793	95.83883858

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160615A00031	6/15/2016	2.51	6/17/2030		116.00029	109.955822	104.2663104	98.90898943	93.86267959	89.10766531	84.62558567	80.39933381	76.41296452
160616A00027	6/16/2016	2.27	6/16/2026		104.10043	102.3736071	100.683737	99.02970139	97.41042472	95.82487482	94.27206071	92.75103042	91.26086909
160616A00029	6/16/2016	1.58	6/16/2026		101.4268	100.5013377	99.5929612	98.70119183	97.82556658	96.96564008	96.12098379	95.29118513	94.47584677
160628A00038	6/28/2016	1.88	6/27/2025		101.20238	100.4553328	99.71928156	98.99398356	98.27920452	97.57471691	96.8802997	96.19573819	95.5208237
160628A00039	6/28/2016	2.01	6/29/2026		103.88724	102.1235487	100.3982544	98.71016813	97.05815211	95.4411153	93.85801117	92.30783531	90.78962331
160628A00049	6/28/2016	1.88	6/27/2025		101.20238	100.4553328	99.71928156	98.99398356	98.27920452	97.57471691	96.8802997	96.19573819	95.5208237
160629A00066	6/29/2016	2.61	6/30/2036		122.60164	112.5817576	103.5832127	95.49200292	88.20762242	81.64138742	75.71497908	70.35917354	65.51273378
160630A00012	6/30/2016	2.11	6/30/2025		101.33326	100.5782026	99.83436219	99.10148812	98.37933942	97.66768209	96.96628889	96.27493912	95.59341835
160701A00020	7/1/2016	2.13	7/1/2026		103.971	102.2036146	100.4747505	98.78322391	97.12789563	95.50767333	93.92150897	92.36839652	90.84736981
160701A00039	7/1/2016	1.92	7/1/2026		103.74207	101.9742208	100.244954	98.55308032	96.89745802	95.27699208	93.69063197	92.13736936	90.61623587
160705A00104	7/5/2016	2.1	7/6/2026		103.95323	102.1725425	100.4309127	98.72715055	97.06011715	95.42871893	93.83190556	92.26866774	90.73803519
160706A00010	7/6/2016	1.99	7/7/2025		101.28522	100.5111158	99.74881827	98.99805426	98.25856345	97.5300933	96.81239875	96.10524196	95.40839206
160706A00026	7/6/2016	2.19	7/6/2027		106.83125	104.0096681	101.277048	98.63001753	96.06536022	93.58000366	91.17101214	88.83557935	86.5710217
160706A00027	7/6/2016	2.29	7/6/2028		109.82791	105.9411536	102.2134009	98.63724099	95.20565848	91.9120056	88.74998059	85.71360735	82.7972165
160706A00028	7/6/2016	2.39	7/6/2029		112.8508	107.8769948	103.1523993	98.66316964	94.39631289	90.33962582	86.48164243	82.81158505	79.31931905
160706A00029	7/6/2016	2.49	7/8/2030		115.49106	109.4199145	103.7081701	98.33263318	93.2717271	88.5053732	84.01487896	79.78283478	75.79301914
160706A00030	7/6/2016	2.59	7/7/2031		117.86784	110.7093624	104.0381486	97.81840358	92.01714944	86.60398599	81.55087604	76.83194961	72.42332546
160711A00004	7/11/2016	1.51	7/13/2026		101.44404	100.4775526	99.52924285	98.59859779	97.68512059	96.78833344	95.90777664	95.04300774	94.19360069
160712A00019	7/12/2017	2.32	7/12/2027		107.24032	104.3966577	101.643051	98.97610044	96.39255949	93.88932546	91.46343196	89.11204189	86.83244081
160713A00015	7/13/2016	1.57	7/13/2026		101.50323	100.5359275	99.5868297	98.65541682	97.74119167	96.84367613	95.96241019	95.09695108	94.24687241
160714A00018	9/6/2016	2.28	9/4/2026		104.73001	102.7795953	100.8752574	99.01562793	97.19938943	95.42527209	93.69205167	91.99854754	90.34362083
160714A00020	9/6/2016	2.28	9/4/2026		104.73001	102.7795953	100.8752574	99.01562793	97.19938943	95.42527209	93.69205167	91.99854754	90.34362083
160714A00023	8/10/2016	2.49	8/10/2028		110.86317	106.8604821	103.0249365	99.34870157	95.82435116	92.44484298	89.20349701	86.09397498	83.11026108
160714A00024	9/20/2016	2.5	9/20/2028		111.22219	107.09778	103.1502047	99.37095247	95.75196535	92.28561402	88.96467256	85.78229499	82.73199318
160714A00029	8/10/2016	2.27	8/10/2026		104.52125	102.6408058	100.8033981	99.00778635	97.2527778	95.53722147	93.8600062	92.22005912	90.616344
160719A00026	7/19/2016	1.87	7/20/2026		101.72074	100.7516215	99.80073727	98.86757036	97.95162396	97.05242017	96.16949911	95.30241805	94.45075059
160726A00005	7/26/2016	2.28	7/27/2026		104.43415	102.5923568	100.7919733	99.03181732	97.31074462	95.62765132	93.98147218	92.37117901	90.79577908
160729A00017	7/31/2017	2.47	7/31/2029		113.40314	108.3473406	103.547845	98.99035874	94.66145776	90.54852846	86.63971477	82.92386902	79.39050613
160801A00002	8/1/2016	1.58	8/3/2026		101.59744	100.5890275	99.59994983	98.62966142	97.67763614	96.74336762	95.82636829	94.92616849	94.04231567
160802A00003	8/2/2016	2.53	8/1/2031		118.16347	110.9032921	104.1423666	97.84375776	91.97344369	86.50006946	81.39472553	76.63074567	72.18352256
160810A00025	8/10/2016	2.17	8/10/2026		104.32759	102.4528817	100.6223944	98.83480355	97.08883732	95.38327036	93.71692175	92.08865304	90.49736644
160810A00027	8/10/2016	2.13	8/10/2026		104.13635	102.3083891	100.5233103	98.77983348	97.07672669	95.41280311	93.78691896	92.19797162	90.64489788
160810A00028	8/10/2016	2.19	8/10/2026		104.4293	102.5293819	100.6743983	98.86300953	97.09392237	95.36589064	93.67771337	92.02823278	90.41633242

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160810A00029	8/10/2016	2.17	8/10/2026		104.32759	102.4528817	100.6223944	98.83480355	97.08883732	95.38327036	93.71692175	92.08865304	90.49736644
160810A00030	8/10/2016	2.24	8/11/2031		108.74566	105.0272537	101.4935079	98.13345573	94.9368669	91.89419341	88.99651924	86.23551421	83.6033915
160811A00011	8/11/2016	2.25	8/11/2026		104.49104	102.6081865	100.7684813	98.97067858	97.21358104	95.49603329	93.81692004	92.17516443	90.56972645
160812A00006	8/12/2016	2.16	8/12/2026		104.35384	102.5159812	100.721392	98.96877282	97.25687634	95.58450111	93.95048944	92.35372548	90.7931334
160815A00005	8/15/2016	2.23	8/17/2026		104.49782	102.5986933	100.7434188	98.93072241	97.1593782	95.42820344	93.73605679	92.08183658	90.46447916
160815A00006	8/15/2016	2.23	8/17/2026		104.49782	102.5986933	100.7434188	98.93072241	97.1593782	95.42820344	93.73605679	92.08183658	90.46447916
160815A00007	8/15/2016	2.23	8/17/2026		104.49782	102.5986933	100.7434188	98.93072241	97.1593782	95.42820344	93.73605679	92.08183658	90.46447916
160819A00015	10/12/2016	2.3	10/13/2026		105.07277	103.0110643	101.0003481	99.03902692	97.12557027	95.2585063	93.43641903	91.65794582	89.92177494
160824A00019	8/24/2016	1.98	8/25/2031		108.07675	104.3745523	100.8564827	97.51158893	94.32965691	91.30115462	88.41718193	85.66942433	83.05011035
160830A00037	8/30/2016	2.16	8/29/2025		101.77398	100.8516242	99.94593308	99.05645728	98.18276438	97.32443724	96.48107332	95.65228402	94.83769408
160830A00038	8/30/2016	2.24	8/28/2026		104.5988	102.6689505	100.7842707	98.94343676	97.14516883	95.38823271	93.67143804	91.9936365	90.35371994
160906A00027	9/6/2016	2.03	9/8/2031		108.34777	104.5937139	101.0282607	97.64009045	94.41865076	91.35409992	88.43725398	85.6595383	83.01294296
160908A00022	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00023	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00024	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00025	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00026	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00027	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00028	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00030	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00031	9/8/2016	2.21	9/8/2026		104.59595	102.6476918	100.7469069	98.8921226	97.08192643	95.31495964	93.58991468	91.90553287	90.26060218
160908A00032	9/8/2016	2.17	9/8/2026		104.39131	102.4931967	100.6410535	98.83346556	97.06906738	95.34654545	93.66463569	92.02212128	90.41783047
160908A00033	9/8/2016	2.17	9/8/2026		104.39131	102.4931967	100.6410535	98.83346556	97.06906738	95.34654545	93.66463569	92.02212128	90.41783047
160908A00034	9/8/2016	2.17	9/8/2026		104.39131	102.4931967	100.6410535	98.83346556	97.06906738	95.34654545	93.66463569	92.02212128	90.41783047
160908A00035	9/8/2016	2.3	9/8/2031		109.06416	105.2915921	101.7083251	98.30300951	95.06506471	91.98462166	89.05247028	86.26001092	83.59920972
160908A00036	9/8/2016	2.3	9/8/2031		109.06416	105.2915921	101.7083251	98.30300951	95.06506471	91.98462166	89.05247028	86.26001092	83.59920972
160922A00014	9/22/2016	2.06	9/22/2026		104.59191	102.5896919	100.6360113	98.72938759	96.86839777	95.05167174	93.27788998	91.54578126	89.85412055
160923A00009	9/23/2016	2.24	9/23/2031		108.83675	105.0715496	101.4953314	98.09675627	94.86525837	91.7909828	88.86473296	86.077922	83.42252824
160928A00029	9/28/2016	2.52	9/29/2036		115.7298	108.8189231	102.4718531	96.63495935	91.2602399	86.30468689	81.72972709	77.50072891	73.58656765
160928A00030	9/28/2016	2.52	9/29/2036		115.7298	108.8189231	102.4718531	96.63495935	91.2602399	86.30468689	81.72972709	77.50072891	73.58656765
160928A00032	9/28/2016	2.52	9/29/2036		115.7298	108.8189231	102.4718531	96.63495935	91.2602399	86.30468689	81.72972709	77.50072891	73.58656765
160928A00033	9/28/2016	2.46	9/29/2036		115.33427	108.4412104	102.1107741	96.2894237	90.9292453	85.98731077	81.42511939	77.20810553	73.30520456
160928A00041	9/28/2016	3.26	9/29/2036	10/1/2024	120.60805	113.4773797	106.9251615	100.8965657	95.34250666	90.21899241	85.48655545	81.10975064	77.05671234

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160928A00042	9/28/2016	3.05	9/29/2036	10/1/2024	119.22368	112.1553853	105.6613848	99.68719094	94.18402555	89.10817598	84.42042848	80.08556879	76.07194155
160928A00044	9/28/2016	2.89	9/29/2036	10/1/2024	118.16892	111.1481514	104.6985073	98.76576254	93.30137328	88.26183965	83.60814127	79.30523977	75.32163999
160930A00032	9/30/2016	2.15	9/30/2031		108.28941	104.6290127	101.1503965	97.84272179	94.69588549	91.70046154	88.84765089	86.12923545	83.53753568
160930A00033	9/30/2016	1.8	9/30/2026		101.82991	100.7811106	99.75290643	98.74470444	97.75593812	96.78606228	95.83455203	94.90090179	93.98462446
161005A00016	10/5/2016	2.32	10/6/2031		109.23377	105.4120844	101.7841384	98.33820652	95.0633641	91.94942787	88.98690039	86.16691914	83.48120976
161014A00019	10/14/2016	2.39	10/15/2031		109.50414	105.6727033	102.0355296	98.58085534	95.29772497	92.17592651	89.20593588	86.37886587	83.68641915
161014A00026	10/14/2016	2.16	10/14/2031		108.93191	105.1140127	101.4899357	98.04792942	94.77705184	91.66710437	88.70857619	85.89259312	83.21087062
161014A00029	10/14/2016	2.51	10/15/2031		110.28485	106.4195355	102.7504472	99.26569098	95.95418889	92.80561568	89.81034239	86.95938463	84.24435497
161109A00018	11/9/2016	2.63	11/9/2026		105.98816	103.8424309	101.7509789	99.71206184	97.72400317	95.78519296	93.89408476	92.04919252	90.24908777
161116A00006	11/16/2016	2.39	11/16/2026		102.70966	101.5634204	100.4406673	99.34071701	98.26290858	97.20660637	96.17119862	95.15609637	94.16073243
161118A00026	12/20/2016	3.03	12/21/2026		107.25576	104.9794205	102.762937	100.6042959	98.50156506	96.45289376	94.45650847	92.51070887	90.61386411
161207A00014	12/7/2016	2.75	12/8/2031		111.45278	107.4581299	103.6703798	100.0767573	96.66537918	93.42518329	90.34586643	87.41782692	84.63211195
161214A00023	12/14/2016	3.3	12/15/2031		124.5281	116.66359	109.3615263	102.5785074	96.27470714	90.41356293	84.96149099	79.88762862	75.16359985
161214A00034	12/14/2016	2.65	12/14/2026		103.14264	101.9496457	100.7816194	99.63781976	98.51753429	97.42007808	96.34479224	95.29104277	94.25821935
161222A00013	12/22/2016	2.93	12/22/2026		106.90078	104.714245	102.5859126	100.5138617	98.49625233	96.53131724	94.61735856	92.75274448	90.93590627
161222A00030	12/22/2016	3.09	12/22/2026		107.58683	105.3002546	103.073911	100.9057677	98.79387684	96.73637305	94.73146876	92.77745037	90.87267449
161222A00036	12/22/2016	2.69	12/22/2026		103.15847	101.9757541	100.8177434	99.68370031	98.57292028	97.4847257	96.41846485	95.37351063	94.34925936
161222A00037	12/22/2016	3.08	12/22/2031		112.00557	108.1296791	104.4512081	100.9580926	97.63910329	94.48378148	91.48238079	88.62581364	85.90560211
161227A00073	12/27/2016	2.83	12/28/2026		106.2229	104.1797129	102.1901404	100.2524417	98.36494231	96.52603243	94.73416435	92.98784943	91.28565551
161229A00018	12/29/2016	2.46	12/29/2026		103.01483	101.8205117	100.6512597	99.50632315	98.38498499	97.28655579	96.2103725	95.15579719	94.12221585
161229A00019	12/29/2016	2.46	12/29/2026		103.01483	101.8205117	100.6512597	99.50632315	98.38498499	97.28655579	96.2103725	95.15579719	94.12221585
170105A00010	1/5/2017	2.61	1/5/2027		103.22273	101.9874861	100.7786252	99.59535758	98.43692	97.30257889	96.19162894	95.10339178	94.03721464
170106A00030	1/6/2017	2.39	1/6/2027		103.04851	101.8139056	100.6057092	99.42312072	98.26537595	97.13174027	96.02150744	94.93399818	93.86855889
170111A00009	1/11/2017	3.16	1/11/2028		111.40522	107.9890888	104.696725	101.5229257	98.46273887	95.51145051	92.66457184	89.91782681	87.26714066
170111A00011	1/11/2017	3.24	1/11/2029		115.31757	110.790311	106.4686819	102.3422054	98.40099947	94.63573864	91.03761933	87.59832756	84.31000883
170111A00012	1/11/2017	3.31	1/11/2030		118.94409	113.2856977	107.9353064	102.8744707	98.08594577	93.55360628	89.26236775	85.19811362	81.34762786
170111A00013	1/11/2017	3.4	1/10/2031		122.18393	115.3911183	109.0280361	103.0651163	97.47498531	92.23228487	87.31351346	82.6968806	78.36217338
170111A00014	1/11/2017	3.47	1/12/2032		125.33273	117.3879147	110.0150253	103.1696565	96.81107838	90.9019149	85.40785072	80.29736527	75.54149132
170111A00016	1/11/2017	3.51	1/11/2033		128.33949	119.2445564	110.8815586	103.1873079	96.10439447	89.58063136	83.56855391	78.02496911	72.9105504
170112A00015	1/12/2017	2.32	1/12/2027		102.96297	101.7288131	100.5210651	99.33893243	98.18165107	97.04848651	95.93873261	94.85171009	93.78676532
170119A00006	1/19/2017	2.85	1/21/2025		100.67813	100.3651641	100.0541573	99.74508774	99.43793722	99.13268785	98.82932193	98.52782198	98.22817075
170120A00008	1/20/2017	3.63	1/20/2034		132.18015	121.8598354	112.4573627	103.8854967	96.06573754	88.92740696	82.40683094	76.44661247	70.99498285
170120A00009	1/20/2017	3.67	1/22/2035		135.28945	123.7826696	113.3935487	104.0063669	95.51798219	87.83640675	80.87954722	74.57409369	68.85453827



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170120A00010	1/20/2017	3.71	1/22/2036		138.2754	125.5856414	114.2299236	104.0590007	94.94111272	86.75985226	79.41230232	72.8074088	66.86455644
170120A00011	1/20/2017	3.75	1/20/2037		141.21583	127.3441327	115.0388754	104.1120199	94.39911755	85.75623468	78.05729531	71.19177958	65.06272936
170123A00039	1/23/2017	2.79	1/23/2026		103.77506	102.4456941	101.1421582	99.86372519	98.60969103	97.37937812	96.17213414	94.98733083	93.82436289
170124A00017	1/24/2017	2.82	1/23/2032		111.85368	107.799708	103.9578514	100.3148932	96.85854293	93.57736708	90.46072322	87.49869996	84.68206155
170130A00010	1/30/2017	2.92	1/30/2025		100.76345	100.4254924	100.0897992	99.75634622	99.42511114	99.09607188	98.76920671	98.44449415	98.12191302
170130A00031	1/30/2017	2.96	7/30/2025		102.24036	101.3986138	100.5707085	99.75630514	98.9550754	98.16670155	97.39087602	96.62730095	95.87568789
170130A00036	1/30/2017	3.11	1/31/2033		114.01875	109.3794429	105.0114149	100.8958336	97.01533194	93.35388186	89.8966819	86.63005469	83.54135371
170130A00039	1/30/2017	2.74	1/31/2028		105.36273	103.4748757	101.639818	99.85568426	98.12067641	96.433072	94.79122039	93.19353934	91.63851177
170130A00043	1/30/2017	2.64	1/29/2027		103.61493	102.2538058	100.9222361	99.61936428	98.3443647	97.09644098	95.87482494	94.67877538	93.50757698
170130A00046	1/30/2017	2.52	1/30/2026		101.96467	101.1185248	100.2858496	99.46632509	98.65964003	97.86549319	97.08359276	96.31365605	95.5554091
170203A00012	2/3/2017	3.63	2/2/2035		134.9488	123.4282717	113.0301349	103.6378885	95.14771727	87.46705454	80.51331116	74.21275325	68.49951139
170203A00013	2/3/2017	3.67	2/1/2036		137.88369	125.1878867	113.8302269	103.6606902	94.54685653	86.37176157	79.03201996	72.43618515	66.50331443
170207A00055	2/7/2017	2.36	2/8/2027		103.13538	101.8573324	100.6072208	99.38419636	98.18744524	97.01618507	95.86966342	94.7471564	93.64796727
170216A00043	2/16/2017	3.17	2/16/2027		108.15709	105.7094761	103.3299883	101.0163568	98.76639701	96.57800968	94.44917701	92.37795905	90.36249016
170216A00044	2/16/2017	3.52	2/17/2032		125.97949	117.9075607	110.4234937	103.4811836	97.03837173	91.05630528	85.49942967	80.33510959	75.53337558
170216A00045	2/16/2017	3.73	2/17/2037		141.1668	127.2171663	114.852041	103.880153	94.13435036	85.46844216	77.7544704	70.88034899	64.74781905
170224A00020	2/24/2017	3.08	2/24/2027		108.02608	105.5558043	103.154915	100.8210757	98.55204198	96.34565832	94.19985349	92.11263691	90.082095
170224A00021	2/24/2017	3.4	2/24/2032		125.13025	117.0684004	109.5957798	102.6660408	96.23670835	90.26884117	84.72672075	79.57756951	74.79129478
170224A00039	5/24/2017	3.17	5/24/2027		109.14599	106.4127693	103.7624752	101.1920658	98.69863228	96.27939247	93.93168449	91.65296054	89.44078111
170224A00044	5/24/2017	3.29	5/24/2029		116.82285	111.8777451	107.1737946	102.6979045	98.43776817	94.3818118	90.51914633	86.8395231	83.33329248
170228A00014	2/28/2017	2.89	3/1/2027		107.81575	105.3289981	102.9125786	100.5641066	98.2812926	96.06193818	93.90393164	91.80524408	89.76392561
170228A00015	2/28/2017	2.87	5/28/2025		101.63891	100.9734747	100.3167453	99.6685489	99.02872012	98.39709764	97.77352429	97.1578469	96.54991615
170309A00014	3/9/2017	2.58	3/9/2027		103.55389	102.2281393	100.9320106	99.66459263	98.42501117	97.21242615	96.02602976	94.86504506	93.72872443
170313A00032	3/13/2017	3.69	6/14/2032		128.20433	119.7121461	111.8608083	104.5982151	97.87677325	91.65298587	85.88707871	80.54266283	75.5864294
170313A00033	3/13/2017	3.31	3/15/2027		108.78621	106.2532352	103.7928059	101.4024273	99.07970676	96.82234811	94.62814711	92.49498719	90.42083546
170313A00034	3/13/2017	3.31	3/15/2027		108.78621	106.2532352	103.7928059	101.4024273	99.07970676	96.82234811	94.62814711	92.49498719	90.42083546
170313A00035	3/13/2017	3.31	3/15/2027		108.78621	106.2532352	103.7928059	101.4024273	99.07970676	96.82234811	94.62814711	92.49498719	90.42083546
170313A00041	3/13/2017	3.21	3/15/2032		112.98895	108.9175529	105.0614862	101.4071198	97.94179936	94.65376793	91.53209539	88.56661472	85.74786329
170313A00045	3/13/2017	3.22	3/15/2032		113.41265	109.2198896	105.2505254	101.4904003	97.92636796	94.5462125	91.33857637	88.29289398	85.39933103
170317A00044	3/17/2017	3.11	3/17/2027		107.86079	105.4566077	103.1217429	100.8537576	98.65031629	96.5091809	94.4282058	92.40533349	90.43859028
170322A00022	3/22/2017	3.89	9/23/2041		157.31296	137.5788599	120.7502019	106.3720185	94.06342137	83.50516727	74.42936395	66.6109424	59.86058426
170322A00023	3/22/2017	3.82	9/22/2039		149.37022	132.2668533	117.4398122	104.567275	93.37478961	83.62806715	75.12690606	67.70006285	61.20091763
170322A00024	3/22/2017	3.72	9/22/2036		140.04206	126.5709256	114.5875159	103.917116	94.40646505	85.92101981	78.34257911	71.56722073	65.5035079

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170322A00025	3/22/2017	3.58	3/22/2033		129.46666	120.1228104	111.5462032	103.6693132	96.43089775	89.77538482	83.65232076	78.01587452	72.8243922
170322A00026	3/22/2017	3.22	3/22/2028		112.32323	108.6891186	105.1936926	101.8309054	98.59501137	95.48054571	92.48230891	89.59535246	86.81496527
170322A00033	3/22/2017	3.61	3/24/2042		133.32543	121.8361448	111.6819629	102.6854907	94.69492694	87.58014617	81.22941	75.54660106	70.44889398
170327A00070	3/29/2017	3.05	3/29/2027		108.61327	106.0368539	103.5354656	101.1064804	98.74738383	96.45576495	94.22931098	92.06580278	89.96311037
170327A00072	3/29/2017	3.09	3/29/2027		108.71458	106.1368746	103.6342189	101.2039943	98.84368566	96.55088112	94.32326714	92.1586238	90.05482039
170327A00078	3/27/2019	3.04	3/27/2026		104.62815	103.1203308	101.6419999	100.1923643	98.77066155	97.37615563	96.00813593	94.66591611	93.34883304
170327A00079	3/27/2019	3.19	3/29/2027		108.62656	106.0571846	103.5624831	101.1398541	98.78679915	96.50092215	94.27992452	92.12160054	90.02383297
170327A00080	3/27/2019	3.43	3/27/2029		116.91283	112.1319217	107.5774992	103.237621	99.10103502	95.15713824	91.39593627	87.80800496	84.38445494
170328A00015	3/28/2017	2.75	11/29/2024		100.31521	100.1489494	99.98323532	99.81806907	99.65344794	99.48936925	99.32583036	99.1628286	99.00036136
170406A00029	4/6/2017	3.01	4/6/2027		108.04052	105.5149921	103.0639483	100.6847164	98.37473818	96.13156465	93.95285017	91.83634752	89.77990294
170406A00031	4/6/2017	3.01	4/6/2027		108.04052	105.5149921	103.0639483	100.6847164	98.37473818	96.13156465	93.95285017	91.83634752	89.77990294
170406A00032	4/6/2017	3.01	4/6/2027		108.04052	105.5149921	103.0639483	100.6847164	98.37473818	96.13156465	93.95285017	91.83634752	89.77990294
170406A00033	4/6/2017	3.01	4/6/2027		108.04052	105.5149921	103.0639483	100.6847164	98.37473818	96.13156465	93.95285017	91.83634752	89.77990294
170406A00034	4/6/2017	3.01	4/6/2027		108.04052	105.5149921	103.0639483	100.6847164	98.37473818	96.13156465	93.95285017	91.83634752	89.77990294
170406A00036	4/6/2017	3.07	4/6/2032		112.91359	108.6948664	104.7030826	100.9237288	97.34334002	93.94941219	90.73032694	87.67528274	84.77423173
170407A00001	4/6/2017	2.97	4/6/2027		107.68152	105.2353112	102.8606401	100.5549445	98.31577685	96.14079388	94.02775097	91.97449745	89.97897196
170427A00044	4/27/2017	3.02	4/27/2027		108.48442	105.8346083	103.2635833	100.7685233	98.34672509	95.99559994	93.71266792	91.49555246	89.3419753
170427A00046	4/27/2017	3.1	4/27/2028		112.25331	108.5178186	104.9281896	101.477915	98.16081461	94.97101849	91.90294934	88.95130614	86.11104875
170427A00047	4/27/2017	3.18	4/27/2029		116.05963	111.2083487	106.5907642	102.1943522	98.00732643	94.01859269	90.21770424	86.59482042	83.14066818
170502A00028	5/2/2017	2.84	5/3/2027		108.28764	105.6189634	103.0301147	100.5182153	98.08050948	95.71435907	93.41723757	91.18672458	89.02050059
170511A00011	5/11/2017	2.41	5/11/2027		103.58047	102.169432	100.7912991	99.44503234	98.12963212	96.8441386	95.58762962	94.35921891	93.15805444
170524A00027	5/24/2017	2.32	5/24/2027		103.45552	102.0450744	100.6675515	99.32191287	98.00715727	96.72232305	95.46648644	94.23875969	93.03828938
170609A00043	6/9/2017	3.07	6/9/2032		123.99254	115.6447572	107.9303873	100.7978017	94.19984381	88.09342146	82.43913574	77.20094615	72.34586753
170609A00052	6/11/2018	2.9	6/9/2027		108.57048	105.8003093	103.1153444	100.5124161	97.98849325	95.54067905	93.16620418	90.86242002	88.62679245
170613A00032	6/13/2017	2.45	6/13/2025		101.52754	100.8177506	100.1178749	99.42770849	98.74705023	98.07570437	97.41348056	96.76019362	96.11566334
170614A00019	6/14/2017	2.48	6/13/2025		101.49236	100.7834401	100.0844163	99.39508047	98.71523212	98.04467617	97.38322287	96.73068762	96.08689079
170619A00089	6/16/2017	2.79	6/16/2027		108.04956	105.3509336	102.7364792	100.2030495	97.74763953	95.36737605	93.0595104	90.82141231	88.65056395
170619A00092	6/16/2017	2.79	6/16/2027		108.04956	105.3509336	102.7364792	100.2030495	97.74763953	95.36737605	93.0595104	90.82141231	88.65056395
170619A00095	6/16/2017	2.79	6/16/2027		108.04956	105.3509336	102.7364792	100.2030495	97.74763953	95.36737605	93.0595104	90.82141231	88.65056395
170619A00096	6/16/2017	2.79	6/16/2027		108.04956	105.3509336	102.7364792	100.2030495	97.74763953	95.36737605	93.0595104	90.82141231	88.65056395
170619A00101	6/16/2017	2.74	6/16/2027		107.64152	105.0333421	102.5057573	100.0557641	97.68049736	95.37721696	93.14330146	90.97624209	88.87363706
170622A00036	6/22/2017	3.23	6/22/2032		124.64747	116.2674536	108.524282	101.3659236	94.74486909	88.61771482	82.94478717	77.68980309	72.8195633
170622A00037	6/22/2017	3.27	6/22/2033		127.40727	117.8902745	109.1772328	101.1954912	93.8793388	87.16930812	81.01155112	75.35728035	70.1622685

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170622A00038	6/22/2017	3.32	6/22/2034		130.27375	119.6071324	109.9301126	101.1448097	93.16353019	85.90765951	79.30667792	73.29728737	67.82263696
170622A00039	6/22/2017	3.36	6/22/2035		133.01086	121.1936357	110.5690577	101.0091063	92.40017365	84.64137155	77.6430457	71.32547045	65.61770129
170622A00040	6/22/2017	3.41	6/23/2036		135.77202	122.794724	111.2310586	100.917513	91.71035577	83.48314877	76.12458255	69.53659322	63.63272222
170623A00028	6/23/2017	2.79	6/23/2027		108.39824	105.5907901	102.8707429	100.2347957	97.67980098	95.20275273	92.80077933	90.4711362	88.21119914
170711A00010	7/11/2017	2.38	7/12/2027		103.78882	102.2900501	100.8276927	99.40056387	98.00752396	96.64747979	95.31938217	94.02222377	92.75503712
170713A00021	7/13/2017	3.25	7/13/2037		130.72284	119.3837693	109.2787306	100.2605293	92.20057202	84.98641212	78.51962836	72.71399328	67.49389005
170728A00040	7/28/2017	2.44	1/27/2025		100.60964	100.2799826	99.95249037	99.62714017	99.30391094	98.98278194	98.66373273	98.34674311	98.03179313
170803A00020	8/3/2017	2.84	8/3/2027		108.90245	105.97487	103.1414976	100.3988105	97.7434331	95.17213413	92.68181906	90.26952384	87.93240862
170809A00005	8/9/2017	2.61	8/11/2025		102.0434	101.1694285	100.3104077	99.46595704	98.63570782	97.81930382	97.01640061	96.22666513	95.4497752
170822A00020	8/22/2017	2.59	8/22/2025		102.11449	101.2097886	100.3210901	99.44797614	98.59003918	97.74688587	96.91813634	96.10342365	95.30239324
170822A00023	8/23/2017	3.95	8/23/2028		116.75312	112.5989289	108.6183467	104.8032004	101.1457431	97.63863116	94.27490104	91.04794777	87.95150451
170918A00007	9/18/2017	2.8	9/20/2027		109.20841	106.1427609	103.1799411	100.315938	97.54691615	94.86921111	92.2793209	89.77389777	87.34974044
170921A00055	9/21/2017	2.82	9/21/2027		108.88763	105.9384777	103.0885653	100.3339535	97.67088854	95.09578773	92.60523091	90.19595181	87.86483019
170921A00056	9/21/2017	2.82	9/21/2027		108.88763	105.9384777	103.0885653	100.3339535	97.67088854	95.09578773	92.60523091	90.19595181	87.86483019
170921A00057	9/21/2017	2.79	9/21/2027		108.47765	105.6331391	102.8833385	100.2245108	97.65309062	95.16567513	92.75901512	90.43000728	88.1756866
170929A00046	9/29/2017	2.49	9/30/2027		104.03611	102.4676962	100.9388121	99.44813969	97.994412	96.57641424	95.19298103	93.84299406	92.52537978
171005A00006	10/5/2017	2.32	10/7/2024		100.03033	100.0108924	99.9914732	99.97207423	99.95269551	99.93333699	99.91399865	99.89468043	99.87538231
171011A00013	10/11/2017	2.77	10/13/2026		106.0422	103.9702932	101.9495717	99.97844209	98.05536823	96.17887289	94.34753491	92.55998665	90.81491154
171013A00024	10/13/2017	2.47	10/15/2024		100.20087	100.0738496	99.94716617	99.82081914	99.69480715	99.56912881	99.44378277	99.31876766	99.19408214
171018A00011	10/18/2017	2.68	10/18/2027		109.3404	106.1887446	103.1451278	100.2052312	97.36493603	94.62031219	91.96760823	89.40324223	86.923793
171025A00026	10/25/2017	2.64	10/25/2024		100.11713	100.047795	99.97856233	99.90943581	99.84041523	99.77150033	99.70269088	99.63398664	99.56538737
171026A00008	10/26/2017	2.6	10/25/2024		100.11435	100.0450127	99.97578228	99.90665806	99.83763977	99.76872716	99.69992	99.63121805	99.56262106
171026A00009	10/26/2017	2.75	10/27/2025		102.83478	101.7434348	100.675214	99.62938818	98.60525843	97.6021547	96.61943431	95.65648049	94.71270118
171026A00010	10/26/2017	2.84	10/26/2026		106.30594	104.1957284	102.1382136	100.1317235	98.17465521	96.26546827	94.4026818	92.58487167	90.81066786
171026A00011	10/26/2017	2.94	10/26/2027		109.96111	106.7838002	103.7157583	100.7525983	97.89013781	95.12438735	92.45153972	89.86796067	87.37017984
171030A00023	10/30/2017	2.9	11/1/2027		109.89077	106.6978894	103.6152536	100.6384205	97.76315334	94.98541119	92.30133899	89.70725758	87.19965454
171109A00016	11/9/2017	2.94	11/9/2032		121.04416	113.3301353	106.2079813	99.62806775	93.54521249	87.9182611	82.70970616	77.88534452	73.41396862
171129A00020	11/29/2017	2.89	11/30/2026		106.74601	104.5327639	102.3765738	100.2755611	98.22792454	96.23193632	94.28593878	92.38834082	90.53761466
171204A00009	12/4/2017	2.23	12/4/2024		100.2092	100.0640429	99.91934352	99.77509862	99.63130596	99.4879633	99.34506841	99.20261909	99.06061313
171204A00024	12/4/2017	2.71	12/4/2024		100.52283	100.2577148	99.99400388	99.73168538	99.47074828	99.21118167	98.95297472	98.69611675	98.44059715
171206A00020	12/6/2017	2.62	12/6/2027		104.62037	102.9212292	101.2673692	99.6572145	98.08925279	96.56203592	95.07417669	93.62434584	92.21126915
171206A00038	12/6/2017	2.69	12/6/2027		109.80567	106.508584	103.3283309	100.2600729	97.29920149	94.44132858	91.6822742	89.0180552	86.44487451
171206A00041	12/6/2017	2.44	12/6/2024		100.31408	100.1283639	99.94334442	99.75901788	99.57538037	99.39242796	99.21015677	99.02856294	98.84764266

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171206A00048	12/6/2017	3.04	12/6/2032		124.89818	116.008877	107.8318665	100.3060213	93.37577067	86.99056955	81.1044192	75.67543582	70.66546228
171207A00024	12/7/2017	2.93	12/7/2027		110.05526	106.832499	103.724639	100.7268728	97.83462959	95.04355884	92.34951796	89.74856084	87.23692714
171207A00025	12/7/2017	2.91	12/7/2027		109.78289	106.626162	103.5813185	100.643695	97.80885316	95.07256812	92.43081652	89.87976551	87.41576235
171207A00026	12/7/2017	2.93	12/7/2027		110.05526	106.832499	103.724639	100.7268728	97.83462959	95.04355884	92.34951796	89.74856084	87.23692714
171219A00009	12/19/2017	2.3	12/19/2024		100.24457	100.0855496	99.92709614	99.76920978	99.61188718	99.45512506	99.29892019	99.14326933	98.98816928
171219A00063	12/19/2017	2.8	12/20/2027		110.28706	106.9434548	103.7194403	100.6100093	97.61039859	94.71607575	91.92272586	89.22623956	86.62270172
171219A00067	12/19/2017	2.72	12/20/2027		109.17099	106.1024911	103.1425982	100.2868095	97.53084049	94.87060913	92.30222485	89.82197842	87.42633234
171227A00018	12/27/2017	2.83	12/27/2024		100.50402	100.2602614	100.017686	99.77628816	99.53605932	99.29699099	99.05907478	98.82230237	98.58666549
180102A00021	1/2/2018	2.82	1/2/2026		103.52558	102.2448155	100.9949764	99.77494803	98.58366973	97.42013081	96.28336755	95.17246049	94.08653192
180104A00017	1/4/2018	2.77	1/3/2025		100.53373	100.2706205	100.0088877	99.74852275	99.48951495	99.23185367	98.97552842	98.72052881	98.46684455
180104A00018	1/4/2018	2.97	1/4/2027		107.25274	104.9381684	102.6852876	100.4920101	98.3563339	96.27634116	94.25019404	92.27613051	90.35246058
180104A00023	1/4/2018	2.91	1/4/2028		109.01531	106.0948695	103.2766152	100.5563535	97.9300863	95.39400171	92.9444639	90.57800415	88.29131219
180104A00024	1/4/2018	2.98	1/4/2028		110.23205	106.99815	103.881065	100.8759328	97.97811563	95.18319296	92.48695022	89.88536797	87.37461186
180104A00041	1/4/2018	3.08	1/4/2033		122.48998	114.5359449	107.2008658	100.4321457	94.1819527	88.40676349	83.0669538	78.12642937	73.55229375
180109A00028	1/9/2018	2.6	1/9/2025		100.54774	100.2678441	99.98951544	99.71274293	99.43751346	99.16381404	98.89163184	98.62095417	98.35176847
180110A00028	1/10/2018	2.85	1/10/2025		100.60277	100.3202657	100.0393544	99.7600266	99.482269	99.20606824	98.93141116	98.65828477	98.38667619
180110A00029	1/10/2018	3.13	1/10/2028		111.2956	107.8840535	104.5960392	101.4263614	98.37007642	95.42247886	92.57908825	89.83563678	87.1880577
180111A00007	1/11/2018	2.66	1/14/2025		100.59725	100.3034789	100.0114349	99.72110527	99.43247477	99.1455284	98.86025132	98.57662886	98.29464655
180116A00014	1/16/2018	3.01	1/19/2027		107.48727	105.1289985	102.8344939	100.6016399	98.4284019	96.31282664	94.25303827	92.24723475	90.29368438
180116A00015	1/16/2018	3.06	1/18/2028		111.13748	107.7064639	104.4004166	101.2140852	98.14247283	95.1808208	92.32459579	89.5694777	86.91134834
180118A00004	1/18/2018	2.88	1/17/2025		100.6598	100.3578962	100.0578181	99.7595466	99.46306534	99.16835812	98.87540894	98.58420201	98.29472171
180118A00037	1/18/2018	2.88	1/21/2025		100.68753	100.3745478	100.0635227	99.75443488	99.44726619	99.14199873	98.8386148	98.53709693	98.23742786
180118A00039	1/18/2018	3.09	1/19/2027		107.67415	105.3136638	103.0169928	100.7820181	98.60670371	96.489095	94.42731492	92.41956022	90.46409803
180125A00027	1/25/2018	2.69	1/24/2025		100.67781	100.3479358	100.0204714	99.69538616	99.37265316	99.0522457	98.73413757	98.41830296	98.10471642
180126A00011	1/26/2018	2.72	1/26/2028		105.15105	103.3739141	101.6453927	99.96375694	98.32735345	96.73459988	95.18398143	93.67404746	92.20340822
180126A00029	1/26/2018	2.88	1/27/2025		100.72912	100.3995115	100.0720613	99.74674885	99.42355332	99.10245406	98.78343069	98.46646312	98.15153151
180130A00070	1/30/2018	3.14	1/29/2027		107.88978	105.4993502	103.1741567	100.9120588	98.71099688	96.56899068	94.48413583	92.45460049	90.47862209
180130A00085	1/30/2018	2.79	1/30/2025		100.74586	100.4076428	100.0716919	99.73798668	99.40650456	99.07722345	98.75012147	98.42517705	98.10236891
180131A00022	1/31/2018	2.96	1/30/2025		100.77698	100.4389976	100.1032761	99.7697949	99.43853174	99.10946455	98.78257158	98.45783137	98.13522271
180201A00022	2/1/2018	2.99	2/3/2025		100.817	100.467918	100.1212513	99.77697611	99.43506772	99.09550177	98.75825423	98.4233014	98.0906199
180205A00019	2/5/2018	2.88	2/5/2025		100.82086	100.4659451	100.1135341	99.76359905	99.41611376	99.07105251	98.72838996	98.38810107	98.0501612
180207A00002	2/7/2018	3.13	2/6/2026		104.26185	102.8955384	101.5536904	100.2357091	98.94101217	97.66903597	96.41923449	95.19107881	93.98405642
180207A00003	2/7/2018	3.28	2/7/2028		112.08046	108.5768322	105.202544	101.9521423	98.82043686	95.80248243	92.89356544	90.08919217	87.38507723

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180222A00025	2/22/2018	3.48	2/22/2033		129.16929	119.8824346	111.3533957	103.5159367	96.30993831	89.68080799	83.57894591	77.95926485	72.78075849
180222A00026	2/22/2018	2.98	2/21/2025		100.98044	100.5810468	100.1848172	99.79171452	99.4017019	99.01474288	98.63080162	98.24984283	97.87183178
180222A00027	2/22/2018	3.24	2/22/2028		112.39433	108.8335022	105.4057782	102.1054807	98.92720417	95.86580149	92.91636995	90.07423847	87.3349553
180305A00030	3/5/2018	3.12	3/5/2025		101.34664	100.83134	100.3213027	99.81644384	99.31668466	98.82194803	98.33215834	97.84724149	97.36712487
180309A00011	3/9/2018	3.19	3/10/2025		101.42491	100.8957841	100.372202	99.85407971	99.3413318	98.83387472	98.33162662	97.83450735	97.34243839
180313A00026	3/13/2018	3.34	3/13/2028		112.65612	109.0411696	105.5631885	102.2162539	98.9947287	95.89324913	92.90671002	90.0302509	87.25924286
180321A00015	3/21/2018	3.02	3/21/2025		101.09905	100.6581659	100.2216508	99.78943499	99.36145185	98.93763619	98.51792418	98.10225332	97.69056242
180322A00030	3/22/2018	2.79	3/24/2025		100.76058	100.4246372	100.091449	99.76098235	99.43320035	99.10806676	98.78554603	98.4656033	98.14820434
180322A00040	3/22/2018	3.16	3/21/2031		114.46343	109.9465351	105.677374	101.640112	97.82003749	94.20347708	90.77771595	87.53092453	84.45209135
180322A00044	3/22/2018	3.18	3/22/2033		115.19715	110.3850365	105.8593815	101.6000626	97.58853723	93.80770733	90.2417966	86.87623891	83.69757689
180323A00013	3/23/2018	3.18	3/23/2028		112.49002	108.8426083	105.3346346	101.9600149	98.71296249	95.58797378	92.57981301	89.68349758	86.8942844
180328A00010	3/28/2018	3.1	3/28/2025		101.27936	100.7831191	100.2917366	99.80514279	99.32326803	98.84604384	98.37340312	97.90528006	97.44161008
180329A00003	3/29/2018	3.08	3/29/2028		112.19374	108.5348416	105.0165016	101.6325509	98.37713081	95.24467049	92.22987155	89.32769298	86.53333724
180402A00013	4/2/2018	2.99	4/3/2028		109.85366	106.8031024	103.8645768	101.0332288	98.30444224	95.67382957	93.13721861	90.69064072	88.33031954
180403A00006	4/3/2018	3.07	4/3/2028		112.20778	108.5344201	105.002633	101.6061872	98.33916224	95.19593023	92.17113931	89.25969864	86.45676408
180403A00014	4/3/2018	3.11	4/3/2025		101.57193	100.9798987	100.3947951	99.81649669	99.24488521	98.67984492	98.12126278	97.56902833	97.02303363
180403A00041	4/3/2018	2.91	4/3/2025		101.27195	100.7587147	100.250675	99.7477557	99.24987972	98.75697137	98.26895652	97.78576252	97.30731812
180410A00002	4/10/2018	3.14	4/11/2033		115.135	110.2805647	105.7175664	101.4253672	97.38496569	93.57885117	89.99087669	86.60614296	83.41089307
180412A00034	4/12/2018	3.23	4/15/2030		119.73291	113.7629718	108.1328559	102.8213759	97.80877999	93.07664314	88.60777093	84.386111	80.3966714
180412A00036	4/12/2018	3.54	4/15/2038		142.77424	127.4782345	114.0640711	102.2862416	91.93261653	82.81974526	74.78884107	67.70234592	61.4409891
180503A00040	5/3/2018	3.3	5/5/2025		101.71573	101.1134093	100.5182235	99.93004509	99.34875074	98.77421999	98.20633518	97.64498137	97.09004626
180508A00038	5/8/2018	3.57	5/9/2033		116.95931	111.9915473	107.324152	102.9357122	98.80652198	94.91843184	91.25471439	87.79994293	84.53988105
180517A00018	5/17/2018	3.46	5/17/2033		116.82939	111.8574628	107.1865871	102.7952741	98.66374987	94.77380398	91.10865478	87.65282708	84.39204119
180517A00024	5/17/2018	3.46	5/17/2033		116.82939	111.8574628	107.1865871	102.7952741	98.66374987	94.77380398	91.10865478	87.65282708	84.39204119
180521A00025	5/21/2018	3.24	5/21/2025		101.87403	101.2263871	100.5869867	99.95567076	99.33228634	98.71668443	98.10871973	97.50825054	96.91513865
180529A00042	5/29/2018	3.42	5/30/2028		113.76296	109.9074954	106.205305	102.6494129	99.23320414	95.95040332	92.7950552	89.76150607	86.84438661
180529A00057	5/29/2018	3.09	5/30/2028		108.7335	106.0894523	103.5385435	101.0767689	98.70032642	96.40560369	94.18916756	92.04775364	89.97825684
180530A00024	5/30/2018	3.44	5/30/2029		117.59114	112.6111834	107.8745459	103.3679904	99.07907161	94.99608763	91.10803074	87.40454237	83.87587103
180530A00025	5/30/2018	3.49	5/30/2030		121.07117	114.9523109	109.1871205	103.7531969	98.62967876	93.79713019	89.23743563	84.93370305	80.87017466
180530A00026	5/30/2018	3.55	5/30/2031		124.20557	116.944114	110.1661249	103.836694	97.92361727	92.39717131	87.22990899	82.39647356	77.87342872
180530A00027	5/30/2018	3.61	6/1/2032		127.47387	119.0469456	111.2538687	104.0432894	97.3682882	91.18596808	85.4570895	80.14574006	75.21903588
180530A00028	5/30/2018	3.67	5/31/2033		130.7848	121.1867303	112.3910312	104.3258016	96.92595492	90.13254189	83.8921413	78.15631453	72.88111638
180530A00030	5/30/2018	3.68	5/30/2034		133.6503	122.889347	113.1168343	104.2357676	96.15917867	88.809039	82.11529686	76.01502319	70.4516528



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180605A00031	6/5/2018	3.37	6/5/2030		110.93829	107.765373	104.7269324	101.8160481	99.02621067	96.35129167	93.78551909	91.32345396	88.95996895
180615A00039	6/15/2018	3.49	6/15/2028		114.19835	110.2886952	106.5359799	102.9329892	99.47288295	96.14917657	92.95572013	89.88667883	86.9365147
180618A00036	6/18/2018	3.89	6/18/2048		175.895	147.5961962	124.7420662	106.2150897	91.13576202	78.81053572	68.6913975	60.34443002	53.42532268
180619A00020	6/19/2018	3.1	6/19/2025		102.04325	101.3148468	100.5968445	99.88902192	99.19116344	98.50305946	97.82450627	97.15530578	96.49526536
180619A00021	6/19/2018	3.24	6/19/2028		113.6172	109.6983873	105.9376064	102.3275606	98.86133514	95.5323762	92.33446968	89.26172125	86.30853771
180620A00014	6/20/2018	3.4	6/20/2028		113.91222	109.9934795	106.2326096	102.6223208	99.15570984	95.82623381	92.6276887	89.55418959	86.60015209
180620A00038	6/20/2018	3.4	6/20/2028		113.91222	109.9934795	106.2326096	102.6223208	99.15570984	95.82623381	92.6276887	89.55418959	86.60015209
180621A00017	6/21/2018	3.42	6/21/2028		113.99867	110.0754184	106.3103015	102.6960145	99.22563865	95.89261643	92.69073038	89.61408298	86.65707811
180621A00068	6/21/2018	3.32	6/23/2025		102.18279	101.4435302	100.7149722	99.99688146	99.28903345	98.59120994	97.90319888	97.2247942	96.55579552
180622A00004	6/22/2018	3.47	12/22/2028		116.11855	111.6302469	107.3433603	103.2476936	99.33363287	95.59210552	92.01454599	88.59286435	85.31941685
180622A00005	6/22/2018	3.5	7/2/2029		118.20422	113.1139815	108.2765052	103.6778166	99.30479147	95.14510281	91.18716719	87.42009556	83.83364748
180622A00006	6/22/2018	3.53	12/21/2029		119.94965	114.3240269	109.0013354	103.9635602	99.19386274	94.67649379	90.39671644	86.3407353	82.49563097
180628A00068	6/28/2018	3.12	6/28/2028		110.82783	107.5932028	104.4831592	101.4921026	98.61471846	95.84596077	93.18103686	90.61539331	88.14470261
180713A00031	7/13/2018	3.06	7/14/2025		101.18714	100.7264857	100.2710708	99.82079815	99.37557143	98.93529683	98.49988298	98.06924089	97.64328384
180716A00054	7/16/2018	3.59	7/16/2040		149.90282	131.8351633	116.2916168	102.8982896	91.33885699	81.34541704	72.69083884	65.1823538	58.65618333
180716A00062	7/16/2018	2.91	7/16/2025		101.15707	100.695309	100.2388272	99.78752156	99.34129455	98.90005126	98.46369926	98.03214853	97.60531139
180717A00021	7/17/2018	3.34	7/17/2028		112.61164	108.9915149	105.5171261	102.1817492	98.97900647	95.902848	92.94753308	90.10761258	87.37791265
180717A00026	7/17/2018	3.24	7/16/2025		102.57726	101.7070916	100.8519025	100.0113033	99.18492098	98.37239523	97.57337781	96.78753213	96.0145327
180717A00047	7/17/2018	3.3	9/17/2025		103.01917	102.0378709	101.0752677	100.1308338	99.20405782	98.29444752	97.40152874	96.52484469	95.66395511
180718A00008	7/18/2018	3.37	7/18/2028		113.75439	109.7899084	105.9886256	102.3429373	98.84563155	95.48986866	92.2691601	89.17734865	86.20858976
180719A00064	7/19/2018	3.3	7/21/2025		102.43823	101.6204923	100.8158121	100.023881	99.24439744	98.47706942	97.72161386	96.9777565	96.24523143
180719A00065	7/19/2018	3.36	7/20/2026		106.35295	104.5120342	102.7121077	100.9519698	99.23046852	97.54649447	95.89897867	94.28689092	92.70923794
180727A00028	7/27/2018	3.25	7/27/2026		106.37527	104.5123285	102.6912556	100.9108495	99.16995237	97.46744739	95.80225691	94.17334084	92.57969499
180727A00038	7/27/2018	3.36	7/25/2025		102.52675	101.6975407	100.8817447	100.07904	99.28911313	98.5116605	97.7463881	96.9930111	96.2512535
180727A00039	7/27/2018	3.48	7/27/2028		114.6068	110.5705002	106.7004592	102.9889542	99.42866094	96.01263215	92.73427607	89.58733641	86.56587346
180730A00081	7/30/2018	3.5	7/28/2028		114.69513	110.6543259	106.7800499	103.0645672	99.50054126	96.08101313	92.79937964	89.64937346	86.6250442
180813A00045	8/13/2018	2.89	8/13/2025		101.273	100.7687229	100.2707606	99.77897699	99.29324487	98.81344054	98.33944392	97.87113829	97.40841028
180814A00010	8/14/2018	3.1	8/14/2025		102.57006	101.6843047	100.8138501	99.9582994	99.11727203	98.29040005	97.47732791	96.67771191	95.89121967
180814A00032	8/14/2018	3.1	8/14/2025		102.57006	101.6843047	100.8138501	99.9582994	99.11727203	98.29040005	97.47732791	96.67771191	95.89121967
180814A00033	8/14/2018	3.25	8/13/2027		110.42777	107.4448905	104.5587648	101.7657393	99.06231792	96.44515508	93.91104848	91.45693212	89.07986971
180816A00038	8/16/2018	3.38	8/16/2028		114.42135	110.3325819	106.4144293	102.6588824	99.05834929	95.6056318	92.29390296	89.116686	86.06783454
180820A00055	8/20/2018	3.37	8/21/2028		114.43262	110.32961	106.3983487	102.630752	99.01915447	95.55628979	92.23526746	89.04955159	85.99294073
180823A00035	8/23/2018	3.05	8/22/2025		102.60236	101.6942551	100.8022226	99.92583538	99.06468418	98.21837391	97.38652306	96.56876308	95.76473787

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180823A00053	8/23/2018	3.2	8/23/2028		114.11575	110.0041687	106.0652132	102.2907346	98.67300954	95.20471764	91.87891823	88.68902864	85.62880393
180823A00055	8/23/2018	3.44	8/23/2033		130.15579	120.3094509	111.3080928	103.0742087	95.53779186	88.63557242	82.3103377	76.51032382	71.18867133
180827A00020	8/27/2018	3.21	8/27/2025		102.72355	101.8020003	100.8969762	100.0080387	99.13476151	98.27673336	97.43355717	96.60484956	95.79024027
180828A00032	8/28/2018	3.49	8/29/2033		130.65341	120.7683874	111.7325657	103.4679474	95.90409436	88.97735644	82.63018554	76.81052191	71.47124504
180829A00008	8/29/2018	3.23	8/30/2027		110.54188	107.5100883	104.5780406	101.7419191	98.99807025	96.34300008	93.7733666	91.28597211	88.87775623
180831A00019	8/31/2018	3.21	9/2/2025		102.78248	101.8439997	100.9226429	100.0179482	99.12946651	98.25676473	97.39942509	96.55704444	95.72923364
180904A00012	9/4/2018	3.35	9/4/2030		121.4938	115.0675869	109.0288004	103.3520035	98.0135555	92.99147782	88.26532909	83.81609004	79.62605768
180904A00014	9/4/2018	3.37	9/1/2028		114.54445	110.40828	106.4464483	102.6506842	99.01315634	95.52644399	92.183513	88.97769373	85.9026602
180905A00017	9/5/2018	3.43	9/6/2033		126.68135	118.055107	110.1428049	102.8799066	96.20809087	90.07461942	84.43177303	79.2363476	74.44920323
180906A00032	9/6/2018	3.24	9/5/2025		103.09806	102.0794602	101.0811484	100.1025167	99.14298548	98.20199812	97.27901923	96.37353397	95.48504694
180907A00013	9/7/2018	3.27	9/8/2025		103.14137	102.1195106	101.1181221	100.1365943	99.17433833	98.23078844	97.30540085	96.39765273	95.50704119
180910A00028	9/10/2018	3.56	9/9/2033		131.37343	121.4253488	112.3338333	104.0200017	96.4126354	89.44739856	83.0661407	77.21627264	71.85020846
180910A00033	9/10/2018	3.43	9/8/2028		114.85747	110.6949375	106.7086146	102.8901059	99.23146134	95.72514963	92.36403376	89.14134835	86.05067832
180912A00011	9/12/2018	3.41	9/11/2026		107.01451	105.0215221	103.0759696	101.1764312	99.32153825	97.50997221	95.74046235	94.01178369	92.32275503
180913A00012	9/13/2018	3.31	9/13/2033		116.64152	111.4948561	106.6703241	102.1442118	97.89474945	93.90193916	90.14739802	86.61421614	83.28682803
180913A00030	9/13/2018	3.33	9/12/2025		102.99715	102.0298382	101.0807044	100.1492374	99.23494695	98.33736057	97.45602314	96.59049589	95.74035577
180913A00033	9/13/2018	3.31	9/13/2033		116.64152	111.4948561	106.6703241	102.1442118	97.89474945	93.90193916	90.14739802	86.61421614	83.28682803
180914A00013	9/14/2018	3.48	9/14/2028		115.12191	110.9367976	106.9295118	103.0915432	99.414839	95.89177247	92.5151178	89.27802697	86.17400796
180914A00028	9/14/2018	3.37	9/12/2025		103.03562	102.0681098	101.1187793	100.1871181	99.27263592	98.37486028	97.49333598	96.62762422	95.77730187
180914A00029	9/14/2018	3.48	9/14/2028		115.12191	110.9367976	106.9295118	103.0915432	99.414839	95.89177247	92.5151178	89.27802697	86.17400796
180914A00049	9/14/2018	3.37	9/14/2033		116.94732	111.7871364	106.9499341	102.4119381	98.15132088	94.14803158	90.38363866	86.84118754	83.50507158
180920A00014	9/20/2018	3.59	9/20/2028		115.6307	111.4180804	107.3850538	103.5230017	99.82376232	96.27960698	92.88321518	89.62765067	86.50633916
180925A00013	9/25/2018	3.41	9/25/2028		107.59439	105.4283691	103.3304823	101.2980185	99.32839909	97.41916602	95.56797566	93.77259252	92.03088347
180925A00116	9/25/2018	3.28	9/25/2028		107.48878	105.3220655	103.2235755	101.1905991	99.22055136	97.3109685	95.45950146	93.66390968	91.92205534
181003A00019	10/3/2018	3.44	10/3/2025		103.6069	102.5064643	101.4296069	100.3755735	99.34364191	98.33312027	97.3433453	96.37368091	95.42351683
181003A00032	10/3/2018	3.23	10/3/2025		101.68283	101.0935534	100.5128968	99.94065163	99.37661602	98.82059466	98.27239882	97.73184595	97.19875952
181004A00029	10/4/2018	3.7	10/4/2028		116.2326	111.9675636	107.8858262	103.9785077	100.2372112	96.65398948	93.22131911	89.93207494	86.779507
181005A00012	10/5/2018	3.33	10/4/2024		100.0311	100.0199814	100.0088731	99.99777557	99.98668867	99.97561242	99.96454679	99.95349176	99.94244732
181010A00025	10/10/2018	3.48	10/10/2030		112.20384	108.8093332	105.5659703	102.4656231	99.50066299	96.663926	93.94868157	91.34860324	88.85774166
181029A00051	2/5/2019	3.69	2/5/2029		117.55206	112.9046393	108.4707173	104.2393661	100.2002776	96.34372016	92.66050364	89.14194663	85.77984561
181029A00097	10/29/2018	3.53	10/27/2028		113.71462	109.9497688	106.3436422	102.8885213	99.57710745	96.40249995	93.35817209	90.43794841	87.6359836
181031A00070	3/1/2019	3.77	3/1/2029		118.19055	113.4543876	108.9388973	104.6326241	100.5247682	96.60514297	92.86413727	89.29267961	85.88220521
181105A00015	11/5/2018	3.57	11/5/2025		104.10105	102.9105028	101.7474574	100.6109626	99.50011381	98.41404722	97.35193742	96.31299539	95.29646647

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
181109A00028	11/9/2018	3.72	11/9/2026		108.31848	106.1473662	104.0310445	101.9677565	99.95581114	97.99358473	96.07951754	94.21211074	92.38992353
181109A00029	11/9/2018	3.72	11/9/2026		108.31848	106.1473662	104.0310445	101.9677565	99.95581114	97.99358473	96.07951754	94.21211074	92.38992353
181116A00006	11/16/2018	3.18	11/17/2025		101.80829	101.1726176	100.5470329	99.93126635	99.32506183	98.72817244	98.14036028	97.56139593	96.99105816
181211A00042	12/11/2018	3.7	12/11/2028	10/1/2024	114.58061	110.6816673	106.9519242	103.3829311	99.96671801	96.69575914	93.56294577	90.56156036	87.68525254
181214A00030	12/14/2018	3.47	12/14/2033		127.5114	118.5240125	110.3005057	102.7700644	95.86885733	89.53931416	83.72947818	78.39242898	73.4857675
181218A00040	12/18/2018	3.23	6/18/2030		110.49692	107.3360829	104.3092465	101.4095154	98.63040071	95.96579349	93.40994022	90.95741957	88.60312094
181220A00041	12/20/2018	3.36	12/18/2026		107.96827	105.6920016	103.4753707	101.316378	99.21310516	97.16371416	95.16644339	93.21960366	91.32157451
181226A00030	12/26/2018	2.91	12/26/2028		107.13572	104.8455314	102.6310313	100.4890822	98.41670156	96.41105155	94.46943133	92.58926926	90.76811588
181227A00019	12/28/2020	3.1	12/29/2025		103.84307	102.5700619	101.3282441	100.1164774	98.9336803	97.7788228	96.65092322	95.54904537	94.47229599
181227A00027	12/27/2018	3.24	12/26/2025		103.98864	102.7230509	101.4882601	100.2831563	99.10667767	97.9578127	96.83559698	95.73911056	94.66747543
181227A00028	12/27/2018	3.46	12/27/2028		116.12634	111.6237893	107.3238465	103.2162289	99.29124033	95.53973181	91.95306755	88.52309264	85.24210329
190102A00015	1/2/2019	2.97	1/3/2034		114.75228	109.7195928	105.0057832	100.5869504	96.44119226	92.54842552	88.89022117	85.44965601	82.2111784
190102A00020	1/2/2019	2.97	1/3/2034		114.75228	109.7195928	105.0057832	100.5869504	96.44119226	92.54842552	88.89022117	85.44965601	82.2111784
190102A00022	1/2/2019	2.97	1/3/2034		114.75228	109.7195928	105.0057832	100.5869504	96.44119226	92.54842552	88.89022117	85.44965601	82.2111784
190102A00024	1/2/2019	2.97	1/3/2034		114.75228	109.7195928	105.0057832	100.5869504	96.44119226	92.54842552	88.89022117	85.44965601	82.2111784
190102A00050	1/2/2019	3.38	1/3/2034		130.55211	120.3111582	110.9805991	102.4739935	94.71355856	87.62925773	81.15799115	75.24287452	69.83259651
190103A00020	1/3/2019	3.12	1/5/2026		104.15665	102.8172534	101.5017819	100.2096427	98.94026621	97.69310104	96.46761315	95.26328525	94.07961613
190104A00006	1/4/2019	2.83	1/5/2026		101.842	101.1229857	100.4168003	99.72306193	99.04140732	98.37148812	97.71296998	97.06553189	96.42886546
190104A00033	1/4/2019	3.37	1/31/2029		116.07995	111.4801843	107.0914485	102.9029719	98.90458601	95.08668976	91.4402148	87.9565934	84.62772835
190104A00034	1/4/2019	3.18	1/4/2029		112.05557	108.4222923	104.9437764	101.6124132	98.42100792	95.36275939	92.43123593	89.62035341	86.92435452
190104A00035	1/4/2019	3.1	1/5/2026		104.09953	102.7692926	101.4628009	100.1794744	98.91874708	97.68007098	96.46291541	95.26676635	94.09112583
190104A00038	1/4/2019	3.25	1/4/2029		114.2646	110.0516429	106.0275292	102.1827179	98.5082001	94.99546722	91.63648053	88.42364286	85.349772
190110A00004	1/10/2019	3.09	1/10/2025		100.67067	100.3880436	100.1070102	99.82756095	99.54968232	99.27336103	98.99858392	98.72533799	98.45361037
190110A00005	1/10/2019	3.2	1/9/2026		104.07729	102.7777113	101.5073949	100.2653494	99.05063021	97.8623348	96.69960032	95.5616015	94.44754859
190111A00026	1/11/2019	3.48	1/11/2034		131.55272	121.2441494	111.8527697	103.2914075	95.481624	88.35279751	81.84130629	75.88980088	70.44655549
190114A00040	1/14/2019	2.89	1/14/2025		100.66488	100.3709842	100.0788151	99.78836079	99.49960618	99.21253622	98.92713609	98.64339111	98.3612868
190118A00006	1/18/2019	3.14	1/18/2034		116.28696	110.9740859	106.0045874	101.3524126	96.99370723	92.90661427	89.07109275	85.46875342	82.08271073
190122A00043	1/22/2019	2.96	1/22/2025		100.74443	100.4283041	100.1141703	99.80201238	99.49181154	99.18354936	98.87720761	98.57276829	98.27021362
190122A00045	1/22/2019	3.17	1/22/2027		108.08438	105.7068857	103.3939036	101.1432926	98.95299948	96.82105216	94.74555622	92.72469108	90.75670662
190122A00046	1/22/2019	3.29	1/22/2029		116.01695	111.4329065	107.0584367	102.8828451	98.89603631	95.08848116	91.45118177	87.97563911	84.65382261
190129A00073	1/29/2019	3.11	1/29/2029		107.56399	105.2239825	102.9624488	100.7760959	98.66179565	96.61657336	94.63759915	92.72217984	90.86775141
190131A00013	1/31/2019	3.48	1/31/2034		127.16025	118.1035114	109.8238077	102.2484264	95.31188573	88.95517841	83.12509802	77.77363881	72.85746041
190131A00019	1/31/2019	3.44	1/30/2034		131.30622	120.9560707	111.5316561	102.9446196	95.11548484	87.97271783	81.45189638	75.49496983	70.04959935

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190131A00023	1/31/2019	3.02	1/30/2034		115.65656	110.3721712	105.4293561	100.8021947	96.46695506	92.4018926	88.58706955	85.00419164	81.63646071
190205A00017	2/5/2019	3.36	2/5/2029		114.98634	110.6787103	106.5674089	102.6423493	98.89401491	95.31342694	91.89211116	88.62206686	85.49573788
190205A00020	2/5/2019	3.32	2/5/2029		114.81575	110.5131735	106.4067221	102.4863142	98.74244299	95.16613855	91.74893527	88.48284052	85.36030581
190205A00021	2/5/2019	3.32	2/5/2029		114.81575	110.5131735	106.4067221	102.4863142	98.74244299	95.16613855	91.74893527	88.48284052	85.36030581
190205A00022	2/5/2019	3.32	2/5/2029		114.81575	110.5131735	106.4067221	102.4863142	98.74244299	95.16613855	91.74893527	88.48284052	85.36030581
190205A00023	2/5/2019	3.32	2/5/2029		114.81575	110.5131735	106.4067221	102.4863142	98.74244299	95.16613855	91.74893527	88.48284052	85.36030581
190211A00016	2/11/2019	3.01	2/11/2025		100.88478	100.5135273	100.1450116	99.77920505	99.41607774	99.05560021	98.69774342	98.34247879	97.98977812
190211A00017	2/11/2019	3.12	2/11/2026		104.30223	102.9206805	101.5641013	100.2318773	98.92340865	97.63811497	96.37543417	95.13482199	93.91575119
190225A00026	2/25/2019	3.43	2/27/2034		131.43326	120.9914953	111.4911116	102.8415527	94.96143176	87.77755839	81.22407483	75.24168702	69.77697968
190227A00033	2/27/2019	2.65	2/27/2026		101.91164	101.1464774	100.3945784	99.65557974	98.9291279	98.21488292	97.51251764	96.82171706	96.14217779
190301A00012	3/1/2019	3.41	3/1/2029		116.57062	111.8703642	107.3895586	103.1167988	99.04133459	95.15302626	91.44230721	87.9001484	84.51802542
190305A00015	3/5/2019	3.32	3/5/2029		115.06615	110.6835555	106.5040587	102.5170434	98.71250644	95.08102048	91.61369718	88.30215361	85.13848074
190305A00017	3/5/2019	3.12	3/5/2026		104.63198	103.1581726	101.713375	100.2967936	98.9076669	97.54526057	96.20886599	94.89779925	93.61140002
190308A00016	3/8/2019	3.18	3/8/2034		124.28144	115.7256822	107.8959396	100.724387	94.14996801	88.11767909	82.57793584	77.4860096	72.80152518
190308A00026	3/8/2019	3.18	3/8/2034		124.28144	115.7256822	107.8959396	100.724387	94.14996801	88.11767909	82.57793584	77.4860096	72.80152518
190314A00027	3/22/2019	2.92	3/21/2025		101.13659	100.6600509	100.1880047	99.72039165	99.25714929	98.79821646	98.34353307	97.89304018	97.44667993
190315A00017	3/15/2019	2.88	3/15/2034		115.14922	109.7986182	104.799267	100.1241216	95.74845251	91.64962966	87.80692887	84.20135747	80.81549705
190315A00019	3/15/2019	2.88	3/15/2034		115.14922	109.7986182	104.799267	100.1241216	95.74845251	91.64962966	87.80692887	84.20135747	80.81549705
190315A00023	3/15/2019	2.88	3/15/2034		115.14922	109.7986182	104.799267	100.1241216	95.74845251	91.64962966	87.80692887	84.20135747	80.81549705
190315A00029	3/15/2019	2.88	3/15/2034		115.14922	109.7986182	104.799267	100.1241216	95.74845251	91.64962966	87.80692887	84.20135747	80.81549705
190322A00008	3/22/2019	2.64	3/20/2026		101.96472	101.1595492	100.3684998	99.59118718	98.82723672	98.07628809	97.33799437	96.61202137	95.8980471
190327A00027	3/27/2019	2.66	1/15/2025		100.58064	100.2843988	99.98991494	99.69717276	99.40615669	99.11685138	98.82924168	98.5433126	98.25904935
190327A00030	3/27/2019	2.9	3/27/2036		116.54498	110.3693434	104.6617651	99.38062035	94.48838187	89.95118716	85.73845201	81.82252722	78.1783936
190328A00046	3/28/2019	2.7	3/4/2025		100.91225	100.4830935	100.0575874	99.63568378	99.21733693	98.80250199	98.39113483	97.98319205	97.57863098
190402A00004	4/2/2019	2.9	4/2/2029		114.93077	110.1658459	105.628292	101.3060478	97.18775585	93.26271774	89.52085217	85.95265617	82.54916884
190402A00005	4/2/2019	2.77	4/2/2032		114.65419	109.2942117	104.2714372	99.56137191	95.14147946	90.99101332	87.0908633	83.42341613	79.97242874
190403A00010	4/3/2019	3.08	4/3/2029		114.62093	110.0792406	105.7527278	101.6299352	97.70008551	93.953032	90.37921848	86.96964136	83.71581463
190403A00013	4/3/2019	3.05	4/3/2029		114.11031	109.6897918	105.476996	101.4609149	97.63118685	93.97805493	90.49232853	87.16534704	83.98894635
190403A00014	4/3/2019	3.05	4/3/2029		114.11031	109.6897918	105.476996	101.4609149	97.63118685	93.97805493	90.49232853	87.16534704	83.98894635
190404A00015	4/4/2019	2.88	4/3/2026		104.63118	103.0536148	101.5080511	99.99357605	98.50931391	97.05442163	95.62808732	94.22952884	92.85799236
190409A00019	4/9/2019	2.91	4/9/2029		115.0391	110.2514245	105.6929668	101.3515268	97.2156186	93.27442526	89.51775623	85.9360076	82.52012523
190422A00030	4/22/2019	2.93	12/22/2025		103.56227	102.3106534	101.0892577	99.89699851	98.73284191	97.59580251	96.48494052	95.39935914	94.33820214
190426A00023	4/26/2019	2.91	6/24/2026		105.28619	103.5263341	101.8044731	100.1194453	98.47013325	96.85546538	95.27441321	93.72598934	92.20924534

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190501A00015	5/1/2019	2.78	5/1/2029		107.34097	104.833476	102.4152227	100.0822787	97.83091071	95.65757657	93.55891393	91.53172989	89.57299129
190502A00016	5/2/2019	2.87	5/1/2026		104.87346	103.2184926	101.5981467	100.0113985	98.45726297	96.93479363	95.44308074	93.98124947	92.54845821
190506A00026	5/6/2019	3.03	5/4/2029		114.6367	110.0170173	105.6195587	101.4323122	97.44398659	93.64396244	90.02224866	86.56944136	83.2766859
190510A00049	5/10/2019	2.58	5/8/2026		102.16867	101.277479	100.4024591	99.54316213	98.69915412	97.87001763	97.05535079	96.25476659	95.46789218
190514A00020	5/14/2019	2.66	5/14/2025		101.39666	100.7706639	100.1523981	99.54171903	98.93848744	98.34256748	97.7538266	97.17213546	96.59736779
190514A00021	5/14/2019	2.72	11/14/2025		102.96262	101.8205238	100.7037257	99.61139165	98.54272411	97.49695976	96.47336784	95.47124839	94.48993067
190515A00035	5/15/2019	2.82	2/15/2029		113.107	108.7281189	104.5519174	100.5678705	96.76605294	93.13710532	89.67219898	86.36300296	83.20165335
190520A00020	5/20/2019	2.39	5/20/2026		102.05082	101.1665081	100.2982126	99.44548418	98.60789387	97.78502892	96.976492	96.18190044	95.40088555
190529A00061	5/29/2019	2.46	5/29/2026		102.06096	101.1707104	100.296613	99.43822187	98.59510364	97.76684124	96.95303323	96.15329302	95.36724815
190530A00008	5/30/2019	2.38	5/30/2025		101.37933	100.7086681	100.0468637	99.39373781	98.74912064	98.11284675	97.48475498	96.86468831	96.2524937
190531A00037	5/31/2019	2.61	5/31/2029		114.05737	109.1447889	104.473797	100.0311929	95.80457336	91.78227816	87.95334106	84.30744448	80.83487739
190531A00038	5/31/2019	2.82	5/31/2034		126.08743	115.6361371	106.1561213	97.55143228	89.73607938	82.63295304	76.17286488	70.2936963	64.93964252
190605A00007	6/5/2019	2.47	6/5/2026		104.48019	102.7406089	101.0389527	99.3740631	97.74483317	96.15020051	94.58914487	93.060686	91.56388168
190605A00023	6/5/2019	2.64	6/5/2029		113.05693	108.4111463	103.9925529	99.78868807	95.78784677	91.97903039	88.35189976	84.89673165	81.60437846
190605A00024	6/5/2019	2.64	6/5/2029		113.05693	108.4111463	103.9925529	99.78868807	95.78784677	91.97903039	88.35189976	84.89673165	81.60437846
190605A00025	6/5/2019	2.64	6/5/2029		113.05693	108.4111463	103.9925529	99.78868807	95.78784677	91.97903039	88.35189976	84.89673165	81.60437846
190605A00027	6/5/2019	2.64	6/5/2029		113.05693	108.4111463	103.9925529	99.78868807	95.78784677	91.97903039	88.35189976	84.89673165	81.60437846
190606A00027	6/6/2019	2.51	6/5/2026		104.42121	102.7222293	101.0591115	99.43078392	97.83621895	96.27442953	94.74446724	93.24542032	91.7764119
190606A00028	6/6/2019	2.74	6/6/2029		114.31881	109.3953329	104.7143109	100.2624698	96.02734113	91.99720496	88.16104054	84.50848037	81.0297677
190606A00029	6/6/2019	2.96	6/6/2034		126.63049	116.1810929	106.7016247	98.09629933	90.27927525	83.17357647	76.71013446	70.82693792	65.46827801
190618A00002	6/18/2019	2.11	6/18/2025		101.31776	100.5950265	99.88258645	99.18022204	98.48772043	97.8048748	97.13148407	96.46735272	95.8122906
190620A00033	6/20/2019	2.1	6/20/2029		105.94861	103.426307	100.9952484	98.65135012	96.39074182	94.20975402	92.10490602	90.07289497	88.11058546
190625A00023	6/25/2019	2.47	6/25/2027		107.52863	104.7276564	102.0141136	99.38469695	96.83625052	94.3657609	91.9703496	89.64726581	87.39387966
190625A00024	6/25/2019	2.26	6/25/2025		101.41426	100.6726254	99.94181773	99.22159785	98.51173684	97.81201238	97.12220848	96.44211525	95.77152866
190628A00007	6/28/2019	2.28	6/28/2034		111.83143	106.679378	101.8678901	97.37042663	93.1627532	89.22272162	85.53007462	82.06627038	78.81432443
190702A00068	7/2/2019	2.69	7/1/2039		127.13768	114.7874897	103.9480757	94.41701117	86.02054265	78.6093565	72.05499237	66.24680157	61.08936521
190702A00071	7/2/2019	2.69	7/1/2039		127.13768	114.7874897	103.9480757	94.41701117	86.02054265	78.6093565	72.05499237	66.24680157	61.08936521
190703A00017	7/3/2019	2.33	5/4/2026		103.8642	102.2569382	100.6824271	99.13973547	97.62796498	96.14625089	94.69376052	93.26969166	91.87327127
190708A00028	7/8/2019	2.57	7/2/2029		112.90032	108.1933302	103.7196755	99.4664869	95.42166864	91.57385097	87.91234294	84.4270884	81.1086252
190708A00029	7/8/2019	2.57	7/2/2029		112.90032	108.1933302	103.7196755	99.4664869	95.42166864	91.57385097	87.91234294	84.4270884	81.1086252
190708A00030	7/8/2019	2.57	7/2/2029		112.90032	108.1933302	103.7196755	99.4664869	95.42166864	91.57385097	87.91234294	84.4270884	81.1086252
190708A00032	7/8/2019	2.58	7/2/2029		112.94738	108.2388547	103.7637389	99.50915376	95.46300016	91.61390525	87.95117508	84.46475074	81.14516744
190712A00016	7/12/2019	2.39	7/12/2029		106.6003	104.0233786	101.5408909	99.14856032	96.84233878	94.61839029	92.47307812	90.40295314	88.40474275



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190718A00012	7/18/2019	2.55	7/18/2029		111.95276	107.5552752	103.3719755	99.39110534	95.6016227	91.99314825	88.55592215	85.28076385	82.15903463
190724A00021	7/24/2019	2.33	7/23/2027		107.5855	104.701645	101.9100161	99.20714778	96.58972837	94.05458942	91.59869883	89.21915405	86.9131757
190724A00023	7/24/2019	2.13	7/24/2025		101.56983	100.7468084	99.93708781	99.14035252	98.35629192	97.58460529	96.82500134	96.07719789	95.34092147
190724A00024	7/24/2019	2.49	7/24/2029		113.87162	108.8107532	104.0057658	99.44239225	95.10723845	90.9877213	87.07201523	83.34900274	79.80822834
190726A00017	7/26/2019	2.44	7/24/2026		104.70531	102.8690519	101.073928	99.31874899	97.60236997	95.92368727	94.28163656	92.67519119	91.10336052
190802A00011	8/2/2019	2.01	8/2/2029		105.92809	103.3214085	100.8116871	98.39448553	96.06559743	93.82103877	91.65703459	89.57000659	87.55656153
190807A00021	8/7/2019	2	8/7/2026		103.99214	102.1249041	100.3002499	98.51696277	96.7738668	95.06982701	93.40374754	91.7745701	90.18127242
190809A00020	8/9/2019	2.44	8/9/2034		122.6483	112.1710754	102.689227	94.10259031	86.3215664	79.26595574	72.86392981	67.05111952	61.76980684
190809A00021	8/9/2019	2.12	8/9/2029		112.14428	107.0810138	102.2764213	97.71598265	93.38606541	89.27386547	85.3673525	81.65521941	78.12683535
190813A00051	8/13/2019	2.19	8/13/2029		111.32414	106.5703515	102.0574763	97.77193418	93.70098129	89.8326555	86.15572455	82.6596377	79.33448084
190813A00052	8/13/2019	2.24	8/13/2029		111.5633	106.8014956	102.280976	97.98813576	93.91021257	90.03522717	86.35193111	82.8497584	79.51878057
190814A00003	8/14/2019	2.01	8/14/2029		111.62541	106.5610109	101.756184	97.19632105	92.86770516	88.75745521	84.85347068	81.14438046	77.6194954
190819A00030	8/19/2019	2.01	8/20/2029		111.65781	106.5760968	101.7556317	97.18166788	92.84036125	88.71871368	84.80451713	81.0863017	77.55328738
190820A00021	8/20/2019	2.13	8/20/2029		111.83785	106.7650398	101.952586	97.38580749	93.05092478	88.9349993	85.02587797	81.31214168	77.78305734
190823A00009	8/23/2019	1.8	8/23/2029		105.2929	102.7367938	100.2752644	97.90398479	95.6188625	93.4160213	91.29178806	89.24268075	87.26539716
190826A00018	8/26/2019	1.9	8/27/2029		111.14416	106.0557847	101.2301229	96.65228129	92.30828818	88.1850288	84.27018856	80.55220023	77.02019487
190826A00030	8/26/2019	1.72	8/26/2026		103.73667	101.8178653	99.9439498	98.11360485	96.32556014	94.57859078	92.87151537	91.20319409	89.57252699
190826A00032	8/26/2019	1.72	8/24/2029		105.16727	102.5781902	100.0854942	97.68475661	95.3717926	93.14263879	90.99354003	88.92093701	86.92145468
190826A00057	8/26/2019	1.87	8/26/2025		101.48815	100.5754912	99.67918611	98.79879906	97.93390898	97.0841095	96.24900836	95.42822678	94.62139891
190826A00058	8/26/2019	1.91	8/26/2026		103.94737	102.0293698	100.1561778	98.32648329	96.53901941	94.79256461	93.08594058	91.41801047	89.7876771
190826A00060	8/26/2019	2.02	8/26/2027		106.68757	103.7295329	100.8688343	98.10175049	95.42472445	92.83435406	90.32738451	87.90070106	85.55132218
190826A00063	8/26/2019	2.05	8/28/2028		109.25018	105.2296401	101.3792846	97.69104006	94.15725594	90.77068231	87.52444669	84.41203245	81.42725853
190826A00065	8/26/2019	2.09	8/28/2029		111.6816	106.5906671	101.7621451	97.18117281	92.83380851	88.70696497	84.78835276	81.06642762	77.53034164
190828A00015	8/28/2019	2.04	8/28/2029		111.4313	106.3465146	101.523911	96.94863913	92.6067673	88.48521763	84.57170955	80.85470724	77.32337077
190828A00019	8/28/2019	2	3/28/2028		108.05039	104.4750967	101.0376033	97.73186182	94.55212445	91.49292592	88.54906797	85.71560477	82.98782924
190828A00020	8/28/2019	1.95	5/28/2027		105.89625	103.1961199	100.5784857	98.04030163	95.57865957	93.19077893	90.87399985	88.62577705	86.44367398
190829A00032	8/29/2019	1.69	8/28/2026		101.71717	100.7042825	99.71089859	98.73646404	97.78044618	96.8423324	95.92162922	95.01786134	94.1305708
190829A00039	8/29/2019	1.85	8/29/2034		110.05926	104.730901	99.76587892	95.13519706	90.81242661	86.77345949	82.9962876	79.46080444	76.14862678
190829A00045	8/29/2019	1.9	8/28/2026		103.94109	102.0177592	100.1394755	98.30491594	96.51280402	94.76190884	93.05104322	91.37906187	89.7448596
190830A00002	8/30/2019	1.93	8/28/2026		103.99912	102.0752172	100.1963692	98.36125601	96.56860092	94.81717271	93.10578394	91.43328905	89.79858257
190905A00019	9/5/2019	2.08	9/5/2029		110.90204	106.1098971	101.563347	97.2483857	93.15188565	89.2615339	85.56577749	82.05377237	78.71533621
190905A00021	9/5/2019	2.08	9/5/2029		110.90204	106.1098971	101.563347	97.2483857	93.15188565	89.2615339	85.56577749	82.05377237	78.71533621
190905A00023	9/5/2019	2.08	9/5/2029		110.90204	106.1098971	101.563347	97.2483857	93.15188565	89.2615339	85.56577749	82.05377237	78.71533621

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190905A00024	9/5/2019	2.08	9/5/2029		110.90204	106.1098971	101.563347	97.2483857	93.15188565	89.2615339	85.56577749	82.05377237	78.71533621
190905A00025	9/5/2019	2.08	9/5/2029		110.90204	106.1098971	101.563347	97.2483857	93.15188565	89.2615339	85.56577749	82.05377237	78.71533621
190910A00044	9/10/2019	2.02	9/10/2026		104.32459	102.3392397	100.4025648	98.5130506	96.66924379	94.86974638	93.11321322	91.39834959	89.72390892
190911A00016	9/11/2019	1.9	9/11/2029		105.73844	103.0932136	100.547801	98.09757005	95.73813844	93.4653582	91.27530144	89.16424713	87.12866878
190913A00018	9/13/2019	2.11	9/11/2026		102.16873	101.1124304	100.0768499	99.06139625	98.06550051	97.08861525	96.13021336	95.18978706	94.26684707
190923A00012	9/23/2019	2.43	9/25/2034		122.74928	112.1402665	102.5511543	93.87808923	86.02830232	78.91887226	72.47563484	66.63221803	61.32918759
190923A00020	9/23/2019	2.05	9/24/2029		112.05251	106.8628896	101.944904	97.28293263	92.8623338	88.66937742	84.69118374	80.91566632	77.33147911
190925A00009	9/25/2019	2	9/25/2026		104.24725	102.2788236	100.358936	98.48606275	96.65873464	94.8755397	93.13512041	91.4361711	89.77743556
190926A00002	9/30/2019	2.01	9/29/2034		110.99546	105.5786825	100.5340166	95.83155954	91.44407118	87.34671917	83.51684855	79.93377477	76.57859779
190926A00015	9/26/2019	2.32	11/26/2030		115.08653	108.6372709	102.5927334	96.92537694	91.60967693	86.62196764	81.94029694	77.54429338	73.41504422
190926A00016	9/26/2019	2.28	5/24/2030		114.053	108.1484412	102.5874618	97.34825331	92.41050284	87.75528627	83.36496565	79.22309502	75.3143335
190926A00017	9/26/2019	2.23	9/26/2029		112.55201	107.3580671	102.4356967	97.76929016	93.34421537	89.1467513	85.16402644	81.38396183	77.79521831
190927A00012	10/1/2019	1.96	10/1/2024		100.00536	100.0025867	99.99981446	99.9970446	99.99427714	99.99151209	99.98874945	99.9859892	99.98323134
190930A00071	9/30/2019	2.05	9/29/2025		101.88016	100.8717036	99.88313196	98.91386347	97.96333722	97.03101385	96.1163745	95.21891989	94.33816933
190930A00075	9/30/2019	2.19	9/29/2027		107.43203	104.3679684	101.4077483	98.54727295	95.78263547	93.11010468	90.52611634	88.02726455	85.61029378
190930A00077	9/30/2019	2.23	9/28/2029		112.56372	107.3638376	102.436124	97.76491909	93.33554404	89.13423507	85.14808147	81.3649684	77.77352375
191002A00006	10/2/2019	1.84	10/2/2024		100.00723	100.0016776	99.99613397	99.99059533	99.98506165	99.97953294	99.97400919	99.96849038	99.96297651
191002A00017	10/2/2019	1.84	10/2/2024		100.00723	100.0016776	99.99613397	99.99059533	99.98506165	99.97953294	99.97400919	99.96849038	99.96297651
191004A00001	10/4/2019	2.47	10/4/2034		122.31375	111.7482613	102.1992016	93.56297122	85.74703693	78.66869908	72.25400113	66.43676511	61.15773784
191004A00002	10/4/2019	2.08	10/4/2029		111.83112	106.6329464	101.707889	97.04018287	92.61505282	88.41864741	84.43797657	80.66085351	77.07584094
191004A00003	10/4/2019	1.89	10/5/2026		104.17484	102.1442145	100.1635126	98.23119292	96.34576945	94.50581244	92.7099458	90.95684471	89.24523326
191004A00004	10/4/2019	1.54	10/4/2024		100.00911	99.99800435	99.98691264	99.97583159	99.96476118	99.9537014	99.94265223	99.93161365	99.92058564
191004A00005	10/4/2019	1.54	10/4/2024		100.00911	99.99800435	99.98691264	99.97583159	99.96476118	99.9537014	99.94265223	99.93161365	99.92058564
191004A00012	10/4/2019	1.78	10/4/2024		100.0112	100.0001061	99.98902091	99.9779463	99.96688224	99.95582871	99.9447857	99.93375319	99.92273115
191004A00017	10/4/2019	2.02	10/4/2029		110.74141	105.8850521	101.2808063	96.91411289	92.77133576	88.8396965	85.10721598	81.56265988	78.19548833
191004A00019	10/4/2019	2.02	10/4/2029		110.74141	105.8850521	101.2808063	96.91411289	92.77133576	88.8396965	85.10721598	81.56265988	78.19548833
191004A00022	10/4/2019	2.02	10/4/2029		110.74141	105.8850521	101.2808063	96.91411289	92.77133576	88.8396965	85.10721598	81.56265988	78.19548833
191004A00023	10/4/2019	2.02	10/4/2029		110.74141	105.8850521	101.2808063	96.91411289	92.77133576	88.8396965	85.10721598	81.56265988	78.19548833
191004A00025	10/4/2019	1.74	10/4/2024		100.07791	99.98117632	99.88463337	99.78828355	99.69212627	99.59616094	99.50038696	99.40480376	99.30941073
191004A00026	10/4/2019	1.74	10/4/2024		100.07791	99.98117632	99.88463337	99.78828355	99.69212627	99.59616094	99.50038696	99.40480376	99.30941073
191004A00032	10/4/2019	2.01	1/3/2028		107.51886	104.1890701	100.9798214	97.88602897	94.90285382	92.02569232	89.25016315	86.57209489	83.98751445
191007A00029	10/7/2019	1.88	10/9/2029		111.26073	106.0492497	101.1128018	96.43544819	92.00225796	87.79923732	83.81326581	80.03203723	76.44400494
191008A00007	10/8/2019	1.67	10/9/2029		105.21164	102.537215	99.9651018	97.49049562	95.10885253	92.81587408	90.60749231	88.47985577	86.4293166

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191008A00014	10/8/2019	1.85	10/8/2026		104.15982	102.1032391	100.0983441	98.14347688	96.23704609	94.37752366	92.56344161	90.79338914	89.06600999
191008A00031	10/8/2019	1.52	10/8/2024		100.01565	99.99344546	99.97126827	99.94911486	99.92698517	99.90487917	99.88279681	99.86073805	99.83870284
191008A00033	10/8/2019	1.71	10/8/2024		100.01835	99.99616207	99.97399906	99.95185962	99.92974372	99.90765132	99.88558236	99.86353682	99.84151465
191009A00009	10/9/2019	1.8	10/9/2026		101.93127	100.8362168	99.76311479	98.71133192	97.680259	96.66930983	95.67792004	94.70554613	93.75166443
191009A00017	10/9/2019	1.76	10/4/2024		100.01096	99.99986055	99.98877556	99.97770113	99.96663726	99.95558391	99.94454108	99.93350875	99.9224869
191009A00028	10/9/2019	1.76	10/9/2024		100.02165	99.99668743	99.9717547	99.94684919	99.92197084	99.8971196	99.87229544	99.84749829	99.8227281
191011A00027	10/11/2019	1.84	10/11/2029		105.6737	102.9873951	100.4038641	97.91828044	95.52607926	93.22294228	91.0047828	88.86773169	86.80812433
191015A00013	10/15/2019	1.72	10/15/2024		100.03599	99.99436454	99.95279463	99.91127733	99.86981253	99.82840013	99.78704001	99.74573207	99.7044762
191015A00025	10/15/2019	2.01	10/15/2029		105.9167	103.2279263	100.6419106	98.15383394	95.75913602	93.45350273	91.23285111	89.09331537	87.03123383
191015A00029	10/15/2019	1.91	10/15/2024		100.04083	99.99923172	99.957689	99.9161985	99.87476013	99.83337379	99.79203936	99.75075675	99.70952586
191017A00022	10/17/2019	2.25	7/17/2028		109.75186	105.8364859	102.0824019	98.48208966	95.02842845	91.71466755	88.53440475	85.48156629	82.55038807
191017A00026	10/17/2019	2.3	7/17/2029		112.48048	107.485373	102.7420427	98.23647696	93.95551763	89.88680423	86.01872116	82.34034879	78.84141799
191021A00021	10/21/2019	2.22	12/21/2027		108.12254	104.818229	101.6323641	98.55997762	95.59634764	92.73698104	89.97760058	87.31413285	84.74269711
191023A00006	10/23/2019	1.95	10/23/2024		100.06378	100.0000217	99.9363555	99.87278341	99.80930522	99.74592073	99.68262974	99.61943203	99.5563274
191025A00005	10/28/2019	1.98	10/28/2024		100.07941	100.0018003	99.92431809	99.84696114	99.76972913	99.69262178	99.61563878	99.53877985	99.46204468
191025A00009	10/25/2019	2.26	5/25/2029		111.95107	107.116641	102.519588	98.14697653	93.98664986	90.02717677	86.25780416	82.66841294	79.249477
191025A00010	10/25/2019	2.24	7/25/2028		109.76916	105.8315847	102.0570115	98.43784455	94.96688375	91.6373008	88.4426179	85.37668786	82.43367544
191025A00013	10/25/2019	1.98	10/25/2024		100.07119	100.0018861	99.93269143	99.86360285	99.79462014	99.72574307	99.65697138	99.58830484	99.51974322
191031A00025	10/31/2019	1.91	10/31/2024		100.08169	99.9957804	99.91001454	99.82439442	99.73891969	99.65358998	99.56840495	99.48336423	99.39846747
191031A00033	10/31/2019	2.2	5/31/2028		109.22278	105.448588	101.8253996	98.34632019	95.00481078	91.79466918	88.71001023	85.74524754	82.89507637
191101A00004	11/1/2019	1.91	11/1/2029		109.91472	105.356224	101.0311438	96.92601568	93.02823611	89.32599844	85.80823759	82.46457918	79.28529244
191101A00005	11/1/2019	1.83	11/2/2026		104.44006	102.314551	100.243708	98.22572575	96.25887698	94.34150531	92.47202168	90.64890104	88.87067914
191104A00018	11/5/2019	1.96	11/5/2024		100.10285	100.003116	99.90358852	99.80426697	99.70515071	99.60623908	99.50753142	99.40902709	99.31072543
191104A00022	11/4/2019	2.17	8/4/2027		106.97725	104.0748175	101.2660867	98.54754319	95.91582396	93.36770964	90.90011751	88.51009494	86.19481314
191104A00023	11/4/2019	2.24	8/4/2028		109.83899	105.8726936	102.0716006	98.42799773	94.9345668	91.58436666	88.37081196	85.28765303	82.32895707
191104A00024	11/4/2019	2.26	8/3/2029		112.38601	107.3465621	102.5633289	98.02199077	93.70910045	89.61202418	85.71888839	82.01853032	78.50045197
191104A00025	11/4/2019	2.33	8/2/2030		114.65492	108.5397321	102.7907527	97.38419258	92.29792047	87.51134206	83.00528595	78.76189859	74.76454754
191105A00007	11/5/2019	1.98	11/5/2026		104.74288	102.6185313	100.5478516	98.52911678	96.56067404	94.64093614	92.76837813	90.9415344	89.15899583
191105A00008	11/5/2019	1.83	11/5/2024		100.09758	99.99776884	99.89816741	99.79877294	99.69958478	99.60060224	99.50182466	99.40325137	99.30488172
191105A00012	11/5/2019	2.07	11/3/2034		111.46785	105.9421851	100.8016257	96.01480309	91.55317709	87.39076262	83.50388219	79.87094388	76.47224217
191106A00012	11/6/2019	2.02	10/11/2024		100.03409	100.0035767	99.97310093	99.94266011	99.91225417	99.88188305	99.85154668	99.821245	99.79097795
191106A00022	11/6/2019	2.34	1/2/2030		113.67168	108.1768439	102.9819446	98.06898759	93.42115563	89.02272731	84.85899918	80.91621398	77.18149441
191108A00011	11/8/2019	2.08	10/18/2024		100.05706	100.0071432	99.95729512	99.9075138	99.85779915	99.80815103	99.7585693	99.70905382	99.65960446

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191108A00013	11/8/2019	2.25	11/8/2029		113.33642	107.9889277	102.926631	98.13281102	93.59181706	89.28899367	85.21061181	81.34380532	77.67651204
191108A00014	11/8/2019	2.25	11/8/2029		113.33642	107.9889277	102.926631	98.13281102	93.59181706	89.28899367	85.21061181	81.34380532	77.67651204
191112A00022	11/12/2019	2.36	11/13/2029		112.60643	107.5935727	102.8451335	98.34558294	94.08039656	90.0359807	86.19960718	82.5593533	79.10404615
191112A00023	11/12/2019	2.36	11/13/2029		112.60643	107.5935727	102.8451335	98.34558294	94.08039656	90.0359807	86.19960718	82.5593533	79.10404615
191112A00024	11/12/2019	2.09	11/12/2024		100.25935	100.0576997	99.85687178	99.65686409	99.4576715	99.25928898	99.06171151	98.86493412	98.66895189
191113A00013	11/13/2019	2.17	11/13/2026		105.07367	102.913647	100.8096799	98.75990105	96.76252052	94.81582281	92.91816311	91.06796372	89.26371066
191115A00014	11/18/2019	2.45	11/18/2024		100.21328	100.0775397	99.94217732	99.80719522	99.67259175	99.53836528	99.40451419	99.27103687	99.13793172
191115A00015	11/18/2019	2.61	11/18/2024		100.23504	100.0992738	99.96388888	99.82888423	99.69425826	99.56000934	99.42613585	99.29263618	99.15950874
191115A00016	11/18/2019	2.48	11/18/2024		100.21736	100.0816148	99.94624824	99.81126191	99.67665422	99.54242354	99.40856825	99.27508674	99.14197741
191115A00028	11/15/2019	2.34	9/28/2029		113.12396	107.9100938	102.968919	98.28475549	93.84290142	89.62957108	85.63183306	81.83755286	78.23533979
191115A00029	11/15/2019	2.07	11/15/2029		106.06695	103.3770309	100.7905631	98.30265032	95.90866812	93.60424363	91.38524013	89.24774271	87.18804478
191115A00030	11/15/2019	2.35	11/9/2029		113.42322	108.0850611	103.0312836	98.24522763	93.71129926	89.41489534	85.34233527	81.48079769	77.81826191
191119A00027	11/19/2019	1.8	11/19/2024		100.13863	100.0000907	99.8619475	99.72420035	99.58684755	99.44988737	99.31331807	99.17713794	99.04134529
191120A00005	11/20/2019	2.63	11/20/2034		124.15441	113.3726471	103.6371443	94.84025963	86.88596024	79.68851753	73.17135317	67.26601949	61.91129824
191120A00006	11/20/2019	2.67	11/20/2035		126.14764	114.2865971	103.6742932	94.17167019	85.65585155	78.01818568	71.16253275	65.00376565	59.46645724
191120A00024	11/20/2019	2.23	11/16/2029		112.83714	107.4941239	102.4368871	97.64863283	93.11363771	88.81718106	84.74547554	80.88560282	77.22545411
191121A00004	11/21/2019	1.77	11/21/2024		100.14059	99.99652171	99.85287773	99.70965927	99.56686439	99.42449119	99.28253776	99.14100221	98.99988266
191121A00009	11/21/2019	2.55	11/21/2036		127.21747	114.2646137	102.7857222	92.60390325	83.56438043	75.53162772	68.38688614	62.02601189	56.35761023
191121A00010	11/21/2019	2.59	11/20/2037		129.19063	115.1602158	102.8380334	92.00499133	82.47121604	74.07201826	66.66443625	60.12426886	54.34352676
191121A00034	11/21/2019	2.28	11/2/2029		113.01818	107.7101966	102.6842231	97.92378989	93.41347484	89.13883247	85.08632696	81.24326997	77.59776306
191122A00003	11/22/2019	2.32	11/22/2039		120.68224	109.9095025	100.4035252	91.99786263	84.54945936	77.93519896	72.04898214	66.79925053	62.10688587
191122A00018	11/26/2019	3.11	11/22/2039		139.18576	122.6471175	108.356766	95.99177559	85.27738461	75.97958615	67.89888799	60.86505527	54.73267739
191122A00020	11/26/2019	3.2	11/23/2037		136.08133	121.6836254	109.0206119	97.87109435	88.04326196	79.37064601	71.70865101	64.93157649	58.93005749
191122A00021	11/26/2019	3.4	11/22/2038		141.01201	125.3161872	111.6256448	99.66902971	89.21320696	80.05769377	72.0299288	64.98124809	58.78345901
191125A00036	11/25/2019	2.29	11/23/2029		113.19144	107.8194846	102.7356516	97.92295124	93.36548823	89.04838442	84.95770792	81.08040773	77.40425322
191126A00023	11/26/2019	1.81	5/27/2025		100.98129	100.3203793	99.66809606	99.02427331	98.38874721	97.76135816	97.14195061	96.53037297	95.92647747
191126A00026	11/26/2019	1.91	11/25/2026		104.7363	102.5560058	100.4318401	98.361958	96.34459331	94.37805189	92.46070793	90.5910006	88.76743087
191129A00012	11/29/2019	1.99	11/29/2024		100.18869	100.0225817	99.85702477	99.69201523	99.52755038	99.36362755	99.20024409	99.03739735	98.87508471
191202A00005	12/2/2019	2.03	12/2/2024		100.20705	100.0326453	99.85885179	99.68566347	99.51307718	99.34108979	99.16969818	98.99889926	98.82868995
191203A00004	12/4/2019	1.87	12/4/2024		100.18633	100.0064456	99.82721204	99.64862585	99.47068348	99.29338144	99.11671624	98.94068444	98.76528261
191203A00009	12/3/2019	2.21	12/3/2029		111.94526	106.9064629	102.1360407	97.61809086	93.33774877	89.28111022	85.43516377	81.78772818	78.32739468
191203A00010	12/3/2019	2.21	12/3/2029		111.94526	106.9064629	102.1360407	97.61809086	93.33774877	89.28111022	85.43516377	81.78772818	78.32739468
191203A00011	12/3/2019	2.21	12/3/2029		111.94526	106.9064629	102.1360407	97.61809086	93.33774877	89.28111022	85.43516377	81.78772818	78.32739468

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191204A00013	12/4/2019	1.72	12/4/2024		100.17338	99.99335971	99.81399613	99.63528206	99.45721393	99.2797882	99.10300137	98.92684996	98.75133051
191206A00005	12/6/2019	2.18	12/7/2026		105.26541	103.0395967	100.8729286	98.76341445	96.70914661	94.70829664	92.75911151	90.85990977	89.00907791
191206A00008	12/6/2019	2.44	12/6/2030		115.88466	109.3833627	103.2911983	97.58023515	92.22459344	87.20028466	82.4850636	78.05829248	73.90081638
191206A00009	12/6/2019	2.87	12/4/2037		131.78092	117.6255661	105.1881468	94.24854066	84.61598006	76.1249979	68.63195343	62.0120506	56.15677698
191206A00013	12/6/2019	3.05	12/6/2044		151.48179	129.0796687	110.5295087	95.13058843	82.31413828	71.61782472	62.66528234	55.14967401	48.82046969
191206A00021	12/6/2019	2.02	12/6/2024		100.22146	100.0360243	99.85127846	99.66722294	99.48385384	99.30116726	99.11915935	98.93782631	98.75716434
191206A00044	12/10/2019	2.01	10/31/2024		100.0903	100.004377	99.91860378	99.8329763	99.74749421	99.66215717	99.57696481	99.49191678	99.40701273
191209A00005	12/9/2019	2.22	12/10/2029		111.11839	106.4463068	102.0170712	97.81648948	93.83127877	90.04900562	86.45802683	83.04743467	79.8070062
191217A00012	12/20/2019	2.03	12/20/2024		100.28027	100.0561671	99.83307774	99.61099541	99.38991327	99.16982451	98.95072239	98.73260021	98.51545136
191218A00014	12/18/2019	2.04	12/18/2024		100.27433	100.0557468	99.83813146	99.62147613	99.40577442	99.19101998	98.9772065	98.76432773	98.55237749
191219A00036	12/20/2019	2.1	12/20/2024		100.296	100.0718732	99.84876019	99.62665434	99.40554876	99.18543663	98.96631123	98.74816585	98.53099387
191220A00001	12/20/2019	2.62	12/19/2031		118.9034	111.2547411	104.1568728	97.56712687	91.44636358	85.75865862	80.47102235	75.55314514	70.97716615
191220A00002	12/20/2019	3.02	12/20/2038		135.79755	120.3809969	106.9555768	95.2496786	85.03020823	76.09694098	68.27772998	61.42443467	55.40945785
191223A00055	12/23/2019	2.46	12/7/2029		114.16769	108.7314102	103.5881976	98.72066986	94.11257322	89.74870068	85.61481856	81.69759876	77.98455608
191223A00056	12/23/2019	2.46	12/14/2029		114.20756	108.7509694	103.5894651	98.70548901	94.08262705	89.70552592	85.55981832	81.63205408	77.90963644
191224A00002	12/24/2019	2.17	12/24/2029		106.56582	103.7742662	101.0923326	98.51475162	96.0365455	93.65301114	91.359703	89.15241726	87.02717695
191226A00019	12/26/2019	2.4	12/22/2028		111.51131	107.1209004	102.9286875	98.92460843	95.09917556	91.4434364	87.94893985	84.60770496	81.41219176
191226A00020	12/26/2019	2.44	12/21/2029		114.14084	108.6667066	103.4895787	98.59172525	93.95657595	89.56863491	85.41340481	81.47731689	77.74766616
191230A00013	12/30/2019	1.84	12/2/2024		100.18751	100.0129865	99.83907605	99.66577288	99.49307375	99.32097548	99.14947493	98.97856898	98.80825452
191230A00031	12/30/2019	1.85	12/30/2024		100.29517	100.0432613	99.79261732	99.5432279	99.29508368	99.04817536	98.80249372	98.55802966	98.31477414
200103A00002	1/3/2020	2.07	1/3/2030		110.88734	106.1648575	101.690754	97.45040621	93.43013129	89.6171219	85.99938569	82.56568925	79.30550615
200108A00021	1/13/2020	1.97	1/13/2025		100.36704	100.0767029	99.78805603	99.50108544	99.2157764	98.93211441	98.65008514	98.36967442	98.09086824
200109A00006	1/9/2020	1.95	1/9/2030		106.27119	103.4410255	100.7235648	98.11332048	95.6051148	93.19405903	90.87553511	88.64517885	86.4988642
200109A00008	1/9/2020	1.95	1/9/2030		106.27119	103.4410255	100.7235648	98.11332048	95.6051148	93.19405903	90.87553511	88.64517885	86.4988642
200110A00022	1/13/2020	2	1/6/2025		100.34431	100.073275	99.80370732	99.53559755	99.26893378	99.00370427	98.73989743	98.47750178	98.21650595
200110A00037	1/10/2020	2.32	1/10/2030		112.67579	107.5213926	102.6461361	98.03330566	93.66727781	89.53343983	85.61811955	81.90852006	78.39265928
200110A00038	1/10/2020	2.32	1/10/2030		112.67579	107.5213926	102.6461361	98.03330566	93.66727781	89.53343983	85.61811955	81.90852006	78.39265928
200110A00039	1/10/2020	2.32	1/10/2030		112.67579	107.5213926	102.6461361	98.03330566	93.66727781	89.53343983	85.61811955	81.90852006	78.39265928
200110A00043	1/10/2020	2.32	1/10/2030		112.67579	107.5213926	102.6461361	98.03330566	93.66727781	89.53343983	85.61811955	81.90852006	78.39265928
200110A00053	1/10/2020	1.99	1/10/2025		100.49858	100.1324984	99.769095	99.40833992	99.05020422	98.69465932	98.34167709	97.99122978	97.64329005
200114A00006	1/15/2020	1.99	1/15/2025		100.3818	100.0859301	99.79181685	99.49944357	99.2087948	98.91985519	98.63260961	98.34704309	98.06314083
200115A00013	1/15/2020	2.18	1/15/2030		109.94412	105.6895737	101.6502379	97.81369315	94.16830682	90.70318271	87.4081104	84.27351827	81.2904301
200116A00012	1/16/2020	2.16	1/19/2027		105.526	103.1834638	100.9059547	98.69130011	96.53741253	94.44228622	92.40399354	90.42068144	88.49056807



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200121A00009	1/24/2020	1.94	1/24/2025		100.40591	100.085223	99.76658993	99.44999091	99.13540643	98.82281724	98.51220435	98.20354901	97.89683272
200122A00035	1/22/2020	1.94	1/22/2025		100.39726	100.0820906	99.76891262	99.45770226	99.14844094	98.84111033	98.53569232	98.23216901	97.93052276
200123A00013	1/27/2020	1.89	1/27/2025		100.40239	100.0734519	99.74666993	99.42202256	99.09948885	98.77904821	98.46068029	98.14436502	97.83008258
200123A00048	1/23/2020	1.7	1/23/2025		100.34987	100.0317631	99.71568479	99.40161181	99.08952504	98.77940562	98.4712349	98.16499446	97.86066614
200124A00008	1/24/2020	1.92	1/22/2027		105.15111	102.8085223	100.529695	98.31251697	96.15495625	94.05506155	92.01095826	90.02084489	88.08298969
200127A00016	1/27/2020	1.81	1/27/2025		100.37599	100.0471036	99.72037568	99.39578205	99.07330182	98.7529144	98.43459945	98.11833689	97.80410691
200127A00023	1/27/2020	1.8	1/27/2025		100.37269	100.0438101	99.7170889	99.39250198	99.07002844	98.74964768	98.43133935	98.11508338	97.80085995
200127A00030	1/27/2020	1.8	1/27/2025		100.37269	100.0438101	99.7170889	99.39250198	99.07002844	98.74964768	98.43133935	98.11508338	97.80085995
200128A00028	1/28/2020	1.81	1/28/2025		100.37995	100.0483098	99.71885581	99.3915699	99.06643079	98.74341739	98.42250891	98.10368483	97.78692489
200130A00006	1/30/2020	1.77	1/30/2025		100.37435	100.0372164	99.70233848	99.36969673	99.0392688	98.7110327	98.38496669	98.06104935	97.73925953
200130A00016	1/30/2020	1.58	1/30/2025		100.3364	99.99904247	99.66395026	99.33109935	99.00046732	98.67203206	98.34577173	98.0216648	97.69969002
200130A00027	1/31/2020	1.79	1/31/2025		100.21961	100.0073477	99.79616007	99.5860364	99.37696775	99.16894535	98.96196051	98.75600467	98.55106934
200130A00046	1/30/2020	1.81	1/29/2027		102.23364	101.0078155	99.80825128	98.63415418	97.4847664	96.35935938	95.2572324	94.17771122	93.12014693
200131A00015	2/5/2020	1.73	2/5/2025		100.38483	100.0311793	99.68002473	99.33133515	98.98508462	98.64124756	98.29979878	97.96071342	97.62396697
200131A00016	1/31/2020	1.73	1/31/2025		100.36456	100.0246959	99.68712124	99.35181683	99.0187599	98.68792797	98.35929887	98.03285068	97.70856181
200131A00029	1/31/2020	1.78	10/31/2024		100.07051	99.98460481	99.89884853	99.81323798	99.7277728	99.64245263	99.55727712	99.4722459	99.38735864
200131A00032	1/31/2020	2.1	1/31/2030		112.51289	106.9696343	101.7334497	96.78578368	92.10929691	87.68777575	83.5060538	79.54993933	75.80614796
200131A00038	1/31/2020	1.73	1/30/2025		100.36082	100.0237111	99.68886159	99.35624805	99.0258482	98.69764003	98.37160182	98.04771214	97.72594984
200203A00006	2/3/2020	1.76	2/3/2025		100.3872	100.0390469	99.69330175	99.34994343	99.00894721	98.67028879	98.33394417	97.9998897	97.66810204
200203A00046	2/3/2020	1.98	2/3/2040		114.15414	106.1446712	98.92426724	92.40277656	86.50133939	81.15087473	76.29078243	71.86782694	67.83517637
200204A00001	2/4/2020	1.79	2/4/2025		100.40191	100.0509693	99.70248513	99.35642697	99.01276949	98.67148776	98.33255717	97.99595347	97.66165274
200204A00012	2/4/2020	1.98	2/4/2027		105.19177	102.8162942	100.5062632	98.25952128	96.07399534	93.94769188	91.87869372	89.86515651	87.9053056
200204A00020	2/4/2020	1.6	2/4/2025		100.36249	100.011323	99.66261589	99.31634021	98.97247058	98.63098195	98.29184959	97.95504916	97.62055661
200206A00008	2/6/2020	1.64	2/6/2025		100.49366	100.0639411	99.63792188	99.21555065	98.79678055	98.38156547	97.96986011	97.56161994	97.15680117
200206A00027	2/6/2020	2.15	2/6/2030		111.90581	106.7195118	101.8175092	97.1825782	92.79862916	88.65062622	84.72451279	81.00714281	77.48621716
200206A00031	2/6/2020	2.15	2/6/2030		111.90581	106.7195118	101.8175092	97.1825782	92.79862916	88.65062622	84.72451279	81.00714281	77.48621716
200206A00032	2/6/2020	2.15	2/6/2030		111.90581	106.7195118	101.8175092	97.1825782	92.79862916	88.65062622	84.72451279	81.00714281	77.48621716
200206A00033	2/6/2020	2.15	2/6/2030		111.90581	106.7195118	101.8175092	97.1825782	92.79862916	88.65062622	84.72451279	81.00714281	77.48621716
200206A00034	2/6/2020	1.84	2/6/2025		100.54856	100.1171361	99.68942758	99.26538321	98.84495595	98.42809955	98.01476853	97.60491819	97.1985046
200207A00009	2/7/2020	1.58	2/7/2025		100.36707	100.0076423	99.65079597	99.29649933	98.94472507	98.59544624	98.24863628	97.904269	97.56231857
200207A00017	2/7/2020	1.96	2/8/2027		105.17476	102.7875214	100.4663558	98.20907419	96.01357419	93.87783474	91.79991244	89.77793814	87.81011366
200207A00018	2/7/2020	2.14	2/7/2030		112.7688	107.1976177	101.9360616	96.96536261	92.26798186	87.82752319	83.62865318	79.65702716	75.89922072
200210A00005	2/10/2020	1.77	2/10/2027		104.92946	102.5351979	100.2074428	97.94398928	95.74271387	93.60157559	91.51861217	89.49193661	87.51973377

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200210A00007	2/10/2020	1.78	2/10/2025	10/1/2024	100.55715	100.1266985	99.70000693	99.27702677	98.85770927	98.44200655	98.02987157	97.62125812	97.21612076
200210A00009	2/10/2020	1.57	2/10/2025		100.375	100.0073093	99.64231686	99.27999376	98.92031068	98.56323873	98.20874946	97.85681481	97.50740714
200210A00021	2/10/2020	1.76	2/10/2025		100.41615	100.0486973	99.68393842	99.32184292	98.96238169	98.60552596	98.25124739	97.89951807	97.55031046
200212A00003	2/12/2020	1.63	2/12/2025		100.40516	100.0319002	99.66142115	99.29369227	98.92868283	98.56636263	98.20670194	97.84967143	97.49524223
200212A00013	2/12/2020	1.98	2/12/2027		105.23827	102.8458053	100.5212598	98.2623148	96.0667416	93.93240101	91.85723916	89.83928357	87.87663937
200214A00002	2/14/2020	1.58	11/15/2024		100.09796	99.9705173	99.84341351	99.71664871	99.59022148	99.46413043	99.33837417	99.21295131	99.08786048
200214A00005	2/14/2020	1.59	2/14/2025		100.39799	100.019242	99.64336049	99.27030998	98.90005847	98.53257443	98.16782679	97.80578498	97.44641884
200214A00007	2/14/2020	1.59	2/14/2025		100.39799	100.019242	99.64336049	99.27030998	98.90005847	98.53257443	98.16782679	97.80578498	97.44641884
200214A00014	2/18/2020	1.8	2/18/2025		100.46487	100.0753165	99.6887909	99.30525396	98.92467097	98.54700785	98.17223099	97.80030734	97.43120433
200214A00020	2/18/2020	1.78	1/15/2025		100.31948	100.0237236	99.7297264	99.43746875	99.1469351	98.85811012	98.57097867	98.28552578	98.00173667
200220A00013	2/20/2020	2.09	12/14/2029		112.24303	106.8374977	101.7250536	96.88824197	92.31073868	87.97727533	83.87356493	79.98623325	76.30275544
200220A00014	2/20/2020	2.09	12/21/2029		112.27562	106.8501359	101.7197485	96.86682413	92.27487836	87.92849673	83.81325888	79.91566878	76.2230903
200220A00015	2/20/2020	1.57	2/20/2025		100.41347	100.0181804	99.62600903	99.23691538	98.85086319	98.46781683	98.0877412	97.71060178	97.33636455
200220A00026	2/20/2020	2.22	2/21/2040		116.32525	107.5542327	99.68728001	92.61730779	86.25105445	80.50718389	75.31465955	70.61135166	66.34284283
200221A00003	2/25/2020	1.69	2/25/2025		100.44944	100.0406842	99.63525136	99.23309856	98.83418609	98.4384749	98.0459266	97.65650337	97.27016803
200221A00004	2/21/2020	1.69	2/21/2025		100.43368	100.0359562	99.64138482	99.24992578	98.86154226	98.47619808	98.09385762	97.7144858	97.33804811
200221A00012	2/21/2020	2.14	2/21/2040		115.62432	106.9088925	99.0918334	92.06672621	85.74089343	80.03350907	74.87398263	70.20057498	65.95921127
200221A00013	2/21/2020	1.69	2/21/2025		100.43368	100.0359562	99.64138482	99.24992578	98.86154226	98.47619808	98.09385762	97.7144858	97.33804811
200221A00016	2/21/2020	1.69	2/21/2025		100.43368	100.0359562	99.64138482	99.24992578	98.86154226	98.47619808	98.09385762	97.7144858	97.33804811
200221A00023	2/21/2020	2.05	12/7/2029		111.99885	106.6187302	101.5294949	96.71386497	92.15568512	87.83984124	83.75218751	79.87947896	76.20930909
200221A00024	2/21/2020	2.05	12/28/2029		112.09425	106.6544059	101.5114548	96.64759421	92.04618865	87.69168607	83.56954089	79.66614303	75.96875248
200221A00031	2/21/2020	1.69	2/21/2025		100.43368	100.0359562	99.64138482	99.24992578	98.86154226	98.47619808	98.09385762	97.7144858	97.33804811
200224A00001	2/24/2020	1.59	2/24/2025		100.40474	99.99883996	99.5962213	99.19683991	98.80065687	98.40763386	98.01773317	97.63091771	97.24715096
200224A00006	2/24/2020	1.58	11/15/2024		100.08804	99.9607064	99.83371431	99.70705978	99.58074141	99.45475784	99.32910769	99.2037896	99.07880221
200224A00007	2/24/2020	1.59	2/24/2025		100.40474	99.99883996	99.5962213	99.19683991	98.80065687	98.40763386	98.01773317	97.63091771	97.24715096
200224A00019	2/24/2020	1.59	2/18/2025		100.38276	99.99340031	99.60706649	99.2237202	98.8433268	98.4658522	98.09126282	97.71952561	97.350608
200224A00020	2/24/2020	1.59	2/24/2025		100.40474	99.99883996	99.5962213	99.19683991	98.80065687	98.40763386	98.01773317	97.63091771	97.24715096
200224A00024	2/24/2020	1.59	2/24/2025		100.40474	99.99883996	99.5962213	99.19683991	98.80065687	98.40763386	98.01773317	97.63091771	97.24715096
200224A00025	2/24/2020	1.59	1/23/2025		100.28995	99.97224745	99.65656313	99.34287853	99.03117461	98.7214326	98.41363396	98.10776038	97.80379378
200224A00046	2/24/2020	1.59	2/24/2025		100.40474	99.99883996	99.5962213	99.19683991	98.80065687	98.40763386	98.01773317	97.63091771	97.24715096
200225A00012	2/25/2020	1.57	2/25/2025		100.40019	99.99155827	99.58624558	99.18421217	98.7854184	98.38982522	97.99739423	97.60808764	97.22186825
200225A00017	2/25/2020	1.94	2/25/2030		111.76396	106.1655463	100.8815855	95.89282786	91.18129827	86.73020408	82.52385148	78.54756824	74.78763229
200225A00018	2/25/2020	1.94	2/25/2030		111.76396	106.1655463	100.8815855	95.89282786	91.18129827	86.73020408	82.52385148	78.54756824	74.78763229

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200225A00023	2/25/2020	1.62	2/25/2025		100.42071	100.0120274	99.60666465	99.2045815	98.80573827	98.41009592	98.01761605	97.62826086	97.24199316
200225A00028	2/25/2020	1.89	12/21/2029		111.20979	105.8120955	100.708417	95.88116635	91.31390831	86.99127492	82.89888977	79.02329843	75.3519041
200225A00029	2/25/2020	1.89	12/28/2029		111.23843	105.8209901	100.6995591	95.85638183	91.27486286	86.93948777	82.83574659	78.95006293	75.26972864
200225A00049	2/25/2020	1.79	2/24/2040		112.61698	104.7230433	97.60475178	91.17376787	85.35278347	80.07404462	75.27808765	70.91265181	66.93174255
200225A00050	2/25/2020	1.57	2/25/2025		100.40019	99.99155827	99.58624558	99.18421217	98.7854184	98.38982522	97.99739423	97.60808764	97.22186825
200226A00004	2/26/2020	1.58	2/26/2025		100.40793	99.9965303	99.5884937	99.18377873	98.78234499	98.38415272	97.9891628	97.59733675	97.20863669
200226A00006	2/26/2020	1.57	2/26/2025		100.4038	99.9924089	99.58438244	99.17967756	98.77825384	98.38007152	97.98509151	97.5932753	97.20458503
200226A00008	2/26/2020	1.38	2/26/2025		100.35803	99.94637295	99.5380879	99.13313141	98.73146289	98.33304243	97.93783075	97.54578922	97.15687981
200226A00009	2/26/2020	1.75	2/26/2030		111.18165	105.5801413	100.2941427	95.30430017	90.59254219	86.14198833	81.93686479	77.9624265	74.20488505
200226A00016	2/26/2020	1.57	2/26/2025		100.4038	99.9924089	99.58438244	99.17967756	98.77825384	98.38007152	97.98509151	97.5932753	97.20458503
200226A00025	2/26/2020	1.38	2/26/2025		100.35803	99.94637295	99.5380879	99.13313141	98.73146289	98.33304243	97.93783075	97.54578922	97.15687981
200227A00004	2/27/2020	1.65	2/27/2030		110.63303	105.0433324	99.76887801	94.79031201	90.08956334	85.64975276	81.45510841	77.49088778	73.74330556
200227A00006	2/27/2020	1.47	2/27/2025		100.36581	99.95176969	99.54113223	99.13385816	98.72990632	98.32923624	97.93180809	97.5375827	97.14652151
200227A00009	2/27/2020	1.47	2/27/2025		100.36581	99.95176969	99.54113223	99.13385816	98.72990632	98.32923624	97.93180809	97.5375827	97.14652151
200227A00016	2/27/2020	1.47	2/27/2025		100.36581	99.95176969	99.54113223	99.13385816	98.72990632	98.32923624	97.93180809	97.5375827	97.14652151
200227A00027	2/27/2020	1.47	2/27/2025		100.36581	99.95176969	99.54113223	99.13385816	98.72990632	98.32923624	97.93180809	97.5375827	97.14652151
200227A00030	2/27/2020	1.59	2/27/2026		102.29041	100.876012	99.48796415	98.12559461	96.78825317	95.47531114	94.18616044	92.92021277	91.67689876
200227A00046	2/27/2020	1.52	3/1/2027		101.95725	100.6931251	99.45667095	98.24704346	97.06343543	95.90507081	94.77120327	93.66111485	92.57411454
200228A00012	3/3/2020	1.4	3/3/2025		100.35011	99.92512511	99.50373685	99.08589507	98.67155513	98.26067315	97.85320596	97.44911111	97.04834687
200228A00014	2/28/2020	1.4	2/28/2025		100.33983	99.92310853	99.50983158	99.09996013	98.69345228	98.29026683	97.89036324	97.49370164	97.10024278
200228A00019	2/28/2020	1.21	2/20/2025		100.27069	99.87574037	99.48390683	99.09514904	98.7094308	98.3267165	97.94697106	97.57015997	97.19624923
200228A00025	2/28/2020	1.57	3/2/2027		104.38405	101.9413742	99.56804754	97.26171707	95.02012214	92.84109194	90.72254134	88.66246697	86.65894353
200228A00026	2/28/2020	2.14	2/28/2035		119.44066	108.6260166	98.89336042	90.12842259	82.22955071	75.10625534	68.6779341	62.87274706	57.62662505
200228A00059	2/28/2020	1.79	2/28/2030		110.95018	105.3647179	100.0938121	95.11816663	90.41976564	85.98178071	81.78848661	77.82518361	74.07812568
200228A00067	2/28/2020	1.4	2/28/2025		100.33983	99.92310853	99.50983158	99.09996013	98.69345228	98.29026683	97.89036324	97.49370164	97.10024278
200228A00071	2/28/2020	1.74	12/14/2029		110.3847	105.0274569	99.96142106	95.1692245	90.63462806	86.34244369	82.27846036	78.42937571	74.78273288
200228A00091	2/28/2020	1.72	12/7/2029		110.25319	104.9182805	99.87249021	95.09863176	90.58062885	86.30344218	82.25299666	78.41611425	74.78045176
200302A00002	3/2/2020	1.12	3/3/2025		100.26437	99.83921679	99.41765913	98.9996547	98.5851587	98.17412706	97.76651646	97.36228429	96.96138867
200302A00005	3/2/2020	1.31	3/3/2025		100.31167	99.88679133	99.4654999	99.04775435	98.63351006	98.22272315	97.81535045	97.41134953	97.01067865
200302A00011	3/2/2020	1.31	2/27/2025		100.29926	99.88538622	99.47491315	99.06780248	98.66401306	98.26350443	97.86623679	97.47217095	97.08126838
200302A00016	3/2/2020	1.36	3/3/2025		100.33302	99.90808787	99.48674265	99.06894364	98.65464621	98.24380648	97.83638129	97.43232819	97.03160544
200302A00033	3/2/2020	1.31	3/3/2025		100.31167	99.88679133	99.4654999	99.04775435	98.63351006	98.22272315	97.81535045	97.41134953	97.01067865
200302A00036	3/2/2020	1.45	3/2/2026		102.10682	100.6854924	99.29079456	97.92204075	96.57857057	95.25974559	93.96494841	92.69358182	91.44506796

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200302A00045	3/4/2020	1.31	3/4/2025		100.31485	99.88721494	99.46322089	99.04282	98.62596672	98.21261625	97.80272455	97.39624832	96.99314497
200302A00053	3/2/2020	1.31	3/3/2025		100.31167	99.88679133	99.4654999	99.04775435	98.63351006	98.22272315	97.81535045	97.41134953	97.01067865
200302A00054	3/2/2020	1.31	3/3/2025		100.31167	99.88679133	99.4654999	99.04775435	98.63351006	98.22272315	97.81535045	97.41134953	97.01067865
200302A00060	3/2/2021	1.44	3/3/2025		100.36719	99.94216234	99.52073105	99.1028465	98.68846405	98.27753982	97.87003063	97.46589404	97.06508883
200303A00001	3/3/2020	1.15	3/3/2025		100.27719	99.85199724	99.43040727	99.01237073	98.59784281	98.18677945	97.77913732	97.37487382	96.97394704
200303A00010	3/3/2020	1.34	3/3/2025		100.32448	99.89956926	99.47824555	99.06046792	98.64619175	98.23537315	97.82796895	97.42393672	97.02323472
200303A00012	3/3/2020	1.71	3/1/2030		110.51132	104.9350186	99.67309789	94.70625613	90.01647456	85.58692267	81.40187402	77.44662846	73.7074402
200303A00018	3/3/2020	1.27	3/3/2025		100.29459	99.8697541	99.4485057	99.03080292	98.61660114	98.20585648	97.79852578	97.3945666	96.99393722
200303A00028	3/3/2020	1.54	3/4/2030		108.14015	103.4015999	98.91921828	94.6775057	90.66198758	86.85914152	83.25632951	79.84173533	76.60430668
200303A00034	3/3/2020	1.21	3/3/2025		100.26897	99.84419825	99.4230144	99.00537578	98.59123777	98.18055648	97.77328877	97.36939221	96.96882507
200304A00002	3/4/2020	0.98	3/4/2025		100.20705	99.77929914	99.35518966	98.93467982	98.51772391	98.10427696	97.69429477	97.28773387	96.88455153
200304A00005	3/4/2020	0.98	3/4/2025		100.20705	99.77929914	99.35518966	98.93467982	98.51772391	98.10427696	97.69429477	97.28773387	96.88455153
200304A00010	3/4/2020	1.2	3/4/2027		103.68411	101.2405912	98.86672864	96.56015325	94.31858639	92.13984037	90.02181416	87.9624894	85.95992669
200304A00012	3/4/2020	0.98	3/4/2025		100.20705	99.77929914	99.35518966	98.93467982	98.51772391	98.10427696	97.69429477	97.28773387	96.88455153
200304A00018	3/4/2020	0.98	3/4/2025		100.20705	99.77929914	99.35518966	98.93467982	98.51772391	98.10427696	97.69429477	97.28773387	96.88455153
200304A00020	3/4/2020	0.98	3/4/2025		100.20705	99.77929914	99.35518966	98.93467982	98.51772391	98.10427696	97.69429477	97.28773387	96.88455153
200304A00030	3/4/2020	1.6	12/22/2028		108.06664	103.7494264	99.62799763	95.69239525	91.93322616	88.34162771	84.90923434	81.62814654	78.49090197
200304A00032	3/4/2020	1.6	12/15/2028		108.03205	103.734523	99.63114722	95.712083	91.96805016	88.39029031	84.97053415	81.70097113	78.57422111
200304A00033	3/4/2020	1.17	3/4/2025		100.25468	99.82719839	99.40335663	98.9831071	98.56640425	98.15320329	97.7434602	97.33713168	96.93417516
200304A00035	3/4/2020	1.17	3/4/2025		100.25468	99.82719839	99.40335663	98.9831071	98.56640425	98.15320329	97.7434602	97.33713168	96.93417516
200304A00052	3/6/2020	2.11	3/8/2027		105.75031	103.2744589	100.8692407	98.53224191	96.26114676	94.05373218	91.90786347	89.82149022	87.79264243
200304A00053	3/6/2020	2.33	3/6/2025		100.76523	100.3309526	99.90041901	99.47358064	99.05038994	98.63080023	98.2147656	97.80224093	97.39318187
200304A00054	3/6/2020	2.35	3/8/2027		106.34311	103.8598587	101.4473999	99.10331832	96.82529353	94.61109786	92.45859219	90.36572188	88.33051285
200305A00001	3/5/2020	1.14	3/5/2025		100.24449	99.81429222	99.38778259	98.96491239	98.54563513	98.12990513	97.71767746	97.30890797	96.90355323
200305A00002	3/5/2020	1.14	3/5/2025		100.24449	99.81429222	99.38778259	98.96491239	98.54563513	98.12990513	97.71767746	97.30890797	96.90355323
200305A00007	3/5/2020	1.14	3/5/2025		100.24449	99.81429222	99.38778259	98.96491239	98.54563513	98.12990513	97.71767746	97.30890797	96.90355323
200305A00012	3/5/2020	1.14	3/5/2025		100.24449	99.81429222	99.38778259	98.96491239	98.54563513	98.12990513	97.71767746	97.30890797	96.90355323
200305A00020	3/5/2020	0.95	3/5/2025		100.19655	99.76607746	99.33929851	98.91616649	98.49663473	98.08065736	97.6681893	97.2591862	96.85360449
200305A00029	3/5/2020	1.14	3/5/2025		100.24449	99.81429222	99.38778259	98.96491239	98.54563513	98.12990513	97.71767746	97.30890797	96.90355323
200305A00030	3/5/2020	1.58	3/5/2030		109.8034	104.2355199	98.98244734	94.02481015	89.34452436	84.92470131	80.7495627	76.80436225	73.07531313
200305A00032	3/5/2020	1.58	3/5/2030		109.8034	104.2355199	98.98244734	94.02481015	89.34452436	84.92470131	80.7495627	76.80436225	73.07531313
200305A00035	3/5/2020	1.25	3/5/2026		101.8331	100.4058417	99.00546788	97.63128855	96.2826334	94.95885453	93.65932555	92.38344063	91.13061368
200305A00036	3/5/2020	1.36	3/5/2027		103.88333	101.4388346	99.06400252	96.75646308	94.5139376	92.33423829	90.21526408	88.15499656	86.15149622

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200305A00037	3/5/2020	1.43	3/6/2028		105.92167	102.4431089	99.09680868	95.87705025	92.77839712	89.79567552	86.92396029	84.15856148	81.49501187
200305A00038	3/5/2020	1.51	3/5/2029		108.03819	103.5162984	99.20842059	95.10334877	91.19051939	87.45997251	83.90231419	80.50868138	77.27070929
200305A00039	3/5/2020	1.58	3/5/2030		109.8034	104.2355199	98.98244734	94.02481015	89.34452436	84.92470131	80.7495627	76.80436225	73.07531313
200306A00001	3/6/2020	1.11	3/6/2026		101.63497	100.2065456	98.80507896	97.42987675	96.08026576	94.75559531	93.45523631	92.17858041	90.92503906
200306A00013	3/6/2020	1.01	3/6/2025		100.1906	99.75779977	99.32873429	98.90335489	98.48161415	98.06346548	97.64886306	97.23776188	96.83011766
200306A00014	3/6/2020	1.38	3/6/2030		108.69805	103.157423	97.93068998	92.99851552	88.34284663	83.94682467	79.79470044	75.87175584	72.16423132
200306A00022	3/6/2020	1.2	3/8/2027		103.5026	101.054818	98.67705388	96.36691053	94.12209023	91.9403873	89.81968372	87.75794516	85.75321707
200306A00028	3/6/2020	1.01	3/6/2025		100.1906	99.75779977	99.32873429	98.90335489	98.48161415	98.06346548	97.64886306	97.23776188	96.83011766
200306A00031	3/6/2020	1.01	3/6/2025		100.1906	99.75779977	99.32873429	98.90335489	98.48161415	98.06346548	97.64886306	97.23776188	96.83011766
200306A00040	3/6/2020	1.01	3/6/2025		100.1906	99.75779977	99.32873429	98.90335489	98.48161415	98.06346548	97.64886306	97.23776188	96.83011766
200306A00046	3/6/2020	1.01	3/3/2025		100.18357	99.75901208	99.33804339	98.92061863	98.50669317	98.09622314	97.68916542	97.28547758	96.88511791
200306A00048	3/6/2020	1.04	3/6/2035		105.90993	100.4959622	95.47024174	90.80027408	86.45657543	82.41236975	78.64331996	75.12728757	71.84411762
200306A00050	3/6/2020	0.87	3/6/2030		103.30461	100.4702606	97.75173541	95.14327038	92.63942937	90.23508532	87.92540056	85.7058085	83.57199661
200306A00055	3/6/2020	0.82	3/6/2025		100.14234	99.7092608	99.27992453	98.85428192	98.43228537	98.01388809	97.5990441	97.18770821	96.77983597
200306A00057	3/6/2020	0.92	3/8/2027		102.86252	100.5181954	98.24168802	96.03062049	93.88271406	91.79578434	89.76773671	87.79656197	85.88033227
200306A00058	3/6/2020	1.06	3/6/2030		103.6232	100.7843593	98.06139412	95.44853994	92.94036396	90.53174193	88.21783854	85.99408912	83.85618267
200306A00064	3/6/2020	1.2	3/8/2027		103.5026	101.054818	98.67705388	96.36691053	94.12209023	91.9403873	89.81968372	87.75794516	85.75321707
200306A00065	3/6/2020	1.38	3/6/2030		108.69805	103.157423	97.93068998	92.99851552	88.34284663	83.94682467	79.79470044	75.87175584	72.16423132
200306A00066	3/6/2020	1.2	3/8/2027		103.5026	101.054818	98.67705388	96.36691053	94.12209023	91.9403873	89.81968372	87.75794516	85.75321707
200306A00077	3/6/2020	1.06	3/6/2025		100.21237	99.77951011	99.35038902	98.92495435	98.50315869	98.08495543	97.67029877	97.25914366	96.85144585
200306A00087	3/8/2021	1.26	3/7/2025		100.30247	99.86663674	99.43459138	99.00628152	98.58165878	98.16067563	97.74328534	97.32944198	96.91910043
200309A00005	3/9/2020	0.77	3/7/2025		100.12246	99.68669088	99.25471057	98.82647131	98.40192457	97.98102264	97.56371863	97.14996648	96.73972088
200309A00007	3/9/2020	1.11	3/9/2027		103.28442	100.8366948	98.45907594	96.14916283	93.9046522	91.72333307	89.60308248	87.54186138	85.53771087
200309A00020	3/9/2020	0.96	3/10/2025		100.17765	99.73392037	99.29411864	98.85819417	98.42609574	97.99777303	97.5731766	97.15225787	96.73496913
200309A00021	3/9/2020	1.05	3/9/2026		101.56002	100.1241791	98.71558484	97.33353186	95.97733629	94.64633725	93.33989593	92.05739464	90.79823598
200309A00027	3/9/2020	0.97	3/10/2025		100.18212	99.73837276	99.2985594	98.86262338	98.43051346	98.00217934	97.57757157	97.15664159	96.73934164
200309A00030	3/9/2020	1.11	3/9/2027		103.28442	100.8366948	98.45907594	96.14916283	93.9046522	91.72333307	89.60308248	87.54186138	85.53771087
200309A00033	3/9/2020	1.06	3/9/2026		101.57458	100.138627	98.72992397	97.34776412	95.99146349	94.66036117	93.35381829	92.07121712	90.81196021
200309A00034	3/9/2020	0.96	3/9/2035		105.46448	100.0732298	95.0686015	90.41823982	86.09278332	82.06556718	78.31235548	74.81110183	71.54173517
200309A00038	3/9/2020	1.26	3/11/2030		108.04182	102.5056982	97.28424974	92.35803392	87.70890495	83.31992079	79.1752574	75.26012948	71.56071729
200309A00046	3/9/2020	0.78	3/11/2025		100.13453	99.68775044	99.2449607	98.80610452	98.37112949	97.93998417	97.51261799	97.0889813	96.66902531
200309A00081	3/9/2020	1.18	3/8/2030		106.94232	101.8666292	97.07420042	92.54758918	88.27051665	84.22778759	80.40521254	76.78953598	73.36837006
200309A00082	3/9/2020	1.18	3/8/2030		106.94232	101.8666292	97.07420042	92.54758918	88.27051665	84.22778759	80.40521254	76.78953598	73.36837006



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200309A00084	3/9/2020	1.06	3/9/2027		103.12834	100.7033044	98.34903024	96.06302946	93.84291598	91.68640266	89.59129643	87.55549385	85.57697678
200310A00003	3/10/2020	1.1	3/10/2025		100.24015	99.79625377	99.35628926	98.92020304	98.48794388	98.05946145	97.6347063	97.21362984	96.79618433
200310A00005	3/10/2020	1.41	3/8/2030		108.8685	103.3179343	98.08204791	93.14144107	88.47800163	84.07481675	79.91608767	75.98705083	72.27390506
200310A00015	3/10/2020	1.37	3/11/2030		108.65274	103.1000367	97.86268115	92.92119635	88.25740519	83.85433612	79.69613727	75.76799706	72.05607088
200310A00020	3/10/2020	1.1	3/10/2025		100.24015	99.79625377	99.35628926	98.92020304	98.48794388	98.05946145	97.6347063	97.21362984	96.79618433
200310A00021	3/10/2020	1.1	3/10/2025		100.24015	99.79625377	99.35628926	98.92020304	98.48794388	98.05946145	97.6347063	97.21362984	96.79618433
200310A00028	3/10/2020	1.1	3/10/2025		100.24015	99.79625377	99.35628926	98.92020304	98.48794388	98.05946145	97.6347063	97.21362984	96.79618433
200310A00033	3/10/2020	0.91	3/10/2025		100.19065	99.74647107	99.30622939	98.8698739	98.43735316	98.00861667	97.58361477	97.16229871	96.74462056
200310A00034	3/10/2020	1.41	3/11/2030		108.87489	103.3161597	98.07301984	93.12598269	88.45685982	84.04866897	79.88554814	75.95267618	72.23619945
200310A00038	3/10/2020	1.41	3/11/2030		108.87489	103.3161597	98.07301984	93.12598269	88.45685982	84.04866897	79.88554814	75.95267618	72.23619945
200310A00040	3/10/2020	1.36	3/10/2028		105.69574	102.2103733	98.8579569	95.63273239	92.52921783	89.54219705	86.66670537	83.89801598	81.23162729
200310A00041	3/10/2020	1.39	3/12/2029		107.52461	102.9953346	98.68144459	94.5716143	90.65516744	86.92204046	83.36274425	79.96832841	76.73034784
200310A00042	3/10/2020	1.41	3/11/2030		108.87489	103.3161597	98.07301984	93.12598269	88.45685982	84.04866897	79.88554814	75.95267618	72.23619945
200310A00051	3/10/2020	1.41	3/8/2030		108.8685	103.3179343	98.08204791	93.14144107	88.47800163	84.07481675	79.91608767	75.98705083	72.27390506
200310A00054	3/10/2020	1.1	3/10/2025		100.24015	99.79625377	99.35628926	98.92020304	98.48794388	98.05946145	97.6347063	97.21362984	96.79618433
200310A00065	3/13/2020	1.1	3/13/2025		100.24793	99.79578435	99.34772151	98.90368216	98.46361214	98.02745828	97.59516835	97.16669103	96.74197595
200310A00067	3/10/2020	0.94	3/10/2025		100.07842	99.79379306	99.51110907	99.23034678	98.95148476	98.67450192	98.39937748	98.126091	97.85462235
200310A00073	3/12/2020	2.12	3/11/2027		105.79584	103.3113132	100.8978839	98.55311933	96.27468126	94.06032517	91.90789607	89.81532441	87.78062203
200311A00006	3/13/2020	1.12	3/10/2025		100.24908	99.80515854	99.36517078	98.92906146	98.49677933	98.06827408	97.64349625	97.22239726	96.80492936
200311A00015	3/11/2020	1.26	3/11/2027		103.63249	101.1933156	98.82540362	96.52623928	94.29341604	92.1246273	90.01766158	87.97039795	85.98080169
200311A00026	3/11/2020	1.34	3/11/2030		107.55679	102.5928509	97.90324597	93.47115817	89.28089171	85.31779307	81.56817624	78.01925377	74.65907298
200311A00031	3/11/2020	1.41	12/24/2027		105.48359	102.2143524	99.06294223	96.02440474	93.09402503	90.26731737	87.54001234	84.90804475	82.36754233
200311A00040	3/12/2020	1.3	3/11/2025		100.33258	99.88569661	99.44279744	99.0038263	98.56873099	98.13746022	97.7099636	97.28619162	96.86609567
200311A00050	3/2/2021	1.46	3/2/2026		102.12118	100.6997486	99.30494469	97.93608668	96.59251407	95.27358838	93.97869217	92.70722819	91.45861852
200311A00052	3/2/2021	1.43	2/28/2025		100.35239	99.93563814	99.52232996	99.11242747	98.70588877	98.30267265	97.90273858	97.50604668	97.1125577
200311A00055	3/11/2020	1.66	12/17/2027		106.26607	103.0029362	99.85671619	96.82251959	93.8956935	91.07180971	88.34665223	85.71620548	83.17664326
200312A00004	3/13/2020	1.23	1/24/2025		100.17749	99.857261	99.53908416	99.22293917	98.90880657	98.59666713	98.2865019	97.97829211	97.6720193
200312A00006	3/12/2020	1.23	3/12/2025		100.30409	99.85453887	99.40902084	98.96747874	98.52985939	98.09611056	97.66618094	97.24002012	96.81757859
200312A00009	3/12/2020	1.46	3/12/2027		104.16521	101.6984231	99.30244258	96.97483429	94.71326559	92.51549765	90.37938106	88.3028517	86.28392678
200312A00014	3/12/2020	1.04	3/12/2025		100.25398	99.80414266	99.35834426	98.91652985	98.47864605	98.04464043	97.61446147	97.1880586	96.76538211
200312A00015	3/12/2020	1.23	3/10/2025		100.29818	99.85413479	99.41401913	98.97778271	98.5453743	98.11674356	97.69184102	97.27061809	96.85302703
200312A00037	3/12/2020	1.3	3/12/2025		100.33572	99.88609161	99.44049036	98.99886557	98.56116407	98.12733359	97.69732284	97.27108141	96.84855977
200313A00032	3/18/2020	1.46	3/18/2025		100.42957	99.96322594	99.50121001	99.04346545	98.5899331	98.14055488	97.69527379	97.25403385	96.81678012

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200316A00008	3/16/2020	1.31	3/15/2030		104.2322	101.449724	98.77884593	96.21409022	93.75029339	91.38258193	89.10635396	86.91726224	84.81119832
200316A00009	3/16/2020	1.25	3/14/2025		100.31914	99.86406784	99.41312338	98.96625227	98.52339937	98.08451051	97.64953252	97.21841317	96.79110116
200316A00037	3/16/2020	1.06	3/14/2025		100.26841	99.81304835	99.36182052	98.91467426	98.47155421	98.03240602	97.59717631	97.16581265	96.73826355
200316A00049	3/16/2020	1.25	3/14/2025		100.31914	99.86406784	99.41312338	98.96625227	98.52339937	98.08451051	97.64953252	97.21841317	96.79110116
200316A00050	3/16/2020	1.54	3/16/2027		104.385	101.9047207	99.49591109	97.15611011	94.8829535	92.67417251	90.52758944	88.44111334	86.41273605
200316A00055	3/16/2020	1.06	3/14/2025		100.26841	99.81304835	99.36182052	98.91467426	98.47155421	98.03240602	97.59717631	97.16581265	96.73826355
200317A00009	3/17/2020	1.61	3/16/2035		108.65946	103.1165602	97.97060732	93.18841424	88.73986717	84.59761519	80.73679625	77.13479211	73.77100907
200317A00023	3/17/2020	1.1	3/17/2025		100.29514	99.83146628	99.37208026	98.91692336	98.46593722	98.01906455	97.5762491	97.13743567	96.70257004
200317A00024	3/17/2020	1.09	3/17/2025		100.12433	99.83640442	99.55048037	99.26653531	98.98454666	98.70449219	98.42635005	98.1500987	97.87571696
200317A00027	3/17/2020	1.29	3/17/2025		100.3468	99.88341931	99.42432105	98.96944344	98.51872836	98.07211872	97.62955849	97.19099265	96.75636719
200317A00043	3/17/2020	1.29	3/15/2030		104.52694	101.6586031	98.90751699	96.26783944	93.73406568	91.30100404	88.96375603	86.71769777	84.55846273
200317A00045	3/19/2020	1.43	3/19/2025		100.41902	99.94995953	99.48527817	99.02491738	98.56881699	98.11691793	97.66916223	97.22549299	96.78585432
200317A00065	3/19/2020	2.05	3/19/2025		100.71126	100.2413906	99.77591242	99.31476016	98.85787354	98.40519345	97.95666184	97.51222176	97.07181727
200318A00012	3/18/2020	1.68	3/18/2033		109.53348	103.95238	98.7573245	93.91761574	89.4052286	85.19456233	81.26221529	77.58678188	74.14866946
200318A00013	3/18/2020	1.5	3/18/2025		100.44832	99.9819177	99.51985093	99.06205587	98.60847335	98.15904529	97.71371469	97.27242556	96.83512296
200318A00038	3/18/2020	1.48	3/18/2025		100.43895	99.97257182	99.51053047	99.05276066	98.59920322	98.14980009	97.70449424	97.26322971	96.82595154
200318A00047	3/18/2020	1.29	3/18/2025		100.387	99.9203253	99.45799453	98.99994384	98.54611385	98.09644625	97.65088385	97.20937045	96.77185091
200318A00054	3/18/2020	1.56	3/18/2025		100.47643	100.0099553	99.54781231	99.0899415	98.63628373	98.18678091	97.74137604	97.30001313	96.86263721
200319A00035	3/19/2020	1.72	3/18/2033		109.75917	104.1660114	98.95971912	94.10952678	89.58735073	85.36753667	81.42663397	77.74319219	74.29757756
200320A00049	3/25/2020	1.47	3/25/2025		100.45958	99.97393408	99.49297718	99.01664096	98.54485903	98.07756625	97.61469874	97.15619381	96.70198995
200320A00052	3/25/2020	1.47	3/25/2025		100.45958	99.97393408	99.49297718	99.01664096	98.54485903	98.07756625	97.61469874	97.15619381	96.70198995
200323A00090	3/23/2020	1.55	3/23/2027		102.51307	100.9880391	99.50038411	98.04888933	96.63238843	95.24976191	93.89993487	92.58187484	91.29458977
200324A00012	3/25/2020	1.78	3/25/2025		100.61085	100.1247748	99.64339216	99.16663312	98.69443126	98.22672143	97.76343971	97.30452337	96.84991089
200324A00013	3/25/2020	1.78	3/25/2025		100.61085	100.1247748	99.64339216	99.16663312	98.69443126	98.22672143	97.76343971	97.30452337	96.84991089
200324A00029	3/24/2020	1.86	3/24/2025		100.64519	100.1617653	99.6829826	99.20877389	98.73907379	98.27381815	97.81294404	97.35638971	96.90409458
200324A00051	3/24/2020	1.73	11/1/2024		100.06894	99.98027677	99.89177307	99.80342683	99.71523763	99.62720505	99.53932869	99.45160814	99.36404298
200324A00066	3/26/2020	1.81	3/26/2025		100.63005	100.1411705	99.65703754	99.17757899	98.70272738	98.2324165	97.76658143	97.30515846	96.8480851
200325A00009	3/27/2020	1.67	3/27/2025		100.56551	100.0740755	99.58742999	99.10550818	98.62824154	98.15556287	97.68740622	97.22370694	96.76440158
200325A00016	3/30/2020	1.67	3/31/2025		100.5822	100.0797229	99.58224943	99.08970371	98.60201288	98.11910551	97.64091158	97.16736242	96.69839068
200325A00030	3/25/2020	1.5	3/25/2025		100.51283	100.0265742	99.54501602	99.06808968	98.59572854	98.12786721	97.66444156	97.20538865	96.75064674
200325A00044	3/25/2020	1.7	12/23/2024		100.21557	99.98329889	99.75211276	99.52200495	99.29296787	99.06499404	98.838076	98.6122064	98.38737793
200325A00046	3/25/2020	1.76	3/25/2025		100.60109	100.1150432	99.63368797	99.1569562	98.68478144	98.21709852	97.75384352	97.29495372	96.8403676
200326A00009	3/27/2020	1.54	3/27/2025		100.50136	100.0101035	99.52364048	99.04189992	98.56481327	98.09231334	97.62433422	97.16081124	96.70168097

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200326A00011	3/30/2020	1.54	3/31/2025		100.5166	100.0143186	99.51703589	99.02467953	98.53717671	98.05445602	97.57644745	97.10308234	96.63429336
200326A00016	3/26/2020	1.54	3/25/2025		100.49374	100.0079949	99.52694185	99.05051016	98.57863341	98.11124646	97.64828541	97.18968758	96.73539145
200326A00028	3/26/2020	1.54	3/26/2025		100.49755	100.0090493	99.52529124	99.04620503	98.57172318	98.10177953	97.63630916	97.17524842	96.71853482
200326A00029	3/26/2020	1.82	3/26/2027		105.14395	102.627142	100.1835574	97.81064284	95.5059521	93.26713902	91.09195258	88.97823251	86.92390492
200326A00032	3/26/2020	1.49	3/26/2030		104.87654	102.0025515	99.24593564	96.60084652	94.06177772	91.62353587	89.28122063	87.03020618	84.86612401
200326A00037	3/26/2020	1.78	3/26/2035		109.37214	103.9498856	98.91062878	94.22261985	89.85702619	85.78764569	81.99064679	78.44433612	75.12895031
200327A00031	3/27/2020	1.18	3/27/2025		100.3237	99.83295013	99.34699259	98.86575396	98.38916576	97.91716082	97.44967328	96.9866385	96.52799311
200327A00037	3/27/2020	1.18	3/27/2026		101.94775	100.4589637	98.99936308	97.56816604	96.16461735	94.78798811	93.43757455	92.11269692	90.81269855
200327A00043	3/27/2020	1.48	3/27/2028		106.49001	102.937468	99.52220502	96.23818714	93.07968093	90.04123504	87.11766469	84.30403708	81.59565777
200327A00045	3/27/2020	2.24	3/27/2034		120.12165	110.1269362	101.0532723	92.81071293	85.31852721	78.50421601	72.30263464	66.65521315	61.50926276
200327A00046	3/27/2020	1.23	3/27/2025		100.34837	99.85755476	99.37152702	98.89021868	98.41356125	97.94148756	97.47393174	97.01082916	96.55211643
200327A00047	3/27/2020	0.99	3/27/2025		100.26892	99.77786272	99.29160423	98.8100739	98.33320299	97.8609241	97.39317112	96.92987921	96.47098477
200327A00048	3/27/2020	1.18	3/24/2025		100.31526	99.83276226	99.35490324	98.88161187	98.41282285	97.94847209	97.48849674	97.03283512	96.5814267
200327A00051	3/27/2020	0.99	3/27/2025		100.26892	99.77786272	99.29160423	98.8100739	98.33320299	97.8609241	97.39317112	96.92987921	96.47098477
200327A00056	3/27/2020	1.18	3/27/2025		100.3237	99.83295013	99.34699259	98.86575396	98.38916576	97.91716082	97.44967328	96.9866385	96.52799311
200327A00060	3/27/2020	1.18	3/27/2025		100.3237	99.83295013	99.34699259	98.86575396	98.38916576	97.91716082	97.44967328	96.9866385	96.52799311
200327A00061	3/31/2020	1.18	3/31/2025		100.33495	99.83319913	99.33644456	98.84461258	98.3576304	97.87542665	97.39793138	96.92507596	96.45679311
200327A00073	3/27/2020	0.99	3/27/2025		100.26892	99.77786272	99.29160423	98.8100739	98.33320299	97.8609241	97.39317112	96.92987921	96.47098477
200327A00084	3/27/2020	1.1	3/27/2025		100.36206	99.79455561	99.23350627	98.67879768	98.13032257	97.58797607	97.05165568	96.52126114	95.99669442
200327A00094	3/27/2020	1.6	3/27/2030		108.47658	103.6829491	99.15066523	94.86378248	90.80741567	86.96766784	83.33155912	79.88696113	76.62253649
200330A00006	3/30/2020	0.9	3/28/2025		100.22675	99.7330667	99.24423551	98.76018235	98.28083744	97.80613234	97.33599994	96.8703744	96.40919116
200330A00008	3/30/2020	1.09	3/28/2025		100.28185	99.78847629	99.29994715	98.81618673	98.33712549	97.86269523	97.39282907	96.92746142	96.46652792
200330A00028	3/30/2020	1.09	3/28/2025		100.28185	99.78847629	99.29994715	98.81618673	98.33712549	97.86269523	97.39282907	96.92746142	96.46652792
200330A00037	3/30/2020	1.09	3/28/2025		100.28185	99.78847629	99.29994715	98.81618673	98.33712549	97.86269523	97.39282907	96.92746142	96.46652792
200330A00038	3/30/2020	1.79	3/29/2030		111.04281	105.3768127	100.0342507	94.99501167	90.24033423	85.7527109	81.51579805	77.51433272	73.7340558
200330A00041	4/1/2020	1.09	4/1/2025		100.29227	99.78790232	99.28858964	98.79425411	98.30482167	97.82021972	97.34037709	96.865224	96.39469202
200330A00044	3/30/2020	1.09	3/28/2025		100.28185	99.78847629	99.29994715	98.81618673	98.33712549	97.86269523	97.39282907	96.92746142	96.46652792
200330A00045	3/30/2020	1.47	3/30/2027		104.28237	101.7657924	99.32280932	96.95084372	94.64742607	92.41018826	90.2368587	88.12525772	86.07329328
200330A00047	3/30/2020	1.5	3/30/2035		108.03815	102.5266918	97.40996371	92.65496002	88.23173173	84.11307807	80.27427383	76.69282562	73.34825368
200330A00054	3/30/2021	1.19	3/30/2026		101.85533	100.3612758	98.89662801	97.46059923	96.05242559	94.67136985	93.3167203	91.98778962	90.68391386
200330A00058	3/30/2020	1.49	3/29/2030		107.94507	103.1676248	98.65092319	94.37903904	90.33710895	86.51125712	82.8885243	79.45680211	76.20477255
200330A00066	3/30/2020	1.08	3/31/2025		100.28449	99.78288816	99.2862803	98.79459398	98.30775642	97.82569627	97.34834358	96.87562974	96.40748748
200330A00079	3/30/2020	1.51	3/30/2035		108.09455	102.5802142	97.46081505	92.70332909	88.27779173	84.15698799	80.31617976	76.73286191	73.38654399

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200331A00011	3/31/2020	1.09	3/31/2025		100.28954	99.78791926	99.29129673	98.79959584	98.31274382	97.83066931	97.35330236	96.88057436	96.41241804
200331A00016	3/31/2020	1.11	3/31/2026		101.8597	100.360921	98.8917274	97.45132005	96.03892867	94.65380992	93.29524628	91.96254488	90.65503648
200331A00017	3/31/2020	0.9	3/31/2025		100.23351	99.73157297	99.23464478	98.74264778	98.25550894	97.77315666	97.29552074	96.82253233	96.35412393
200331A00022	4/1/2020	1.07	4/1/2025		100.28212	99.77778499	99.27850193	98.78419581	98.29479257	97.81021961	97.33040576	96.85528124	96.38477764
200331A00056	3/31/2020	0.96	3/29/2030		103.48086	100.7055948	98.0419499	95.484439	93.02788622	90.66740697	88.39838948	86.2164777	84.11755537
200331A00060	3/31/2020	1.09	3/31/2025		100.28954	99.78791926	99.29129673	98.79959584	98.31274382	97.83066931	97.35330236	96.88057436	96.41241804
200401A00001	4/1/2020	1.01	4/1/2025		100.25168	99.74743302	99.24823881	98.75402091	98.26470525	97.78021925	97.30049175	96.82545297	96.35503451
200401A00012	4/2/2020	1	4/2/2025		100.24909	99.74210925	99.24024104	98.74340465	98.25152476	97.76452752	97.28234054	96.80489287	96.33211495
200401A00013	4/1/2020	1.01	4/1/2025		100.25168	99.74743302	99.24823881	98.75402091	98.26470525	97.78021925	97.30049175	96.82545297	96.35503451
200401A00023	4/1/2020	0.82	4/1/2025		100.19534	99.69077192	99.19127054	98.6967551	98.20715129	97.72238626	97.24238861	96.76708832	96.29641674
200402A00009	4/2/2020	1.03	4/2/2025		100.26439	99.75736793	99.25545487	98.75857396	98.26664987	97.77960873	97.29737818	96.81988725	96.34706636
200402A00014	4/2/2020	0.84	4/2/2025		100.20774	99.70040359	99.1981817	98.70100169	98.20878797	97.72146642	97.23896441	96.76121073	96.28813558
200402A00021	4/2/2020	0.77	10/2/2024		100.00035	99.99480068	99.98925765	99.98371964	99.97818664	99.97265864	99.96713565	99.96161764	99.95610461
200402A00038	4/2/2020	0.84	4/2/2025		100.20774	99.70040359	99.1981817	98.70100169	98.20878797	97.72146642	97.23896441	96.76121073	96.28813558
200402A00041	4/2/2020	1.03	4/2/2025		100.26439	99.75736793	99.25545487	98.75857396	98.26664987	97.77960873	97.29737818	96.81988725	96.34706636
200402A00044	4/2/2020	1.65	4/2/2030		110.27017	104.6143903	99.28238485	94.25396991	89.5103245	85.03388822	80.80827055	76.81816701	73.04928182
200403A00006	4/3/2020	1.05	4/3/2025		100.27721	99.76741302	99.26278062	98.76323638	98.26870365	97.77910733	97.2943738	96.8144309	96.3392079
200406A00006	4/6/2020	1.13	4/7/2025		100.32961	99.80869488	99.29318018	98.78297913	98.27800981	97.77819199	97.2834471	96.79369813	96.30886964
200406A00014	4/6/2020	1.33	4/6/2035		107.57093	102.0305505	96.89027185	92.11638871	87.67833375	83.54836467	79.70128204	76.11417726	72.76620705
200406A00027	4/6/2020	1.31	4/5/2030		107.48019	102.6955545	98.1731482	93.89688978	89.85177949	86.02381791	82.39993373	78.96791697	75.71635756
200406A00029	4/6/2020	1.61	4/5/2030		109.25313	104.0278409	99.09687322	94.44191779	90.04590685	85.89292094	81.96810543	78.25759353	74.74843537
200406A00030	4/6/2020	1.61	4/5/2030		109.25313	104.0278409	99.09687322	94.44191779	90.04590685	85.89292094	81.96810543	78.25759353	74.74843537
200406A00032	4/6/2020	1.09	4/4/2025		100.37901	99.78908441	99.20610359	98.62994581	98.06049164	97.49762443	96.94123021	96.39119766	95.84741797
200406A00033	4/6/2020	1.09	4/4/2025		100.37901	99.78908441	99.20610359	98.62994581	98.06049164	97.49762443	96.94123021	96.39119766	95.84741797
200406A00035	4/6/2020	1.05	4/4/2025		100.34852	99.76707658	99.19243904	98.62448912	98.06311007	97.5081879	96.95961123	96.41727122	95.88106153
200406A00036	4/6/2020	1.09	4/4/2025		100.37901	99.78908441	99.20610359	98.62994581	98.06049164	97.49762443	96.94123021	96.39119766	95.84741797
200406A00053	4/6/2020	1.13	4/7/2025		100.32961	99.80869488	99.29318018	98.78297913	98.27800981	97.77819199	97.2834471	96.79369813	96.30886964
200407A00001	4/8/2020	2.41	4/7/2025		101.0003	100.4773697	99.95984918	99.44765712	98.94071139	98.43893158	97.94223892	97.45055626	96.96380797
200407A00004	4/7/2020	0.99	4/7/2025		100.29766	99.77634167	99.26043168	98.74984611	98.24450274	97.74432108	97.24922227	96.75912903	96.27396567
200408A00021	4/8/2020	0.99	4/4/2025		100.28963	99.77656563	99.26873358	98.76605697	98.26845757	97.77585873	97.28818531	96.8053637	96.32732175
200413A00009	4/13/2020	0.77	4/13/2027		101.2065	99.86900444	98.56206296	97.28472341	96.03607086	94.81522628	93.62134478	92.45361402	91.31125269
200413A00013	4/13/2020	1.19	4/12/2030		104.05864	101.1657543	98.392483	95.73281037	93.18106578	90.73190408	88.3802847	86.12145219	83.95091819
200414A00009	4/14/2020	0.82	4/14/2025		100.06921	99.73974439	99.41293272	99.08873523	98.76711737	98.44804525	98.1314856	97.81740577	97.50577368

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200414A00024	4/14/2020	1.37	4/14/2027		104.06262	101.5331034	99.07932822	96.6985425	94.38811763	92.14553821	89.96839627	87.85438586	85.80129797
200415A00021	4/15/2020	1.37	4/15/2027		104.11423	101.5553634	99.07227729	96.66228312	94.32280153	92.05136108	89.84559288	87.70322566	85.62208104
200415A00023	4/15/2020	1.71	4/15/2030		110.65059	104.9481219	99.57369913	94.50677385	89.7281882	85.22007445	80.96576151	76.94968867	73.15732612
200415A00024	4/15/2020	2.2	4/16/2035		120.21607	109.2401749	99.37340074	90.49740275	82.50703414	75.30881642	68.81959124	62.9653341	57.68010958
200415A00031	4/15/2020	0.97	4/15/2025		100.26495	99.72232278	99.18555865	98.65456213	98.12924051	97.60950307	97.09526102	96.58642744	96.08291723
200415A00035	4/17/2020	2.16	4/16/2025		100.92055	100.3731357	99.83165413	99.29601339	98.76611917	98.2418792	97.7232032	97.21000278	96.70219143
200415A00036	4/15/2020	0.91	10/15/2024		99.99851	99.95694993	99.91544177	99.8739858	99.83258191	99.79122999	99.74992996	99.7086817	99.66748511
200415A00037	4/15/2020	0.97	4/15/2025		100.26495	99.72232278	99.18555865	98.65456213	98.12924051	97.60950307	97.09526102	96.58642744	96.08291723
200415A00038	4/15/2020	1.37	4/15/2027		104.11423	101.5553634	99.07227729	96.66228312	94.32280153	92.05136108	89.84559288	87.70322566	85.62208104
200417A00002	4/17/2020	0.96	4/17/2025		100.26423	99.71612565	99.17400463	98.63776645	98.10731564	97.58255878	97.06340447	96.54976323	96.0415475
200417A00008	4/17/2020	0.96	4/17/2025		100.26423	99.71612565	99.17400463	98.63776645	98.10731564	97.58255878	97.06340447	96.54976323	96.0415475
200417A00009	4/17/2020	1.35	4/16/2027		104.068	101.506946	99.02180347	96.60987243	94.26856698	91.99540948	89.78802524	87.64413751	85.56156279
200417A00014	4/17/2020	0.96	4/17/2025		100.26423	99.71612565	99.17400463	98.63776645	98.10731564	97.58255878	97.06340447	96.54976323	96.0415475
200417A00016	4/21/2020	2.18	4/21/2025		100.96028	100.3989935	99.84394394	99.29502678	98.75214072	98.21518666	97.68406766	97.15868888	96.63895753
200417A00019	4/17/2020	0.77	4/17/2025		100.20302	99.65457185	99.1121198	98.57556167	98.04480169	97.51974611	97.00030324	96.48638331	95.97789848
200421A00026	4/21/2020	1.34	4/19/2030		107.24949	102.4575507	97.92932247	93.64856248	89.60012672	85.76988583	82.14465141	78.712108	75.46075048
200421A00032	4/21/2020	1.31	4/21/2027		103.99073	101.4167658	98.9193929	96.49587513	94.14359219	91.86003406	89.64279562	87.48957147	85.39815113
200423A00006	4/23/2020	0.82	4/23/2025		100.24383	99.67881188	99.12014159	98.56771599	98.02143075	97.48118389	96.94687565	96.41840847	95.89568692
200423A00017	4/23/2020	1.82	4/23/2035		117.07923	106.1951153	96.41972142	87.63411462	79.73268391	72.62158752	66.21738812	60.44585248	55.24089481
200424A00014	4/28/2020	1.01	4/23/2025		100.30686	99.74218924	99.18385797	98.63175975	98.08579061	97.5458489	97.01183517	96.48365218	95.9612048
200424A00022	4/24/2020	1.39	4/24/2030		107.5006	102.6903351	98.14523251	93.84893829	89.78619944	85.94278684	82.30542078	78.86170218	75.60004929
200427A00017	4/27/2020	1.02	4/25/2025		100.31761	99.74743041	99.18370655	98.62633353	98.07520451	97.53021502	96.99126291	96.45824828	95.93107342
200427A00018	4/27/2020	1.51	4/27/2028		106.47424	102.8431384	99.3548866	96.00309135	92.78167892	89.68488102	86.70721757	83.84348052	81.08871871
200428A00002	4/28/2020	1.47	4/26/2030		109.79488	104.0689307	98.6747824	93.59152385	88.79966478	84.28103553	80.01869073	75.99682046	72.20066845
200428A00003	4/29/2020	1.01	4/29/2025		100.32191	99.74075261	99.16630032	98.59843573	98.03704612	97.48202136	96.93325378	96.39063813	95.8540715
200428A00009	4/28/2020	1.08	4/29/2030		103.73441	100.8499224	98.08474429	95.43287131	92.88864496	90.44673171	88.10210212	85.8500114	83.68598135
200428A00011	4/30/2020	1.95	4/29/2025		100.87174	100.2887558	99.7124909	99.14282855	98.57965585	98.02286245	97.47234048	96.92798451	96.38969144
200428A00018	4/28/2020	1.33	4/27/2035		106.98151	101.6020915	96.60656753	91.96283703	87.64177176	83.61692136	79.86424701	76.36188327	73.08992508
200429A00009	4/29/2020	0.78	4/29/2025		100.23366	99.65222063	99.07749925	98.50937709	97.9477411	97.39248077	96.84348812	96.30065757	95.76388592
200429A00010	4/29/2020	0.78	4/29/2025		100.23366	99.65222064	99.07749925	98.50937709	97.9477411	97.39248077	96.84348812	96.30065757	95.76388592
200429A00021	5/4/2020	0.97	4/29/2025		100.29851	99.71743333	99.14305817	98.57527008	98.01395635	97.45900685	96.91031392	96.36777232	95.83127916
200429A00030	4/29/2020	1.41	4/29/2030		107.99649	102.9152091	98.11998266	93.59294783	89.3174561	85.27798633	81.46006212	77.85017567	74.43571762
200429A00043	5/1/2020	1.56	4/30/2025		100.64765	100.0626665	99.48445714	98.9129039	98.34789247	97.78931114	97.23705075	96.69100457	96.15106828



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200429A00044	5/1/2020	1.86	4/30/2025		100.82396	100.2383866	99.65959335	99.08746099	98.52187519	97.96272417	97.4098987	96.863292	96.32279967
200429A00045	5/1/2020	1.54	4/30/2025		100.6359	100.0509518	99.47278139	98.90126676	98.33629362	97.77775027	97.22552755	96.67951874	96.13961952
200429A00046	5/1/2020	2.07	4/30/2025		100.94737	100.3613907	99.7821887	99.20965096	98.64366309	98.08411329	97.53089226	96.9838932	96.44301165
200429A00047	5/1/2020	2.7	4/30/2025		101.31762	100.730403	100.1499748	99.57622086	99.00902681	98.44828065	97.89387296	97.34569679	96.80364758
200429A00049	4/29/2020	1.25	4/29/2026		102.09946	100.5204164	98.97341506	97.45754826	95.97194343	94.51576034	93.08818957	91.6884511	90.31579299
200429A00050	5/1/2020	2.61	4/30/2025		101.26473	100.677687	100.0974339	99.52385373	98.95683199	98.39625674	97.84201858	97.29401057	96.75212816
200429A00051	5/1/2020	2.54	4/30/2025		101.22359	100.6366856	100.0565688	99.48312374	98.91623602	98.3557937	97.80168739	97.25381017	96.71205751
200429A00053	5/1/2020	2.18	4/30/2025		101.01202	100.4258215	99.84640531	99.27365523	98.70745676	98.14769807	97.59426985	97.04706525	96.50597983
200429A00054	4/29/2020	1.04	4/29/2025		100.33946	99.75824208	99.18373194	98.61580997	98.05436346	97.49928225	96.95045867	96.40778748	95.87116576
200429A00056	5/1/2020	1.54	4/30/2025		100.6359	100.0509518	99.47278139	98.90126676	98.33629362	97.77775027	97.22552755	96.67951874	96.13961952
200429A00057	4/29/2020	1.4	4/29/2027		104.26754	101.6676534	99.14557634	96.69850758	94.32376759	92.01879063	89.78111909	87.60839815	85.49837071
200429A00058	5/1/2020	1.83	4/30/2025		100.80633	100.2208146	99.64207973	99.07000528	98.50447692	97.94538287	97.3926139	96.84606325	96.30562653
200429A00061	4/29/2020	1.66	10/29/2029		109.78354	104.56883	99.63189133	94.95649703	90.5274494	86.33051278	82.35234745	78.58044855	75.00308941
200430A00008	4/30/2020	0.94	4/30/2025		100.28328	99.69951154	99.12250897	98.55215257	97.98832817	97.43092421	96.87983165	96.33494389	95.79615672
200430A00009	4/30/2020	1.16	4/30/2026		101.96055	100.3798902	98.83133705	97.31398287	95.82695188	94.36940087	92.94051764	91.53951953	90.1656521
200430A00017	4/30/2020	0.94	4/30/2025		100.28328	99.69951154	99.12250897	98.55215257	97.98832817	97.43092421	96.87983165	96.33494389	95.79615672
200430A00027	4/30/2020	1.31	4/30/2035		107.00186	101.5021124	96.39901508	91.65918718	87.25235269	83.15103135	79.33025965	75.76734145	72.44162508
200430A00030	4/30/2020	0.96	4/30/2025		100.29503	99.71122622	99.13418471	98.56378971	97.99992702	97.44248508	96.89135484	96.34642971	95.80760548
200501A00002	5/1/2020	1.3	5/1/2035		106.97623	101.4372689	96.30049122	91.53183332	87.10042167	82.97825055	79.13989426	75.56225007	72.22430857
200501A00009	5/4/2020	0.67	5/1/2025		100.03669	99.66872103	99.30406413	98.94267404	98.58450258	98.22950253	97.87762764	97.52883262	97.18307307
200504A00004	5/4/2020	0.75	5/5/2025		100.22936	99.63150002	99.04074596	98.45697194	97.88005478	97.3098742	96.74631272	96.18925556	95.63859062
200504A00006	5/4/2020	0.94	5/5/2025		100.29608	99.69858325	99.10818392	98.52475185	97.94816428	97.3783013	96.81504578	96.25828332	95.70790213
200504A00007	5/4/2020	1.47	5/4/2028		106.36501	102.7166805	99.21250942	95.84601278	92.61103544	89.50173345	86.51255631	83.63823042	80.87374354
200505A00004	5/5/2020	0.77	5/5/2025		100.24139	99.64349326	99.05269859	98.4688843	97.89192721	97.32170704	96.75810628	96.20101017	95.65030659
200505A00005	5/5/2020	0.77	5/5/2025		100.24139	99.64349326	99.05269859	98.4688843	97.89192721	97.32170704	96.75810628	96.20101017	95.65030659
200506A00002	5/8/2020	0.97	5/5/2025		100.31412	99.71656833	99.12610815	98.54261575	97.96596835	97.39604603	96.83273167	96.27591084	95.72547175
200506A00005	5/6/2020	0.97	5/6/2025		100.31676	99.71646507	99.12332528	98.53721792	97.95801847	97.3856053	96.81985967	96.26066556	95.70790965
200506A00010	5/6/2020	0.94	5/6/2026		101.76142	100.1641696	98.59961697	97.06682767	95.56490115	94.09297079	92.6502022	91.23579173	89.84896504
200511A00006	5/11/2020	1.65	5/13/2030		110.39393	104.6218137	99.18573387	94.06440152	89.23798272	84.6879953	80.39720954	76.34955674	72.53004498
200511A00017	5/11/2020	0.83	2/3/2025		100.06223	99.71477845	99.36973016	99.02706506	98.68675853	98.34878629	98.01312437	97.67974915	97.34863732
200511A00018	5/11/2020	0.98	2/2/2026		101.29749	99.96427752	98.65477311	97.36839812	96.10459381	94.86281896	93.6425492	92.44327633	91.26450777
200511A00019	5/11/2020	1.18	2/1/2027		103.27084	100.9274267	98.64849442	96.43192298	94.2756753	92.17779235	90.13638977	88.14965454	86.21584189
200511A00020	5/11/2020	1.4	2/1/2028		105.63648	102.2596397	99.0078866	95.87596038	92.8588458	89.95176342	87.15015718	84.44968284	81.84619698

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200511A00021	5/11/2020	1.53	2/1/2029		107.95592	103.5301127	99.30966267	95.28403036	91.44326524	87.77797394	84.27928625	80.93882343	77.74866857
200511A00022	5/11/2020	1.6	2/1/2030		109.79467	104.3208011	99.15144609	94.2681624	89.65371656	85.29199576	81.16792963	77.26741786	73.57726316
200511A00023	5/11/2020	1.7	2/3/2031		111.34546	104.8258245	98.72855902	93.02420873	87.68551423	82.68723582	78.00599448	73.62012608	69.50954766
200512A00001	5/12/2020	1.17	5/12/2027		103.66761	101.0737722	98.559413	96.12157533	93.75743259	91.46428378	89.23954681	87.08075235	84.98553792
200512A00010	5/12/2020	1.48	5/10/2030		108.63365	103.3517603	98.37182142	93.67477323	89.24286753	85.05956864	81.10946379	77.37818054	73.85231087
200512A00011	5/12/2020	1.48	5/10/2030		108.63365	103.3517603	98.37182142	93.67477323	89.24286753	85.05956864	81.10946379	77.37818054	73.85231087
200512A00013	5/12/2020	1.17	5/12/2027		103.66761	101.0737722	98.559413	96.12157533	93.75743259	91.46428378	89.23954681	87.08075235	84.98553792
200512A00014	5/12/2020	1.17	5/12/2027		103.66761	101.0737722	98.559413	96.12157533	93.75743259	91.46428378	89.23954681	87.08075235	84.98553792
200512A00017	5/12/2020	0.85	5/12/2025		100.32429	99.63558282	98.95640473	98.2865543	97.62583967	96.97407425	96.33107648	95.6966697	95.07068198
200512A00018	5/12/2020	0.85	5/12/2025		100.32429	99.63558282	98.95640473	98.2865543	97.62583967	96.97407425	96.33107648	95.6966697	95.07068198
200512A00020	5/12/2020	0.86	5/12/2025		100.33497	99.64084924	98.95636163	98.28130292	97.61547887	96.95870057	96.3107842	95.67155095	95.04082676
200512A00021	5/12/2020	0.86	5/12/2025		100.33497	99.64084924	98.95636163	98.28130292	97.61547887	96.95870057	96.3107842	95.67155095	95.04082676
200513A00003	5/13/2020	0.68	5/13/2025		100.20368	99.58399622	98.97195254	98.36740944	97.77022957	97.18027891	96.59742666	96.02154519	95.4525099
200514A00008	5/14/2020	1.23	5/14/2030		106.74711	101.9226736	97.36656173	93.06207781	88.99366163	85.14680719	81.50798512	78.06457125	74.80478091
200518A00019	5/19/2020	0.9	5/19/2025		100.3063	99.67045373	99.04264561	98.42272168	97.81053404	97.20593848	96.60879434	96.01896444	95.43631494
200520A00009	5/20/2020	1.63	5/20/2038		114.0112	103.3557233	93.93801275	85.60122924	78.2095259	71.64511863	65.80577868	60.60268617	55.95859115
200521A00005	5/21/2020	0.75	5/21/2030		103.01613	100.125977	97.35662942	94.70194442	92.15613654	89.71375589	87.36966633	85.11902525	82.95726483
200521A00013	5/21/2020	2.09	5/21/2035		119.14116	108.1293605	98.24072688	89.35440739	81.36314044	74.17166226	67.69530972	61.85879221	56.59511127
200521A00015	5/21/2020	2.14	5/21/2036		120.66269	108.6263829	97.91752394	88.38201049	79.8843819	72.30547641	65.54039585	59.49673346	54.09302973
200521A00016	5/21/2020	2.18	5/21/2037		122.11145	109.0612306	97.55667091	87.40539014	78.4398938	70.51424299	63.50118281	57.28966567	51.78271386
200521A00017	5/21/2020	2.22	5/21/2038		123.71594	109.6471008	97.35687191	86.60920272	77.20054147	68.95521459	61.72148247	55.36817043	49.78178831
200522A00009	5/22/2020	0.96	5/22/2030		103.46949	100.5058353	97.6699042	94.95501042	92.35486679	89.86356135	87.47553226	85.18554456	82.98866869
200527A00012	5/27/2020	1.2	5/27/2027		103.86951	101.1995892	98.61137528	96.10185321	93.66814195	91.30748661	89.01725186	86.79491589	84.63806454
200527A00013	5/27/2020	1.13	11/25/2026		102.85665	100.7007264	98.60034603	96.55368852	94.5590063	92.61462292	90.71892952	88.87038152	87.06749543
200527A00014	5/27/2020	1.06	5/27/2026		101.91547	100.2630002	98.64509969	97.06075336	95.50898199	93.98884456	92.49943627	91.03988683	89.60935874
200527A00015	5/27/2020	0.99	11/26/2025		101.04623	99.88268192	98.74572606	97.63445848	96.54801723	95.48557851	94.44635458	93.42959184	92.43456895
200527A00016	5/27/2020	0.92	5/27/2025		100.33914	99.68127805	99.03200634	98.39115593	97.75856386	97.13407137	96.51752373	95.90877014	95.30766358
200529A00022	6/1/2020	0.98	6/1/2026		101.80193	100.1369928	98.50708779	96.91117495	95.34825539	93.81736949	92.3175949	90.8480447	89.40786569
200601A00009	6/1/2020	0.84	6/2/2025		100.3004	99.62626655	98.96114717	98.30486396	97.65724187	97.01811047	96.38730376	95.76466006	95.15002182
200604A00005	6/4/2020	0.89	6/4/2025		100.33977	99.66000979	98.98941966	98.32781251	97.67500885	97.03083394	96.39511765	95.7676943	95.14840248
200604A00009	6/4/2020	0.7	6/4/2025		100.26376	99.58359126	98.91260904	98.25062564	97.59746104	96.95293999	96.31689186	95.68915049	95.06955403
200604A00010	6/4/2020	0.89	6/4/2025		100.33977	99.66000979	98.98941966	98.32781251	97.67500885	97.03083394	96.39511765	95.7676943	95.14840248
200604A00012	6/4/2020	1.59	6/4/2030		110.10591	104.2824764	98.80130699	93.64051311	88.779722	84.19996272	79.88356202	75.81404869	71.97606536

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200604A00013	6/4/2020	2.21	6/4/2035		120.47559	109.3585063	99.37684233	90.4081733	82.34387238	75.08749259	68.55334473	62.6652477	57.35542972
200604A00014	6/4/2020	2.42	6/4/2040		129.8072	113.4550908	99.42069949	87.35895941	76.97798575	68.03063739	60.30745178	53.63072568	47.84955141
200605A00005	6/5/2020	0.99	6/5/2025		100.41121	99.7284473	99.05492505	98.39046127	97.7348742	97.08798693	96.4496272	95.81962728	95.19782383
200605A00014	6/5/2020	1.02	6/5/2025		100.51759	99.76104019	99.01590502	98.28192733	97.55885754	96.84645344	96.14447998	95.45270896	94.77091882
200605A00016	6/5/2020	1.02	6/5/2025		100.51759	99.76104019	99.01590502	98.28192733	97.55885754	96.84645344	96.14447998	95.45270896	94.77091882
200605A00017	6/5/2020	1.02	6/5/2025		100.51759	99.76104019	99.01590502	98.28192733	97.55885754	96.84645344	96.14447998	95.45270896	94.77091882
200605A00018	6/5/2020	0.91	6/5/2025		100.43371	99.67764058	98.93298303	98.19947664	97.47687196	96.76492691	96.06340656	95.37208284	94.6907343
200608A00001	6/8/2020	1.34	6/7/2030		107.32607	102.4329868	97.81448654	93.45334689	89.33352493	85.44007188	81.75905222	78.2774692	74.98319632
200610A00006	6/10/2020	1.11	6/10/2027		103.61898	100.9566669	98.37782044	95.87930076	93.45810734	91.11137279	88.83635594	86.63043526	84.49110275
200611A00010	6/11/2020	1.08	6/11/2027		103.61073	100.9031619	98.27951716	95.73665622	93.27158025	90.88142394	88.56344844	86.31503479	84.13367765
200611A00011	6/11/2020	1.2	6/9/2028		105.53319	101.8023559	98.22239451	94.7863587	91.48766244	88.32006164	85.27763408	82.35476072	79.54610812
200611A00019	6/11/2020	0.88	12/11/2025		100.97456	99.77019677	98.59433263	97.44596602	96.32414213	95.22794991	94.15651954	93.10902016	92.0846577
200611A00020	6/11/2020	0.81	6/11/2025		100.30238	99.60361062	98.9145392	98.23496269	97.56468585	96.90351874	96.25127658	95.60777956	94.97285268
200612A00004	6/12/2020	1.42	6/12/2040		109.71758	101.1734461	93.5262228	86.66775189	80.50409016	74.95352065	69.94485579	65.41598852	61.31265333
200615A00019	6/17/2020	1.34	6/16/2025		100.69528	99.98127355	99.27735931	98.58332599	97.89896654	97.2240797	96.55846972	95.90194625	95.25432411
200616A00005	6/16/2020	0.74	6/17/2030		103.04921	100.0969806	97.27005565	94.56197667	91.96666999	89.47841823	87.09183691	84.80185273	82.60368347
200623A00028	6/23/2020	1.23	6/23/2038		107.99291	100.871124	94.39789468	88.50505159	83.13227066	78.22611002	73.73916896	69.62935564	65.85924862
200626A00014	6/26/2020	0.62	6/26/2025		100.25693	99.51653712	98.78701486	98.0681299	97.35965106	96.66135382	95.97302006	95.29443786	94.62540127
200629A00020	6/29/2020	1.4	6/28/2030		109.05651	103.1967551	97.68549118	92.50017949	87.61986362	83.02504565	78.69757656	74.62055545	70.77823693
200629A00021	6/29/2020	1.21	6/29/2028		105.66122	101.872469	98.2388841	94.75322154	91.4086228	88.19859096	85.11696909	82.15792008	79.3159078
200629A00023	6/29/2020	0.95	6/29/2026		101.87079	100.1280109	98.42319482	96.75516404	95.12279369	93.52500527	91.96076417	90.42907746	88.92899169
200708A00011	7/10/2020	2.87	7/10/2031		119.81676	112.5848183	105.8443985	99.55942183	93.69664083	88.22540501	83.1174449	78.34667493	73.88901376
200709A00002	7/10/2020	1.66	7/10/2025		101.04469	100.2633781	99.49410989	98.73661031	97.99061076	97.25585078	96.53207772	95.81904646	95.11651912
200709A00003	7/10/2020	1.63	7/10/2026		103.1365	101.3526099	99.60805857	97.90166737	96.23230089	94.59886808	93.00032009	91.4356482	89.90388185
200709A00004	7/10/2020	1.4	7/10/2025		100.84075	100.0603132	99.29191315	98.53527246	97.79012265	97.05620343	96.33326229	95.62105428	94.91934167
200709A00005	7/10/2020	2.23	7/10/2030		113.96826	107.9354093	102.2607207	96.9210466	91.89485356	87.16210391	82.70414413	78.50360185	74.54429115
200709A00006	7/10/2020	2.58	7/10/2030		116.0308	109.9386816	104.2072494	98.81322405	93.73494928	88.95227216	84.44643053	80.19994968	76.19654726
200709A00007	7/10/2020	1.67	7/9/2027		105.38914	102.5798122	99.85943424	97.22463846	94.67221072	92.19908014	89.80231167	87.47909896	85.22675776
200709A00008	7/10/2020	1.88	7/10/2026		103.586	101.7979472	100.0493131	98.33891431	96.66561337	95.02831717	93.4259749	91.85757597	90.32214801
200709A00019	7/9/2020	0.77	7/9/2025		100.42235	99.57319411	98.73843731	97.91771527	97.11067561	96.3169777	95.53629211	94.76830022	94.01269373
200709A00021	7/9/2020	0.83	7/9/2025		100.47377	99.62427811	98.78919275	97.96814705	97.1607885	96.36677636	95.58578111	94.817484	94.06157665
200709A00025	7/9/2020	1.37	7/9/2030		108.13235	102.7368748	97.65756228	92.87407149	88.36747482	84.12015287	80.11569754	76.33882281	72.77528251
200716A00004	7/16/2020	0.97	7/16/2027		103.36048	100.6141196	97.95650501	95.3842907	92.894272	90.48338235	88.14868658	85.8873745	83.69675491

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200720A00012	7/20/2020	0.77	7/15/2025		100.36022	99.56816766	98.78855107	98.0210834	97.26548238	96.52147443	95.78879434	95.06718492	94.35639673
200720A00034	7/20/2020	0.77	7/21/2025		100.3766	99.56804196	98.77244341	97.98949295	97.2188909	96.46034698	95.71357997	94.97831729	94.25429476
200720A00035	7/20/2020	1.81	7/20/2035		116.24267	105.227916	95.35655923	86.50373398	78.55879732	71.42364572	65.01123785	59.24429803	54.05417713
200720A00037	7/22/2020	2.1	7/21/2025		101.46038	100.6469981	99.84662535	99.05895384	98.28368288	97.52052123	96.76918672	96.02940588	95.30091364
200720A00039	7/22/2020	2.48	7/21/2025		101.77004	100.9552713	100.1535345	99.36451409	98.58790916	97.82342815	97.07078865	96.32971691	95.59994761
200720A00042	7/22/2020	2.04	7/21/2026		103.94977	102.1287256	100.3483563	98.60747415	96.90493847	95.23965042	93.61055108	92.01661961	90.45687162
200720A00044	7/22/2020	2.22	7/21/2026		104.27892	102.4547814	100.6713752	98.92751234	97.22205076	95.55389004	93.92196981	92.32526783	90.76279834
200724A00011	7/24/2020	1.41	7/26/2038		111.80228	101.0642101	91.59809596	83.24017077	75.84889098	69.30179468	63.49282114	58.33002018	53.73359295
200730A00002	7/30/2020	0.67	11/6/2024		99.97375	99.87136878	99.76920689	99.66726323	99.56553708	99.46402771	99.36273441	99.26165646	99.16079315
200730A00011	7/30/2020	1.15	7/28/2028		105.54692	101.6825905	97.97943212	94.42991246	91.02689269	87.76360227	84.63361796	81.6308442	78.74949471
200730A00013	7/30/2020	0.74	1/30/2025		100.02586	99.68945614	99.35530846	99.02339326	98.69368827	98.36617151	98.04082128	97.71761618	97.39653509
200803A00011	8/3/2020	0.72	8/4/2025		100.37323	99.52635043	98.69367567	97.87484762	97.06952341	96.27737142	95.49807077	94.73131095	93.97679138
200811A00003	8/11/2020	0.57	8/11/2025		100.3313	99.46448989	98.61256936	97.77515317	96.95187351	96.14237493	95.34631378	94.56335777	93.7931855
200812A00004	8/12/2020	0.59	8/12/2025		100.35149	99.48184326	98.62717959	97.78711217	96.9612697	96.14929338	95.35083641	94.56556344	93.79315016
200813A00019	8/13/2020	1.44	8/13/2030		108.57088	103.0804971	97.91643699	93.05739986	88.48358756	84.1765906	80.11928368	76.29572972	72.6910914
200813A00020	8/13/2020	1.44	8/13/2030		108.57088	103.0804971	97.91643699	93.05739986	88.48358756	84.1765906	80.11928368	76.29572972	72.6910914
200813A00023	8/13/2020	0.86	10/14/2025		100.82803	99.71901522	98.63448773	97.57364321	96.5357107	95.51995244	94.52566203	93.55216286	92.59880652
200814A00003	8/14/2020	0.96	8/14/2035		105.5598	99.96023203	94.776307	89.97208579	85.51505887	81.37579635	77.5276331	73.94638816	70.61011445
200814A00009	8/18/2020	1.36	8/16/2028		106.45001	102.5170264	98.74987472	95.14073261	91.68218568	88.36720512	85.18912566	82.1416248	79.21870352
200814A00011	8/18/2020	1.58	8/16/2030		110.2165	104.1926999	98.53400292	93.21648014	88.21788214	83.51751672	79.09613245	74.93581152	71.01987116
200818A00004	8/18/2020	0.92	8/18/2026		102.0076	100.1301274	98.29615458	96.50442125	94.75370935	93.04284374	91.37069043	89.73615489	88.13818036
200818A00005	8/18/2020	1.05	8/18/2027		103.79747	100.9036013	98.10466165	95.39703772	92.77727788	90.2420798	87.78828322	85.41286301	83.11292263
200818A00006	8/18/2020	1.18	8/18/2028		105.74769	101.8230509	98.06426444	94.46349083	91.01330284	87.70666003	84.53688667	81.49765089	78.58294524
200818A00007	8/18/2020	1.31	8/20/2029		107.75139	102.7784917	98.06225518	93.58816519	89.34260187	85.312778	81.48668395	77.85303658	74.40123177
200818A00008	8/18/2020	1.5	8/18/2031		110.41521	103.396141	96.86708489	90.79142474	85.13544968	79.8681132	74.96081019	70.38717378	66.12288994
200818A00009	8/18/2020	1.7	8/18/2033		113.59621	104.5227503	96.24243859	88.68189505	81.77486992	75.46151842	69.68775287	64.40466315	59.56799806
200818A00010	8/18/2020	1.88	8/20/2035		117.06799	105.9317597	95.95829905	87.01986677	79.00335418	71.80854366	65.34658252	59.53864413	54.31475246
200818A00012	8/18/2020	0.97	8/18/2027		103.47065	100.6412866	97.90598007	95.26107164	92.70307025	90.22864009	87.8345927	85.51787949	83.27558485
200824A00020	8/26/2020	1.57	8/26/2025		101.21376	100.3024553	99.40749235	98.52843079	97.66484987	96.81634355	95.9825199	95.16300047	94.35741969
200825A00007	8/27/2020	4.79	8/27/2026		109.5171	107.5412476	105.6113894	103.7261716	101.8842937	100.0845015	98.32558565	96.60637916	94.92575601
200826A00019	8/26/2020	0.98	8/26/2026		102.15352	100.2532509	98.39745567	96.58482716	94.81410786	93.08408513	91.39358925	89.74149165	88.12670316
200826A00021	8/26/2020	0.83	8/26/2025		100.53691	99.62896667	98.73731441	97.86152239	97.00117073	96.15585422	95.32518172	94.50877556	93.70627094
200826A00029	8/28/2020	1.16	11/27/2024		100.04821	99.88779979	99.72790483	99.56852508	99.40965804	99.25130124	99.09345224	98.9361086	98.7792679

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200827A00007	8/27/2020	0.77	8/27/2025		100.48504	99.57461006	98.68056724	97.80247417	96.93990741	96.09245838	95.25973271	94.44134964	93.63694144
200828A00002	8/28/2020	0.73	8/28/2026		101.83249	99.92719142	98.06665419	96.24956258	94.47464643	92.74068104	91.0464853	89.39091975	87.7728849
200909A00001	9/9/2020	0.98	9/8/2028		105.35767	101.3745829	97.56246033	93.91309776	90.41872863	87.07199721	83.86593468	80.79393677	77.8497427
200910A00006	9/10/2020	0.96	9/10/2027		103.51505	100.6308524	97.84416147	95.15111748	92.54803936	90.03141297	87.5978825	85.24424228	82.96742914
200911A00011	9/11/2020	1.18	9/11/2030		107.14709	101.6527584	96.48898386	91.63393373	87.06733403	82.77034984	78.72547568	74.91643486	71.32808692
200911A00012	9/11/2020	1.18	9/11/2030		107.14709	101.6527584	96.48898386	91.63393373	87.06733403	82.77034984	78.72547568	74.91643486	71.32808692
200911A00013	9/11/2020	0.69	9/11/2025		100.53225	99.51533734	98.51905929	97.54279428	96.5859427	95.6479287	94.72819903	93.82622194	92.94148613
200916A00015	9/16/2020	0.72	9/16/2025		100.499	99.53367324	98.58676584	97.65775596	96.74614025	95.85143403	94.97317051	94.11089993	93.26418881
200922A00015	9/24/2020	1.09	9/24/2025		100.89135	99.90199501	98.93192031	97.98057129	97.0474102	96.13191967	95.23360182	94.35197729	93.48658442
200922A00027	9/24/2020	1.65	9/23/2025		101.44298	100.4534246	99.48308836	98.5314161	97.59787343	96.68194621	95.78313958	94.90097707	94.03499973
200922A00034	9/24/2020	2.24	9/23/2026		104.79769	102.7936387	100.8381706	98.92980366	97.0671131	95.24872721	93.47332488	91.73963337	90.04642619
200922A00036	9/24/2020	1.55	9/23/2025		101.34375	100.3547264	99.38491243	98.43375547	97.50072124	96.58529578	95.68698436	94.80531064	93.93981584
200922A00037	9/24/2020	2.76	9/23/2025		102.54441	101.548975	100.5728412	99.61544913	98.67626266	97.75476596	96.85046255	95.96287436	95.09154092
200922A00039	9/24/2020	3	9/23/2025		102.78255	101.7858507	100.8084634	99.84983465	98.90942789	97.98672699	97.08123508	96.19247377	95.31998226
200925A00002	9/25/2020	0.74	9/25/2025		100.54617	99.55591088	98.58502086	97.63293268	96.69910485	95.7830165	94.8841664	94.00207201	93.13626867
200925A00008	9/25/2020	0.74	9/25/2025		100.54617	99.55591088	98.58502086	97.63293268	96.69910485	95.7830165	94.8841664	94.00207201	93.13626867
200928A00003	9/28/2020	0.55	9/26/2025		100.43828	99.44472382	98.47066586	97.51554149	96.57880354	95.65992574	94.75840172	93.87374407	93.00548349
200928A00009	9/28/2020	1.51	9/28/2032		111.2836	103.1559535	95.67709363	88.79197478	82.45048084	76.60696159	71.21981412	66.25110537	61.66623167
201001A00011	10/1/2020	0.71	6/17/2025		100.24521	99.5302555	98.82545344	98.13058935	97.44545418	96.76984465	96.10356317	95.44641754	94.79822084
201001A00012	10/1/2020	0.74	9/16/2025		100.51846	99.55302867	98.60602071	97.67691161	96.76519795	95.87039505	94.9920361	94.12967129	93.28286713
201007A00008	10/7/2020	1.22	10/7/2030		107.18942	101.7982905	96.73097398	91.96601254	87.4834856	83.26489512	79.29305643	75.55199793	72.02686905
201007A00010	10/7/2020	1.22	10/7/2030		107.18942	101.7982905	96.73097398	91.96601254	87.4834856	83.26489512	79.29305643	75.55199793	72.02686905
201007A00014	10/7/2020	0.8	10/7/2025		100.73179	99.64701281	98.58575055	97.54723966	96.53075247	95.53559212	94.56109088	93.60660869	92.67153172
201014A00002	10/14/2020	0.61	10/15/2024		99.985815	99.9442654	99.90276761	99.86132199	99.81992844	99.77858686	99.73729714	99.69605918	99.65487289
201015A00002	10/15/2020	0.61	10/15/2024		99.985815	99.9442654	99.90276761	99.86132199	99.81992844	99.77858686	99.73729714	99.69605918	99.65487289
201015A00003	10/15/2020	0.75	10/15/2025		100.62165	99.57609089	98.55210856	97.54903649	96.56623976	95.60310889	94.65905863	93.73352675	92.8259729
201015A00020	10/15/2020	0.94	10/15/2027		103.57491	100.602005	97.7319997	94.96072099	92.28418783	89.69860543	87.20035523	84.78598547	82.45220237
201015A00024	10/19/2020	1.53	10/18/2027		105.52201	102.4356003	99.45537643	96.57708643	93.79667782	91.11028373	88.51421323	86.00494212	83.57910435
201015A00025	10/19/2020	1.54	10/18/2027		105.55297	102.4660855	99.48539422	96.60664861	93.82579585	91.13896873	88.54247591	86.03279286	83.60655319
201015A00030	10/19/2020	2.39	10/18/2027		108.185	105.0573339	102.0369061	99.11943328	96.30082879	93.57719299	90.94480345	88.40010581	85.93970506
201015A00032	10/19/2020	2.33	10/19/2026		105.1812	103.1020511	101.0745788	99.09715455	97.16821733	95.28626643	93.44985862	91.65760549	89.90817089
201019A00005	10/19/2020	0.79	10/20/2025		100.68099	99.62137106	98.58389345	97.5678701	96.5726414	95.59757455	94.64206219	93.70552112	92.78739114
201019A00007	10/19/2020	0.64	10/21/2024		99.981574	99.92341629	99.8653417	99.80734976	99.74944027	99.69161308	99.63386799	99.57620484	99.51862344



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201021A00011	10/21/2020	1.11	10/21/2027		104.23349	101.1589822	98.19063296	95.32417966	92.55555964	89.8808969	87.29649229	84.79881425	82.38449017
201021A00012	10/21/2020	1.85	10/19/2035		116.85411	105.5764265	95.49263717	86.46980199	78.39041362	71.15053656	64.65817874	58.83186567	53.599391
201022A00012	10/26/2020	2.25	10/24/2030		114.51158	108.171874	102.2252681	96.64532891	91.40753781	86.48913925	81.86900505	77.5275098	73.44641653
201028A00003	10/30/2020	1.42	2/27/2026		102.04764	100.6350546	99.24878916	97.88817148	96.55255218	95.24130337	93.95381776	92.68950777	91.44780478
201028A00005	10/30/2020	1.85	10/31/2025		101.8824	100.7855285	99.71215927	98.66154506	97.63296861	96.62574257	95.63920789	94.67273239	93.72570939
201028A00011	10/28/2020	0.91	4/28/2026		101.55208	99.98033634	98.44046966	96.93157472	95.45278475	94.00326506	92.58221153	91.1888492	89.82243094
201028A00013	10/28/2020	0.68	10/28/2024		99.978259	99.90073559	99.82333719	99.7460639	99.66891543	99.59189147	99.51499173	99.43821592	99.36156376
201029A00002	10/29/2020	0.59	10/29/2025		100.57996	99.49493019	98.43310419	97.39374928	96.3761591	95.37965662	94.4035926	93.44734417	92.51031355
201029A00004	10/29/2020	1.49	10/29/2038		112.80449	101.838449	92.18960784	83.68589224	76.17892781	69.54063769	63.66034855	58.44232387	53.80365959
201030A00001	11/2/2020	2.54	10/29/2040		132.54941	115.6239992	101.1426467	88.73423614	78.08598726	68.93401886	61.055477	54.26196401	48.39404824
201030A00002	11/2/2020	2.8	10/29/2040		136.69583	119.4549355	104.6910355	92.02906172	81.15280097	71.79538362	63.73135029	56.7700285	50.74999751
201030A00003	11/2/2020	2.58	10/29/2040		133.18732	116.213374	101.6885526	89.24113238	78.55780475	69.37422882	61.46714981	54.64782008	48.75650197
201030A00004	11/2/2020	2.56	10/29/2040		132.86837	115.9186866	101.4155997	88.98768426	78.321896	69.15412384	61.2613134	54.45489205	48.57527511
201030A00005	11/2/2020	2.49	10/29/2040		131.75203	114.8872807	100.4602642	88.10061584	77.49621539	68.3837564	60.54088598	53.77964391	47.94098107
201030A00012	10/30/2020	0.63	10/30/2025		100.62689	99.53883007	98.47409928	97.43195322	96.41168037	95.4125988	94.43405463	93.47542064	92.53609486
201030A00016	10/30/2020	1.14	10/8/2027		104.27349	101.2333101	98.29720927	95.46105109	92.72088742	90.07294954	87.51363872	85.03951756	82.6473017
201030A00017	10/30/2020	1.14	10/15/2027		104.30211	101.242666	98.28844153	95.43522793	92.67901509	90.01597612	87.44245781	84.95497169	82.5501855
201030A00018	10/30/2020	1.15	10/22/2027		104.3618	101.282612	98.30979302	95.43907179	92.66637507	89.98781689	87.39968875	84.89845028	82.48072059
201030A00019	10/30/2020	1.15	10/29/2027		104.39062	101.2921501	98.30120176	95.41343265	92.62470632	89.93107761	87.32878256	84.81422884	82.38398684
201103A00005	11/3/2020	0.89	11/4/2030		103.45697	100.2908465	97.26715498	94.37816377	91.616621	88.97572037	86.44907064	84.03066757	81.71486777
201105A00003	11/6/2020	2.24	11/4/2030		114.49349	108.1240253	102.1511665	96.54813911	91.2901132	86.35405182	81.71857228	77.363819	73.27134673
201105A00016	11/9/2020	2.18	11/8/2027		107.68426	104.5062792	101.4388745	98.47756209	95.61806536	92.85630717	90.18839903	87.61063115	85.11946301
201109A00012	11/9/2020	1.39	11/8/2030		108.41258	102.7376807	97.41130777	92.4099559	87.71183833	83.29674875	79.14593798	75.24200098	71.56877327
201110A00003	11/10/2020	1.12	11/10/2027		104.21756	101.1691184	98.22798016	95.38970594	92.65007232	90.00505775	87.45083151	84.98374315	82.60031276
201116A00011	11/16/2020	0.71	11/15/2024		99.976974	99.84975319	99.72287121	99.59632656	99.47011784	99.34424369	99.21870272	99.0934936	98.96861494
201116A00021	11/16/2020	0.53	11/15/2024		99.963909	99.83659807	99.70962729	99.58299521	99.45670042	99.33074154	99.20511716	99.07982592	98.95486643
201116A00024	11/18/2020	2.36	11/15/2034		121.36025	110.7298487	101.1335786	92.46495997	84.62899989	77.54089907	71.12491067	65.31333184	60.04561235
201116A00025	11/18/2020	1.96	11/15/2032		115.09918	106.6934338	98.96454116	91.85445513	85.31038801	79.28431179	73.73250613	68.61515159	63.89596304
201117A00016	11/17/2020	0.52	11/18/2024		99.961418	99.82582546	99.69061598	99.55578769	99.42133895	99.28726811	99.15357352	99.02025356	98.88730662
201118A00009	11/18/2020	0.61	11/18/2025		100.66788	99.52729043	98.41232555	97.32213115	96.25588988	95.21281999	94.19217338	93.19323386	92.21531543
201119A00021	11/23/2020	2.22	11/21/2030		114.43809	108.0226667	102.0094051	96.3709818	91.08206714	86.11917274	81.46050824	77.08584977	72.97641929
201119A00023	11/23/2020	2.23	11/21/2030		114.50077	108.0834309	102.0683435	96.42817565	91.1375931	86.17310345	81.51291253	77.13679283	73.02596295
201123A00009	11/25/2020	1.02	11/25/2024		100.02416	99.86929502	99.7149164	99.56102179	99.40760891	99.25467549	99.10221927	98.95023801	98.7987295

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201123A00010	11/25/2020	1.48	11/24/2025		101.60842	100.446903	99.31178411	98.20217254	97.11721656	96.05610195	95.01804998	94.0023155	93.00818514
201123A00011	11/25/2020	1.41	11/24/2025		101.52692	100.3659088	99.23128613	98.12216307	97.03768807	95.97704708	94.93946158	93.92418659	92.93050892
201203A00005	12/3/2020	0.78	12/3/2026		102.29838	100.123339	98.00485759	95.94106536	93.93016532	91.97043449	90.06022021	88.19793661	86.38206133
201204A00015	12/8/2020	1.07	12/8/2025		101.1918	99.99429814	98.82493298	97.68271859	96.56671877	95.47603988	94.40982849	93.36726914	92.34758222
201207A00009	12/7/2020	1.01	12/7/2027		103.96847	100.8588278	97.8607911	94.96967718	92.18103233	89.49061778	86.89439775	84.3885283	81.96934677
201207A00021	12/7/2020	1.85	12/7/2050		119.62528	105.3035501	93.28603269	83.15205704	74.56374193	67.24882951	60.98722231	55.6003996	50.94307597
201208A00029	12/10/2020	1.52	12/9/2025		101.73876	100.5350148	99.35958762	98.21148949	97.08977631	95.99354704	94.92194124	93.8741368	92.84934787
201208A00031	12/10/2020	1.43	12/9/2024		100.119	99.92543391	99.73262667	99.54057468	99.34927347	99.15871856	98.96890553	98.77983001	98.59148762
201210A00021	12/10/2020	0.89	12/10/2027		103.99161	100.7778016	97.67905678	94.6905715	91.8077785	89.02633021	86.34208646	83.75110312	81.24962138
201211A00001	12/11/2020	0.95	12/11/2030		105.89056	100.6880939	95.79963826	91.20412003	86.88200426	82.81517212	78.98681034	75.38130993	71.98417328
201215A00001	12/15/2020	0.76	12/15/2025		100.843	99.62848421	98.44297664	97.28544633	96.15491309	95.05044202	93.97114095	92.91615798	91.88467928
201216A00004	12/16/2020	0.74	9/8/2025		100.49383	99.55046394	98.62468822	97.71601795	96.8239828	95.94812953	95.08802124	94.24323663	93.4133693
201216A00013	12/16/2020	0.59	12/16/2025		100.73529	99.51721409	98.32832728	97.16758887	96.03400971	94.92664648	93.84459909	92.78700823	91.75305306
201218A00014	12/18/2020	0.57	12/18/2025		100.71706	99.49359972	98.29958788	97.13397061	95.99574579	94.88395794	93.79769554	92.73608853	91.69830599
201221A00014	12/21/2020	0.76	12/19/2025		100.85681	99.63121156	98.43514347	97.26754936	96.12742303	95.01380517	93.92578066	92.86247607	91.82305728
201221A00015	12/21/2020	0.88	12/4/2026		102.34562	100.1708824	98.05269447	95.98917689	93.97853307	92.01904044	90.10904677	88.24696661	86.43127801
201221A00022	12/21/2020	0.51	12/19/2025		100.69019	99.43714377	98.20944078	97.00632036	95.82705174	94.6709334	93.5372916	92.42547895	91.33487316
201223A00012	12/23/2020	0.91	12/18/2026		102.46388	100.2504441	98.09534095	95.99660842	93.95236521	91.96080905	90.02021266	88.12891989	86.28534211
201223A00013	12/23/2020	0.9	12/11/2026		102.41559	100.2213878	98.08462453	96.00338092	93.97581815	92.00017397	90.07475876	88.19795184	86.36819805
201228A00013	12/28/2020	0.84	12/30/2030		103.32891	100.124526	97.06602573	94.14540214	91.35515002	88.68823004	86.13803668	83.69836851	81.36340069
210104A00006	11/22/2021	0.88	11/20/2026		102.29096	100.1551222	98.074091	96.0460746	94.06935743	92.14229333	90.26330203	88.43086601	86.64352742
210104A00007	11/23/2021	0.88	11/23/2026		102.30299	100.1587419	98.06966336	96.03395184	94.04987466	92.11576949	90.23004091	88.39115701	86.59764641
210104A00009	12/20/2021	0.89	12/18/2026		102.41895	100.2060232	98.05142234	95.95318173	93.90942039	91.91833636	89.97820262	88.08736329	86.24423001
210104A00010	11/22/2021	0.88	11/20/2026		102.29096	100.1551222	98.074091	96.0460746	94.06935743	92.14229333	90.26330203	88.43086601	86.64352742
210104A00011	11/23/2021	0.88	11/23/2026		102.30299	100.1587419	98.06966336	96.03395184	94.04987466	92.11576949	90.23004091	88.39115701	86.59764641
210104A00012	12/20/2021	0.89	12/18/2026		102.41895	100.2060232	98.05142234	95.95318173	93.90942039	91.91833636	89.97820262	88.08736329	86.24423001
210107A00007	1/7/2021	0.84	1/7/2026		101.09738	99.77943504	98.48512951	97.21387816	95.96511693	94.73829972	93.53289771	92.34839868	91.18430637
210114A00009	1/19/2021	2.66	1/17/2030		115.47777	109.8941936	104.6167527	99.62704568	94.90787195	90.44314841	86.21783089	82.2178416	78.43000197
210121A00012	1/22/2021	0.64	10/15/2024		99.987085	99.94553385	99.90403502	99.86258837	99.82119378	99.77985117	99.73856042	99.69732144	99.65613411
210121A00014	1/22/2021	0.64	10/25/2024		99.977901	99.90867716	99.8395596	99.77054804	99.70164224	99.63284195	99.56414693	99.49555695	99.42707176
210125A00006	1/27/2021	2.16	1/26/2027		105.55172	103.1974198	100.9073522	98.67939609	96.51151595	94.40175539	92.34823385	90.34914307	88.40274385
210125A00007	1/27/2021	2.98	1/27/2031		119.58928	112.8304148	106.5033604	100.5782444	95.02740549	89.82522174	84.94795086	80.37358307	76.08170644
210127A00008	1/27/2021	0.93	1/27/2027		102.65814	100.3357206	98.07692928	95.87966616	93.74191465	91.66173652	89.63726836	87.66671817	85.7483622

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210127A00009	1/27/2021	1.3	7/27/2029		107.6252	102.7198582	98.06464672	93.6455768	89.44950951	85.46410169	81.67775383	78.07956156	74.65927054
210127A00010	1/27/2021	1.41	7/26/2030		109.1626	103.2254643	97.64552245	92.39952459	87.46584815	82.82437472	78.45637801	74.3444209	70.47226054
210129A00008	1/29/2021	0.62	10/8/2024		99.993054	99.97088737	99.94874446	99.9266251	99.90452926	99.88245689	99.86040796	99.83838241	99.81638021
210129A00013	1/29/2021	0.65	1/9/2025		99.9796	99.70096283	99.4238868	99.14835855	98.87436506	98.60189346	98.33093101	98.06146511	97.79348332
210201A00001	2/1/2021	0.77	12/16/2025		100.8587	99.64133989	98.45311398	97.29299059	96.15998301	95.05315024	93.97159432	92.91445799	91.88092231
210201A00002	2/1/2021	1.19	2/1/2036		106.57073	100.685717	95.25449281	90.23636365	85.5946604	81.29630953	77.31145315	73.61311179	70.17688479
210201A00003	2/2/2021	0.74	10/15/2025		100.61111	99.56561738	98.54169355	97.53867916	96.55593929	95.59286449	94.64886953	93.7233922	92.81589215
210201A00004	2/3/2021	1.15	2/3/2025		100.17405	99.82635468	99.48106662	99.13816299	98.79761915	98.4594108	98.12351398	97.78990504	97.45856067
210201A00012	2/3/2021	0.75	11/17/2025		100.73414	99.59726903	98.48585815	97.39905657	96.3360548	95.29607848	94.27838651	93.28226929	92.30704704
210208A00004	2/11/2021	0.76	10/15/2025		100.63218	99.5865644	98.56252357	97.55939383	96.57654023	95.61335329	94.66924773	93.74366131	92.83605364
210208A00008	2/11/2021	0.78	11/17/2025		100.76848	99.63140503	98.51978828	97.43278401	96.36958261	95.32940967	94.311524	93.31521592	92.33980561
210209A00029	2/12/2021	0.8	12/15/2025		100.8919	99.67706968	98.49125085	97.33341437	96.20257989	95.09781241	94.01821959	92.96294944	91.93118799
210212A00004	2/12/2021	1.1	2/12/2036		106.51151	100.616315	95.1764061	90.15090491	85.50297649	81.19940225	77.2101974	73.50827135	70.06912609
210212A00006	2/12/2021	0.77	2/12/2026		101.12557	99.71816189	98.33755066	96.98303279	95.65393158	94.34959328	93.06938616	91.81269956	90.578943
210212A00007	2/12/2021	0.76	2/12/2026		101.1019	99.70327769	98.33126426	96.98516464	95.66430655	94.36804053	93.095739	91.84679533	90.62062297
210212A00008	2/12/2021	0.95	10/13/2026		102.28821	100.2558324	98.27385476	96.34070677	94.45487402	92.61490014	90.81938406	89.06697751	87.35638257
210212A00014	2/17/2021	1.38	2/17/2026		101.93067	100.5485559	99.19172859	97.85955073	96.5514094	95.26671151	94.00488306	92.76536833	91.5476292
210212A00016	2/17/2021	1.32	2/18/2025		100.27719	99.88807957	99.50199225	99.11889108	98.73874143	98.36150922	97.98716088	97.61566338	97.24698416
210216A00006	2/16/2021	1.44	2/15/2030		109.42637	103.9051372	98.69389446	93.77370974	89.12689859	84.73693636	80.58837653	76.66677518	72.95862113
210216A00007	2/16/2021	1.3	2/16/2029		107.3802	102.9112186	98.65202713	94.59173762	90.72007981	87.02736482	83.50444935	80.14270215	76.93397284
210216A00008	2/16/2021	0.71	2/17/2026		101.10395	99.72610677	98.37350099	97.04549997	95.74149156	94.46088349	93.20310252	91.96759374	90.75381978
210216A00009	2/16/2021	0.92	2/16/2027		102.91967	100.5320064	98.2112751	95.95523584	93.76173597	91.62870707	89.5541611	87.53618682	85.57294634
210216A00011	2/17/2021	0.83	12/15/2025		100.92858	99.71350878	98.52745651	97.36939039	96.23833	95.13334019	94.05352857	92.99804303	91.96606953
210217A00005	2/17/2021	0.83	2/14/2031		103.63111	100.3295871	97.18195701	94.17959665	91.31442913	88.57888856	85.96588423	83.46876751	81.08130124
210217A00009	2/18/2021	0.68	11/15/2024		99.973144	99.84592722	99.71904904	99.59250817	99.46630323	99.34043285	99.21489566	99.08969029	98.96481538
210218A00010	2/18/2021	1.72	2/18/2031		111.52304	104.9535982	98.81242319	93.06946163	87.69691354	82.66905189	77.9620582	73.55387204	69.42405307
210218A00011	2/22/2021	0.85	10/24/2025		100.75946	99.68840158	98.63994835	97.61338967	96.60804595	95.62326542	94.65842279	93.71291788	92.78617435
210219A00004	2/19/2021	0.91	2/19/2026		101.28189	99.89863951	98.54078813	97.20770146	95.89876163	94.61337088	93.35095071	92.11094115	90.89279998
210219A00008	2/22/2021	0.86	12/1/2025		100.91303	99.73655872	98.58728524	97.46427896	96.36664867	95.29354303	94.24414838	93.21768668	92.21341358
210224A00002	2/25/2021	0.88	11/3/2025		100.82918	99.73023447	98.6550585	97.60288947	96.57299593	95.56467716	94.57726152	93.61010499	92.66258972
210224A00003	2/26/2021	0.9	12/3/2025		100.96806	99.78574147	98.63088486	97.50254465	96.39981691	95.32183834	94.26778406	93.23686543	92.22832814
210224A00004	2/26/2021	0.91	12/18/2025		101.03799	99.81395878	98.61934823	97.4531067	96.314234	95.20177642	94.11482409	93.05250853	92.01400023
210224A00006	2/26/2021	0.88	10/21/2025		100.78073	99.71779114	98.67711875	97.65801695	96.65982103	95.6818933	94.72362178	93.78441891	92.86372034

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210224A00007	2/26/2021	0.68	10/21/2024		99.983922	99.92576221	99.86768569	99.80969181	99.7517804	99.69395128	99.63620427	99.57853919	99.52095588
210225A00003	3/1/2021	0.93	9/24/2025		100.73215	99.7436388	98.77440434	97.82388426	96.89154105	95.97685762	95.07933629	94.19849796	93.33388118
210225A00006	2/25/2021	0.98	2/25/2026		101.40954	100.0076311	98.63175143	97.28124143	95.95546126	94.65379211	93.37563535	92.12041174	90.88756063
210225A00007	2/25/2021	1.79	8/23/2030		111.49467	105.4146453	99.70358134	94.33723898	89.29309257	84.5501968	80.08906819	75.89157615	71.94084261
210225A00012	3/1/2021	0.91	8/25/2025		100.60669	99.70114131	98.81179389	97.9382184	97.07999845	96.23673218	95.40803167	94.5935223	93.79284218
210225A00013	3/1/2021	0.93	10/6/2025		100.77676	99.75505898	98.75393238	97.77276559	96.81096679	95.86796738	94.9432208	94.03620149	93.14640389
210225A00016	3/1/2021	0.88	7/15/2025		100.44803	99.65559126	98.87559507	98.10775194	97.35177954	96.6074042	95.87436063	95.15239158	94.44124753
210226A00002	2/26/2021	0.86	2/26/2025		100.11045	99.69978974	99.29248328	98.8884941	98.48778186	98.09030682	97.69602992	97.30491272	96.91691737
210226A00004	3/1/2021	1.04	12/5/2025		101.14301	99.95408481	98.79289499	97.65848333	96.54993281	95.46636782	94.40695188	93.37088547	92.357404
210226A00012	2/26/2021	2.31	2/26/2036		122.40135	110.486679	99.85976446	90.37388751	81.89975812	74.32336404	67.54409691	61.47311636	56.03192076
210302A00005	3/5/2021	0.92	9/10/2025		100.67211	99.72233968	98.79037965	97.87573394	96.97792378	96.09648789	95.23098171	94.38097667	93.54605941
210303A00006	3/4/2021	0.97	10/10/2025		100.83366	99.80065152	98.78867045	97.79708008	96.82526932	95.87265128	94.93866211	94.02275983	93.12442331
210304A00002	3/5/2021	0.93	7/10/2025		100.47208	99.69323421	98.92640366	98.17131558	97.42770185	96.69530244	95.97386517	95.26314534	94.56290549
210304A00006	3/4/2021	1.02	3/4/2026		101.49693	100.0748664	98.67954757	97.31028527	95.966414	94.64729048	93.35229269	92.080819	90.83228736
210305A00006	3/8/2021	1.02	8/11/2025		100.65522	99.78782823	98.93531346	98.09729152	97.27339533	96.46327012	95.66657293	94.88297208	94.11214676
210305A00013	3/5/2021	2.41	3/5/2036		123.57957	111.5788867	100.8755248	91.32153758	82.78657475	75.15570798	68.32753657	62.2125342	56.73160478
210309A00004	3/11/2021	0.87	11/25/2024		100.00085	99.84601355	99.69166205	99.53779449	99.3844086	99.23150209	99.07907271	98.92711824	98.77563644
210311A00007	3/11/2021	1.06	3/11/2026		101.58257	100.1412333	98.72734744	97.34019743	95.97909193	94.64336299	93.33236502	92.04547386	90.78208593
210312A00008	3/12/2021	1.13	3/12/2026		101.68906	100.2442465	98.82699974	97.43659857	96.07234764	94.73357511	93.41963169	92.12988967	90.86374208
210315A00003	3/15/2021	1.13	3/13/2026		101.69325	100.2457412	98.8259002	97.43300154	96.06634613	94.72525858	93.40908622	92.11719811	90.8489842
210319A00003	3/19/2021	0.95	3/19/2025		100.19278	99.7243355	99.260271	98.80052297	98.34503127	97.89373689	97.4465819	97.00350942	96.56446364
210319A00009	3/19/2021	1.1	3/19/2026		101.74487	100.2427299	98.7706497	97.32779163	95.91334947	94.52654642	93.16663368	91.83288917	90.52461634
210324A00002	3/24/2021	2.06	3/24/2031		113.85299	107.1157622	100.8224162	94.94142322	89.44364755	84.30215442	79.49203299	74.99023453	70.77542432
210324A00003	3/24/2021	1.18	3/24/2026		101.81421	100.3364704	98.88751851	97.46659152	96.07294866	94.70587476	93.36467916	92.04869464	90.75727646
210330A00021	3/30/2021	2.16	3/28/2031		114.52731	107.7576902	101.434377	95.52563478	90.00213916	84.83678396	80.00450242	75.48210391	71.24812456
210330A00022	3/30/2021	1.27	3/30/2026		101.97647	100.4814582	99.01587169	97.57892053	96.16984039	94.78789361	93.43236807	92.10257604	90.79785319
210331A00007	3/31/2021	1.25	3/31/2031		104.83391	101.4572259	98.23954254	95.17186279	92.2457686	89.4533791	86.78731255	84.24065136	81.80690968
210407A00012	4/7/2021	0.94	4/7/2025		100.23005	99.70943846	99.1942215	98.68431599	98.17964004	97.68011346	97.18565769	96.69619575	96.21165223
210407A00013	4/7/2021	1.23	4/7/2026		101.95588	100.438972	98.95218485	97.49469281	96.06570323	94.66445153	93.29020004	91.94223681	90.61987445
210408A00007	4/8/2021	1.05	4/8/2031		104.46499	101.0537253	97.80500335	94.70952551	91.75860031	88.94409618	86.25840157	83.69438812	81.24537667
210409A00010	4/9/2021	1.05	4/9/2031		104.41339	101.0411696	97.82882574	94.76724575	91.84790415	89.06282366	86.40453615	83.86604659	81.44079991
210420A00009	4/20/2021	1.08	12/5/2025		101.19081	100.0015736	98.84008581	97.70538091	96.59654178	95.5126927	94.45299708	93.41665526	92.40290255
210420A00010	4/20/2021	1.08	12/12/2025		101.22119	100.0124903	98.83244577	97.6800472	96.5543327	95.45438453	94.37932658	93.32832206	92.30057131

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210420A00035	4/20/2021	1.92	4/20/2034		111.27854	104.997093	99.19289557	93.82435335	88.85383448	84.24726282	79.97375817	76.00531509	72.31651583
210423A00001	4/23/2021	1.72	4/23/2036		110.42187	104.2255882	98.51406803	93.24323857	88.37344627	83.86897657	79.69763253	75.83036129	72.2409227
210423A00003	4/23/2021	1.31	4/23/2031		105.37451	101.9330317	98.65557018	95.53274626	92.55578657	89.71648316	87.00715316	84.4206016	81.95008713
210428A00006	4/28/2021	1.23	4/28/2026		102.06243	100.4864675	98.94245201	97.42948154	95.9466873	94.49323269	93.06831171	91.67114763	90.30099156
210428A00007	4/28/2021	1.74	10/27/2028		108.35637	104.1877509	100.2023251	96.39107154	92.7454596	89.25742353	85.91933445	82.72397416	79.66451071
210428A00008	4/28/2021	1.93	4/26/2030		111.9376	106.1687385	100.7326763	95.6084911	90.77668436	86.21907612	81.91870884	77.85975891	74.02745506
210428A00015	4/28/2021	2.02	4/28/2031		113.70599	106.8769585	100.5037481	94.55357638	88.99617872	83.80360596	78.9500356	74.41159954	70.16622653
210429A00005	4/29/2021	2.08	4/29/2031		114.11209	107.2670389	100.8787954	94.91449639	89.34381109	84.1387295	79.27337329	74.72382306	70.4679604
210507A00008	5/7/2021	1.94	5/7/2031		113.19615	106.3594491	99.98085924	94.02731988	88.46831787	83.27568234	78.42339319	73.88740621	69.64549327
210507A00009	5/7/2021	2.02	5/7/2032		114.96606	107.0781384	99.78866797	93.04911758	86.81513049	81.04614469	75.70504987	70.75787711	66.17351796
210512A00011	5/12/2021	1.16	5/12/2026		102.07342	100.4307881	98.82299358	97.24899062	95.7077725	94.19837281	92.71986333	91.27135217	89.85198189
210512A00012	5/12/2021	1.16	5/12/2026		102.07342	100.4307881	98.82299358	97.24899062	95.7077725	94.19837281	92.71986333	91.27135217	89.85198189
210514A00007	5/14/2021	0.95	5/15/2028		102.24322	100.3599076	98.5318459	96.75695569	95.03325559	93.35885309	91.73193987	90.15078742	88.61374291
210514A00010	5/14/2021	1.34	5/14/2031		105.45357	102.0166333	98.74419157	95.62678316	92.65556097	89.82225172	87.11911471	84.53890389	82.07483284
210514A00033	5/18/2021	2.8	5/18/2028		111.34735	107.5698158	103.941838	100.4566498	97.10783226	93.88929365	90.79525049	87.82021015	84.95895428
210518A00023	5/18/2021	1.17	5/18/2026		102.0587	100.4290669	98.8331954	97.27010142	95.73884031	94.23850365	92.76821753	91.32714084	89.91446375
210525A00004	5/25/2021	1.02	12/19/2025		101.17756	99.94986781	98.75174105	97.58212217	96.44000403	95.32442644	94.23447341	93.16927068	92.12798334
210526A00014	5/26/2021	1.01	12/19/2025		101.16522	99.9376118	98.73956422	97.57002321	96.42798169	95.31247947	94.22260061	93.15747089	92.11625541
210526A00017	5/26/2021	2.13	5/26/2033		117.19384	108.1863191	99.94409332	92.39803196	85.4855906	79.15014943	73.34042379	68.00993611	63.11654265
210526A00018	5/26/2021	1.11	5/26/2026		101.99485	100.3443657	98.72837159	97.14585455	95.59583896	94.07738718	92.58959762	91.13160302	89.70256874
210527A00019	5/27/2021	1	5/27/2026		101.9491	100.294001	98.67356718	97.08677514	95.5326423	94.01022437	92.5186135	91.05693648	89.62435305
210527A00026	6/1/2021	2.78	6/1/2028		111.39513	107.5778603	103.9129894	100.3935634	97.01298754	93.76500667	90.64368528	87.64338917	84.75876821
210601A00002	6/1/2021	0.9	6/2/2025		100.34115	99.66685902	99.00158667	98.34515192	97.69737971	97.05809959	96.42714553	95.80435583	95.18957293
210603A00008	6/3/2021	1.74	6/3/2036		110.35329	104.2687499	98.65899023	93.4807297	88.69504937	84.26691544	80.164761	76.36011556	72.82727688
210603A00015	6/7/2021	2.71	6/7/2028		111.18622	107.355734	103.6788067	100.1484033	96.75785231	93.50082768	90.37132805	87.36365817	84.47241119
210608A00017	6/10/2021	2.67	6/8/2029		114	109.0782874	104.3992897	99.94970724	95.71704317	91.68955183	87.85618909	84.20656632	80.73090762
210609A00007	6/11/2021	2.6	6/11/2029		113.68785	108.7649003	104.0852027	99.63540466	95.40296081	91.37608125	87.5436815	83.89533618	80.42123592
210609A00013	6/11/2021	1.64	6/11/2025		100.88674	100.1856887	99.49435749	98.81254311	98.14004995	97.47668773	96.82227134	96.17662063	95.53956027
210610A00012	6/11/2021	1.9	6/10/2026		103.41842	101.7143591	100.046517	98.41380332	96.81517235	95.24962028	93.71618289	92.21393359	90.74198153
210610A00014	6/11/2021	2.03	6/10/2026		103.6413	101.9352689	100.26549	98.6308745	97.03037576	95.46298904	93.92774923	92.42372886	90.95003625
210611A00006	6/11/2021	1.85	6/11/2031		112.68612	105.7718281	99.32701403	93.31736259	87.71124138	82.4794776	77.59515408	73.03342337	68.77133809
210611A00010	6/11/2021	1.02	6/11/2026		101.95613	100.2416294	98.56478208	96.92445908	95.31957839	93.74910009	92.21202423	90.70738889	89.23426836
210611A00011	6/11/2021	1.02	6/11/2026		101.95613	100.2416294	98.56478208	96.92445908	95.31957839	93.74910009	92.21202423	90.70738889	89.23426836



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210611A00012	6/11/2021	1.02	6/11/2026		101.95613	100.2416294	98.56478208	96.92445908	95.31957839	93.74910009	92.21202423	90.70738889	89.23426836
210616A00006	2/11/2022	0.86	2/11/2025		100.08585	99.71638957	99.34966352	98.985637	98.6242802	98.26556374	97.90945869	97.55593653	97.20496916
210616A00007	3/18/2022	0.9	3/18/2025		100.16717	99.70154134	99.24023713	98.78319957	98.33036957	97.8816891	97.4371012	96.99654994	96.55998043
210616A00008	5/2/2022	0.95	5/2/2025		100.29433	99.70505284	99.12267153	98.54706457	97.97811438	97.41570606	96.85972737	96.3100686	95.76662254
210616A00009	2/11/2022	0.86	2/11/2025		100.08585	99.71638957	99.34966352	98.985637	98.6242802	98.26556374	97.90945869	97.55593653	97.20496916
210616A00011	5/2/2022	0.95	5/2/2025		100.29433	99.70505284	99.12267153	98.54706457	97.97811438	97.41570606	96.85972737	96.3100686	95.76662254
210616A00012	3/18/2022	0.9	3/18/2025		100.16717	99.70154134	99.24023713	98.78319957	98.33036957	97.8816891	97.4371012	96.99654994	96.55998043
210621A00008	6/21/2021	1.04	6/23/2025		100.50176	99.76934522	99.04756319	98.33617976	97.6349715	96.94372135	96.26221838	95.59025757	94.92763962
210623A00028	6/23/2021	1.22	6/23/2026		102.31784	100.5875854	98.89472674	97.23812002	95.61666588	94.02930982	92.47503987	90.95288441	89.46191011
210624A00004	6/24/2021	1.01	6/24/2025		100.48267	99.74760315	99.02323756	98.30934538	97.60570079	96.91208443	96.22828315	95.55408982	94.88930309
210624A00005	6/24/2021	1.22	6/24/2026		102.32286	100.5897969	98.8942342	97.23502502	95.61106539	94.02129645	92.46470216	90.94030702	89.44717408
210624A00022	6/24/2021	0.87	6/24/2025		100.43765	99.70199074	98.97705776	98.26261783	97.55844445	96.86431762	96.18002357	95.50535458	94.84010873
210624A00025	6/24/2021	1.43	6/24/2027		104.63762	101.8797649	99.20822797	96.61974005	94.11118312	91.67958004	89.32208689	87.03598594	84.81867893
210624A00026	6/24/2021	1.6	6/23/2028		107.11397	103.3145295	99.66980186	96.17259595	92.81610531	89.59388052	86.49980797	83.52809003	80.67322658
210629A00005	6/29/2021	1.25	6/29/2026		102.401	100.6533913	98.94383378	97.27114837	95.63420774	94.03193105	92.46328145	90.92726385	89.42292272
210629A00009	6/29/2021	1.14	12/31/2025		101.3797	100.1176147	98.88669856	97.68581307	96.51387108	95.36983737	94.25272551	93.16159505	92.09554887
210629A00012	6/29/2021	1.14	12/29/2025		101.37068	100.1141696	98.88856019	97.69272888	96.52560194	95.38615669	94.2734185	93.186458	92.12438847
210629A00014	6/29/2021	1.78	12/28/2029		110.65006	105.2480167	100.1413807	95.31242331	90.74457638	86.42235144	82.33126301	78.45775786	74.78914975
210629A00015	6/29/2021	1.89	6/27/2031		113.00813	106.0391712	99.54598645	93.49360351	87.84980187	82.5848812	77.67145098	73.08423887	68.79991605
210701A00007	7/1/2021	1.22	7/1/2026		102.35763	100.6049839	98.89058962	97.21326765	95.57188631	93.96536039	92.39264868	90.85275176	89.34470983
210706A00006	7/6/2021	1.15	7/6/2026		102.25572	100.490652	98.76435359	97.07564126	95.42338382	93.80649532	92.22393274	90.6746938	89.15781499
210706A00014	7/6/2021	1.15	6/26/2026		102.20978	100.4722051	98.77233032	97.10899259	95.48107925	93.88752331	92.32730105	90.79942972	89.30296553
210706A00015	7/6/2021	1.06	12/31/2025		101.27835	100.0169358	98.78668698	97.58645753	96.41516061	95.2717613	94.15527348	93.06475697	91.99931492
210707A00002	7/7/2021	1.12	6/26/2026		102.15701	100.4199131	98.72050812	97.05763155	95.43017103	93.83705981	92.27727437	90.7498322	89.25378969
210707A00008	7/9/2021	2.44	7/7/2031		116.83249	109.7086881	103.0704548	96.88209891	91.11073476	85.72604826	80.70008271	76.00704343	71.62311961
210709A00002	7/9/2021	1.36	7/9/2029		108.26018	103.3751465	98.73711481	94.33230452	90.14777701	86.17138197	82.39170479	78.79801782	75.38023513
210709A00005	7/9/2021	1.69	7/9/2031		111.66007	104.7042158	98.22619093	92.19072814	86.56533959	81.32008398	76.4273542	71.86168358	67.59956935
210709A00006	7/13/2021	2.4	7/11/2031		116.57289	109.4470052	102.8076963	96.61915713	90.84839792	85.46500969	80.44094917	75.75034295	71.36930873
210712A00008	6/27/2022	1.05	6/27/2025		100.52172	99.77827409	99.04576836	98.32396521	97.61263159	96.91154113	96.22047395	95.53921643	94.86756099
210712A00010	6/27/2022	1.05	6/27/2025		100.52172	99.77827409	99.04576836	98.32396521	97.61263159	96.91154113	96.22047395	95.53921643	94.86756099
210714A00012	7/14/2021	1.12	7/14/2026		102.26828	100.4657466	98.70444812	96.98319696	95.30084522	93.65628534	92.0484484	90.47630258	88.93885154
210714A00013	7/14/2021	1.12	7/14/2026		102.26828	100.4657466	98.70444812	96.98319696	95.30084522	93.65628534	92.0484484	90.47630258	88.93885154
210714A00014	7/14/2021	1.12	7/14/2026		102.26828	100.4657466	98.70444812	96.98319696	95.30084522	93.65628534	92.0484484	90.47630258	88.93885154

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210714A00015	7/14/2021	1.11	7/14/2026		102.21545	100.4359266	98.69700466	96.99751725	95.33633434	93.71236568	92.12455909	90.57189894	89.05340454
210714A00020	7/14/2021	0.9	3/14/2025		100.15902	99.70437415	99.25385516	98.80740677	98.36497386	97.92650231	97.49193896	97.06123161	96.63432898
210719A00004	7/19/2021	1	4/20/2026		101.66013	100.1096309	98.5903203	97.10132936	95.64182006	94.21098489	92.80804548	91.43225129	90.08287832
210719A00009	7/19/2021	1.04	7/17/2026		102.10462	100.3115995	98.5584956	96.84413073	95.16737366	93.52713563	91.92236837	90.35206217	88.81524416
210720A00035	7/22/2021	2.27	7/21/2031		115.71175	108.5879169	101.9528278	95.77040715	90.00742368	84.63324815	79.61963706	74.94053527	70.57189603
210721A00009	7/21/2021	1.7	7/21/2031		111.75528	104.7646672	98.25626589	92.19439069	86.54616762	81.28130121	76.37185983	71.79208002	67.51818782
210722A00001	7/22/2021	1.1	7/22/2026		102.23517	100.4275794	98.66046871	96.93266015	95.24302108	93.59046017	91.97392544	90.39240257	88.84491319
210722A00008	7/21/2023	1.84	7/22/2030		111.70438	105.7043979	100.06352	94.75843548	89.7674629	85.07042746	80.64854903	76.48433882	72.56150422
210722A00009	7/21/2023	1.96	7/22/2032		114.73962	106.6572112	99.20302501	92.32499582	85.97561982	80.11153665	74.69314857	69.68427645	65.05184879
210729A00003	7/29/2021	1.11	7/29/2026		102.28378	100.4570404	98.67154748	96.9261279	95.21964734	93.55101098	91.91916184	90.32307923	88.7617772
210729A00004	7/29/2021	1.74	7/29/2031		112.05123	105.0295695	98.49344838	92.4068686	86.73667559	81.45231618	76.52562241	71.93061429	67.64331984
210729A00006	7/29/2021	1.87	11/30/2032		114.40029	105.9818891	98.24506032	91.13106986	84.58652927	78.56288645	73.01596421	67.90554507	63.19499754
210802A00002	8/2/2021	0.7	8/1/2025		100.41455	99.57478468	98.74897366	97.93677109	97.13784314	96.35186682	95.57852954	94.81752869	94.06857123
210803A00005	8/5/2021	2.06	8/4/2026		104.08386	102.2238257	100.406042	98.62930825	96.89246216	95.19438171	93.5339834	91.9102207	90.32208254
210804A00008	8/6/2021	2.28	8/4/2028		109.9955	106.0261605	102.2221263	98.57567129	95.07947369	91.72658915	88.5104292	85.42474118	82.46358948
210809A00010	8/9/2021	1.06	8/7/2026		102.25224	100.3901848	98.57204553	96.79651318	95.06232854	93.36827816	91.7131924	90.09594346	88.51544366
210809A00012	8/9/2021	1.06	8/7/2026		102.25224	100.3901848	98.57204553	96.79651318	95.06232854	93.36827817	91.7131924	90.09594346	88.51544366
210809A00013	8/9/2021	1.05	8/7/2026		102.19792	100.3603378	98.56596509	96.81352108	95.10176739	93.42951066	91.79560058	90.19892809	88.63842353
210809A00014	8/9/2021	1.06	8/7/2026		102.25224	100.3901848	98.57204553	96.79651318	95.06232854	93.36827817	91.7131924	90.09594346	88.51544366
210809A00015	8/9/2021	1.06	8/7/2026		102.25224	100.3901848	98.57204553	96.79651318	95.06232854	93.36827816	91.71319239	90.09594346	88.51544366
210817A00013	8/19/2021	2	8/19/2026		104.0735	102.1731299	100.3167628	98.5031226	96.73097596	94.99913301	93.30644568	91.65180589	90.03414391
210818A00007	8/18/2021	0.81	8/18/2025		100.56425	99.67712079	98.80555177	97.94913885	97.1074895	96.28022461	95.46697796	94.66739569	93.88113574
210826A00008	8/26/2021	0.89	2/26/2025		100.12285	99.71215393	99.30481705	98.90079763	98.50005532	98.1025504	97.70824379	97.31709705	96.92907234
210826A00009	8/26/2021	1.18	8/26/2026		102.53929	100.635212	98.77567549	96.95937687	95.18505658	93.45150007	91.75753577	90.10203333	88.48390186
210826A00013	8/26/2021	1.97	2/28/2033		115.52205	106.8152427	98.8317483	91.50771761	84.7852383	78.6117571	72.93955942	67.72530185	62.92959192
210907A00004	9/7/2021	2.01	9/7/2033		116.4564	107.205748	98.76509336	91.05923451	84.0203048	77.58702719	71.70404441	66.32132025	61.39360402
210907A00006	9/7/2021	2.1	9/7/2034		118.47312	108.1660131	98.84877136	90.42092351	82.792671	75.8837094	69.62218179	63.94375214	58.79078437
210907A00007	9/7/2021	2.35	9/4/2037		124.60409	111.1339238	99.28608669	88.85509467	79.662502	71.55322382	64.39237312	58.06253948	52.46144607
210907A00008	9/7/2021	2.42	9/7/2038		126.85607	112.3082794	99.62728771	88.56129547	78.89373587	70.4381849	63.03402982	56.54277868	50.84491305
210907A00009	9/7/2021	2.5	9/7/2039		129.60807	113.9503327	100.4204386	88.71440871	78.57326004	69.77614175	62.13454686	55.48742725	49.69706719
210907A00010	9/7/2021	2.58	9/7/2040		132.86601	116.0475555	101.6380945	89.27468537	78.65100499	69.50825528	61.62757019	54.82366812	48.93954039
210907A00011	9/7/2021	2.65	9/6/2041		136.38041	118.3644231	103.0572876	90.0302171	78.92467074	69.44051503	61.32623409	54.37082278	48.3970665
210907A00013	9/9/2021	2.14	9/9/2025		101.83176	100.8787636	99.94355798	99.02564394	98.12454521	97.23980284	96.37097444	95.51763347	94.6793685

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210907A00014	9/9/2021	2.45	9/9/2026		105.10348	103.1353736	101.2140696	99.33816592	97.50631557	95.71722043	93.96962937	92.26233617	90.59417756
210907A00015	9/9/2021	2.21	9/9/2026		104.63119	102.6678407	100.7512024	98.879875	97.05251382	95.26782324	93.52455446	91.8215035	90.1575093
210913A00014	9/13/2021	1.15	9/13/2028		102.82325	100.7122947	98.66880501	96.69006294	94.77348264	92.91660075	91.11706963	89.37265117	87.68121084
210913A00015	9/13/2021	1.08	9/14/2026		102.32648	100.444813	98.60899031	96.81758502	95.06922671	93.36259746	91.69642941	90.06950246	88.48064205
210914A00012	9/14/2021	1.18	9/14/2027		104.5366	101.5524781	98.66862165	95.88112332	93.1862498	90.58043371	88.06026522	85.62248415	83.26397256
210914A00014	9/14/2021	0.97	9/14/2026		102.37068	100.4133467	98.50305025	96.63837469	94.81795465	93.04047493	91.30466829	89.60931339	87.95323272
210914A00015	9/14/2021	0.81	9/15/2025		100.66007	99.69554248	98.74938188	97.82106668	96.910096	96.01598752	95.13827669	94.27651585	93.43027353
210914A00017	9/14/2021	1.32	9/14/2028		106.75249	102.7249564	98.87066625	95.18128168	91.64890859	88.26607202	85.02569176	81.92105928	78.94581629
210914A00018	9/14/2021	1.43	9/14/2029		108.85684	103.7748159	98.95853145	94.39275516	90.06320527	85.95648559	82.0600261	78.36202779	74.85141155
210915A00024	9/15/2021	1.1	9/15/2026		102.48382	100.5233625	98.61114963	96.74567785	94.92549893	93.1492202	91.41550202	89.7230553	88.0706392
210915A00025	9/15/2021	1.09	9/15/2026		102.42345	100.4900506	98.6040811	96.76406254	94.96857274	93.21624405	91.50576088	89.83585727	88.20531464
210915A00026	9/15/2021	1.1	9/15/2026		102.48382	100.5233625	98.61114963	96.74567785	94.92549893	93.1492202	91.41550202	89.7230553	88.0706392
210915A00027	9/15/2021	1.1	9/15/2026		102.48382	100.5233625	98.61114963	96.74567785	94.92549893	93.1492202	91.41550202	89.7230553	88.0706392
210916A00008	9/16/2021	1.48	9/15/2028		107.07163	103.0441791	99.18978021	95.50011044	91.96728938	88.5838549	85.34273866	82.23724323	79.26102064
210916A00009	9/16/2021	2.25	9/16/2036		122.28298	109.853731	98.82607897	89.03365364	80.33064388	72.58916263	65.69696311	59.55545579	54.07798543
210917A00004	9/17/2021	1.03	9/17/2025		100.80447	99.83479882	98.88367105	97.95056126	97.03496142	96.13638246	95.25435338	94.38842041	93.53814621
210917A00008	9/17/2021	1.55	9/15/2028		107.35376	103.320685	99.46083521	95.76588325	92.22794207	88.83954324	85.59361242	82.48344645	79.50269188
210917A00012	9/17/2021	1.2	9/11/2026		102.65318	100.7042481	98.80189324	96.94472211	95.13138946	93.36059926	91.63110245	89.94169493	88.29121563
210920A00014	9/9/2022	1.28	9/9/2026		102.80106	100.8561506	98.95759223	97.10399765	95.29403202	93.52640911	91.79988916	90.11327694	88.46541976
210920A00015	9/9/2022	1.28	9/9/2026		102.80106	100.8561506	98.95759223	97.10399765	95.29403202	93.52640911	91.79988916	90.11327694	88.46541976
210921A00006	9/21/2021	1.43	9/21/2028		106.58199	102.7113978	99.00744904	95.46203202	92.06747357	88.81651516	85.702288	82.71828991	79.8583636
210921A00009	9/21/2021	1.28	9/21/2028		106.30927	102.4401295	98.73779297	95.19412846	91.80144732	88.55247675	85.44033494	82.45850775	79.60082699
210924A00003	9/24/2021	2.37	9/24/2036		123.75451	111.2195667	100.0977705	90.22127286	81.44298509	73.63391823	66.68087395	60.48444006	54.9572491
210924A00004	9/24/2021	2.37	9/24/2036		123.75451	111.2195667	100.0977705	90.22127286	81.44298509	73.63391823	66.68087395	60.48444006	54.9572491
210924A00005	9/24/2021	2.37	9/24/2036		123.75451	111.2195667	100.0977705	90.22127286	81.44298509	73.63391823	66.68087395	60.48444006	54.9572491
210924A00011	9/24/2021	2.19	9/25/2034		119.44163	109.0398559	99.64038639	91.14107416	83.45067679	76.48763968	70.17902326	64.45955383	59.27078314
210928A00008	9/28/2021	1.35	9/28/2026		103.03754	101.0377338	99.08681426	97.1832836	95.32569807	93.51266802	91.74285541	90.01497156	88.32777492
210928A00009	9/28/2021	2.18	9/28/2033		118.07594	108.6979656	100.1443177	92.33808118	85.20988785	78.6971413	72.74332466	67.29738214	62.3131664
210928A00010	9/28/2021	1.12	9/26/2025		100.92947	99.93441225	98.95885158	98.00222104	97.06397425	96.14358566	95.24054958	94.35437925	93.48460596
210929A00011	3/16/2022	1.03	3/14/2025		100.21849	99.76368895	99.31301193	98.86640653	98.42381762	97.98519107	97.55047371	97.11961333	96.69255865
210929A00012	3/16/2022	1.03	3/14/2025		100.21849	99.76368895	99.31301193	98.86640653	98.42381762	97.98519107	97.55047371	97.11961333	96.69255865
211007A00005	10/7/2021	0.86	10/7/2024		99.993587	99.8887119	99.78406823	99.67965477	99.57547073	99.47151533	99.36778778	99.26428731	99.16101314
211007A00006	10/7/2021	1.28	10/7/2026		102.94871	100.9240934	98.95028255	97.02564644	95.14862306	93.31771235	91.53147313	89.78852034	88.08752232

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
211014A00012	10/14/2021	1.46	10/14/2031		106.25773	102.533566	98.99845657	95.64094819	92.45036747	89.41676619	86.53086699	83.78401356	81.16812475
211014A00018	10/14/2021	0.8	10/11/2024		99.998129	99.96762486	99.93715555	99.90672142	99.87632241	99.84595846	99.8156295	99.78533545	99.75507625
211015A00029	10/15/2021	0.98	10/15/2024		100.00147	99.95990966	99.91839908	99.87694069	99.83553438	99.79418006	99.75287762	99.71162695	99.67042796
211015A00031	10/15/2021	1.22	10/15/2025		101.11669	100.0683459	99.04161395	98.03583127	97.05036196	96.08459569	95.13794633	94.20985081	93.29976798
211019A00009	10/19/2021	1.48	10/9/2026		103.35986	101.3269575	99.34425107	97.41017681	95.5232338	93.68197828	91.88502102	90.13102481	88.41870212
211019A00011	10/19/2021	1.48	10/16/2026		103.39758	101.3454339	99.34425773	97.39244916	95.48847258	93.63085143	91.81816547	90.04904817	88.32218428
211022A00008	10/22/2021	1.12	10/22/2024		100.01014	99.94919144	99.88833122	99.8275593	99.76687546	99.70627953	99.64577131	99.58535061	99.52501723
211026A00012	10/26/2021	1.52	10/26/2026		103.53542	101.4548768	99.42642871	97.44842815	95.51928869	93.6374858	91.80155388	90.01008353	88.26171891
211026A00013	10/26/2021	1.52	10/26/2026		103.53542	101.4548768	99.42642871	97.44842815	95.51928869	93.6374858	91.80155388	90.01008353	88.26171891
211028A00012	10/28/2021	1.64	10/15/2027		105.84616	102.7628571	99.78538092	96.9095051	94.13119976	91.44661909	88.85209175	86.34411189	83.91933053
211028A00013	10/28/2021	1.65	10/22/2027		105.91565	102.8123053	99.81594731	96.92228647	94.12722946	91.42687103	88.81748416	86.29551073	83.85755284
211028A00019	10/28/2021	1.1	10/28/2024		100.01094	99.93338726	99.85596179	99.77866147	99.70148601	99.6244351	99.54750847	99.47070581	99.39402682
211028A00020	10/28/2021	2.05	1/28/2031		113.58974	107.0164397	100.8666327	95.11088916	89.72196915	84.67464636	79.94554975	75.51301832	71.35696799
211028A00021	10/28/2021	2.28	10/28/2033		119.10406	109.6012689	100.9391273	93.03866471	85.82871684	79.24511457	73.22996365	67.73100184	62.70102489
211110A00012	11/10/2021	1.44	11/10/2026		103.44509	101.3299869	99.26959304	97.26209065	95.30573857	93.39886785	91.53987801	89.72723359	87.95946095
211110A00013	11/10/2021	1.44	11/10/2026		103.44509	101.3299869	99.26959304	97.26209065	95.30573857	93.39886785	91.53987801	89.72723359	87.95946095
211110A00014	11/10/2021	1.44	11/10/2026		103.44509	101.3299869	99.26959304	97.26209065	95.30573857	93.39886785	91.53987801	89.72723359	87.95946095
211115A00032	11/15/2021	1.75	11/12/2027		106.35192	103.1837653	100.1263412	97.17514156	94.32586824	91.57442426	88.91690303	86.34957816	83.86889396
211117A00010	11/17/2021	1.18	11/18/2024		100.04059	99.90502485	99.76984186	99.63503874	99.50061384	99.36656555	99.23289224	99.09959231	98.96666416
211119A00009	11/19/2021	1.68	11/19/2027		106.17168	102.9867977	99.91380916	96.9481317	94.08540008	91.32145465	88.65233024	86.07424574	83.58359425
211123A00011	11/23/2021	1.69	11/23/2026		104.06633	101.9025335	99.79431496	97.73985092	95.73739755	93.78528176	91.8818977	90.0257035	88.21521813
211123A00012	11/23/2021	2.27	11/23/2033		119.11462	109.5409484	100.8200548	92.87129687	85.62205352	79.0068894	72.96681	67.44859734	62.40421723
211129A00011	11/29/2021	1.53	11/20/2026		103.70054	101.5491398	99.45286421	97.40991138	95.41855689	93.477146	91.58409021	89.73786408	87.93700209
211129A00012	11/29/2021	1.53	11/25/2026		103.72966	101.5640411	99.4541614	97.3981972	95.39439534	93.441074	91.53661915	89.67948123	87.86817198
211206A00008	12/6/2021	1.24	12/6/2024		100.07647	99.89121833	99.70666309	99.52279762	99.33961799	99.15712035	98.97530084	98.79415565	98.61368099
211206A00009	12/6/2021	1.43	12/5/2025		101.60898	100.4171008	99.25300544	98.1157347	97.0043703	95.91803546	94.85589254	93.81714091	92.80101491
211206A00010	12/6/2021	1.54	12/4/2026		103.80266	101.6115607	99.4773478	97.39813229	95.37210803	93.3975433	91.47277708	89.59621543	87.76632824
211206A00017	12/6/2021	1.56	12/4/2026		103.84681	101.6552176	99.52051912	97.44082791	95.41433757	93.43931612	91.51410224	89.63710176	87.8067843
211207A00011	12/7/2021	1.62	12/1/2026		103.96218	101.7773576	99.64908129	97.57548095	95.55476726	93.58522426	91.66520571	89.79313163	87.96748504
211207A00012	12/7/2021	1.62	12/4/2026		103.97927	101.7861884	99.65003306	97.56891476	95.5410262	93.56463456	91.63807772	89.75976074	87.92815251
211207A00017	12/7/2021	1.3	11/15/2024		100.05229	99.92499732	99.79804067	99.6714215	99.54513842	99.41919007	99.29357506	99.16829203	99.04333964
211208A00012	12/8/2021	1.62	12/8/2026		103.98468	101.7898314	99.65331694	97.57317698	95.54753261	93.57458278	91.65260044	89.77992881	87.95497788
211208A00013	12/8/2021	1.63	12/8/2026		104.04948	101.8335882	99.67672573	97.57690603	95.532226	93.54086152	91.6010634	89.71115368	87.86952206

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
211209A00006	12/9/2021	1.61	12/8/2026		103.97987	101.7760235	99.62960691	97.53870557	95.50148832	93.51619987	91.58115696	89.69474471	87.8554132
211209A00007	12/9/2021	1.61	12/8/2026		103.97987	101.7760235	99.62960691	97.53870557	95.50148832	93.51619987	91.58115696	89.69474471	87.8554132
211210A00014	12/10/2021	1.54	12/10/2025		101.7685	100.5617992	99.3835542	98.23276451	97.10847953	96.00979211	94.93583608	93.88578396	92.85884483
211210A00015	12/10/2021	1.63	12/10/2026		104.03569	101.825839	99.67367721	97.57728317	95.53481336	93.54450086	91.60465143	89.71363984	87.86990644
211210A00016	12/10/2021	1.76	12/10/2027		106.552	103.3031654	100.170112	97.14802662	94.23232518	91.41864347	88.70282513	86.08091019	83.54912432
211213A00011	12/13/2021	1.32	12/13/2024		100.10603	99.90146972	99.6977546	99.49488388	99.29285224	99.09165441	98.89128515	98.69173929	98.49301168
211214A00014	12/14/2021	1.31	12/13/2024		100.10398	99.89941956	99.69570731	99.49283945	99.29081066	99.08961567	98.88924925	98.68970621	98.49098142
211214A00015	12/14/2021	1.49	12/12/2025		101.71902	100.5071195	99.32392596	98.16842947	97.03966675	95.93671872	94.85870799	93.80479654	92.77418354
211217A00021	12/21/2021	2.44	12/18/2026		105.90132	103.6486412	101.4551146	99.31875024	97.23764363	95.2099702	93.23398124	91.30799996	89.43041785
211220A00006	12/20/2021	1.21	12/20/2024		100.09601	99.87218193	99.64936904	99.42756226	99.20675473	98.98693965	98.76811028	98.55025993	98.33338199
211221A00010	12/21/2021	1.31	12/20/2024		100.11848	99.89461915	99.67177254	99.44993215	99.22909114	99.00924268	98.79038005	98.57249655	98.35558557
211221A00023	12/21/2021	1.53	6/19/2026		102.83701	101.1131549	99.42636219	97.77550304	96.15949398	94.57729543	93.02790946	91.5103777	90.02377929
211221A00025	12/21/2021	1.59	12/21/2026		104.00848	101.7693335	99.58927555	97.46630788	95.39852046	93.3840838	91.42124476	89.50832266	87.64370555
211222A00003	12/22/2021	1.33	1/15/2025		100.18593	99.89042374	99.59667544	99.30466556	99.01437861	98.72579925	98.43891236	98.15370297	97.87015632
211222A00004	12/22/2021	1.26	10/15/2024		100.01332	99.97174856	99.9302283	99.88876024	99.84734429	99.80598032	99.76466825	99.72340797	99.68219937
211222A00027	12/22/2021	1.26	10/15/2024		100.01332	99.97174856	99.9302283	99.88876024	99.84734429	99.80598032	99.76466825	99.72340797	99.68219937
211222A00029	12/22/2021	1.26	10/15/2024		100.01332	99.97174856	99.9302283	99.88876024	99.84734429	99.80598032	99.76466825	99.72340797	99.68219937
211222A00030	12/22/2021	1.33	1/15/2025		100.18593	99.89042374	99.59667544	99.30466556	99.01437861	98.72579925	98.43891236	98.15370297	97.87015632
211222A00031	12/22/2021	1.33	1/15/2025		100.18593	99.89042374	99.59667544	99.30466556	99.01437861	98.72579925	98.43891236	98.15370297	97.87015632
211222A00035	12/22/2021	2.15	12/22/2033		118.09765	108.4930829	99.75176382	91.79138895	84.53790861	77.92465867	71.8915885	66.38457342	61.35480183
211227A00005	12/27/2021	1.61	12/18/2026		104.03657	101.8051748	99.6324923	97.51654259	95.45543376	93.44735337	91.4905643	89.58340097	87.72426566
211227A00009	12/27/2021	1.6	12/23/2026		104.04231	101.7973995	99.61183518	97.48361229	95.41080833	93.39158205	91.42416926	89.50687885	87.63808905
220104A00006	1/4/2022	1.76	1/4/2029		108.30521	104.3163529	100.5063204	96.86607339	93.38707654	90.06126887	86.88103489	83.83917776	80.92889402
220106A00007	1/6/2022	2.42	1/6/2034		120.6883	110.927336	102.0440462	93.95461007	86.58362611	79.86322813	73.73229597	68.13575293	63.02393958
220106A00008	1/6/2022	2.5	1/5/2035		123.00432	112.1577939	102.3768947	93.55074882	85.58056762	78.37827606	71.86530026	65.97149791	60.63421391
220106A00009	1/6/2022	2.57	1/4/2036		125.19044	113.2633173	102.6056257	93.07458149	84.54417592	76.90312768	70.05309253	63.90709877	58.38817908
220106A00010	1/6/2022	2.64	1/6/2037		127.41683	114.3988462	102.8717205	92.65528275	83.59205072	75.54426709	68.3913369	62.02760956	56.36045736
220106A00011	1/6/2022	2.7	1/6/2038		129.66973	115.563882	103.1846751	92.30928465	82.74478815	74.32401575	66.90199271	60.35288904	54.56740186
220106A00013	1/6/2022	2.75	1/6/2039		132.04334	116.8387563	103.6125603	92.09346547	82.04881553	73.27890088	65.61213912	58.90098154	53.01843342
220106A00018	1/10/2022	3.11	1/8/2032		122.63464	114.7978101	107.5263258	100.7762488	94.50728611	88.68246525	83.26784355	78.23224468	73.54701941
220106A00019	1/10/2022	3.17	1/7/2033		125.44833	116.4819341	108.238914	100.6567507	93.67865172	87.25299534	81.33283404	75.87544839	70.84194557
220111A00002	1/11/2022	1.75	1/16/2026		102.24392	100.9419009	99.66719483	98.41894951	97.19634618	95.99860006	94.82495858	93.67469976	92.54713061
220111A00005	1/11/2022	1.54	1/10/2025		100.33291	99.96756824	99.6049014	99.24487712	98.88746647	98.53264096	98.18037251	97.83063344	97.48339648



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220112A00004	1/12/2022	1.55	1/12/2026		102.06476	100.7708684	99.50532086	98.26718616	97.05557475	95.86963569	94.70855452	93.57155136	92.457879
220112A00005	1/12/2022	1.55	1/12/2026		102.06476	100.7708684	99.50532086	98.26718616	97.05557475	95.86963569	94.70855452	93.57155136	92.457879
220112A00008	1/12/2022	1.47	11/20/2024		100.08404	99.94291064	99.8021901	99.66187855	99.52197417	99.38247518	99.24337978	99.10468619	98.96639264
220114A00007	1/14/2022	1.7	1/27/2026		102.23965	100.9141805	99.61331591	98.33640927	97.08283434	95.8519866	94.64328236	93.45615783	92.29006827
220114A00009	1/14/2022	1.74	4/21/2026		102.83035	101.2675156	99.73612351	98.23529942	96.76419717	95.32200146	93.9079265	92.5212146	91.16113498
220114A00010	1/14/2022	1.86	1/13/2027		104.76304	102.4532012	100.2056462	98.01828336	95.88911025	93.81620621	91.79772835	89.83190773	87.91704573
220118A00009	1/18/2022	1.65	1/17/2025		100.28794	99.98674881	99.6873741	99.38980288	99.09401878	98.80000564	98.50774748	98.21722853	97.9284332
220121A00013	1/21/2022	1.78	11/3/2025		101.82458	100.7197554	99.63879358	98.58092476	97.54541534	96.53156252	95.53869268	94.56615988	93.61334443
220121A00014	1/21/2022	1.78	11/3/2025		101.82458	100.7197554	99.63879358	98.58092476	97.54541534	96.53156252	95.53869268	94.56615988	93.61334443
220124A00007	1/24/2022	1.88	1/22/2027		104.86671	102.5313788	100.2595648	98.04915989	95.89814195	93.80456901	91.76657533	89.78236786	87.85022288
220124A00008	1/24/2022	1.88	1/22/2027		104.86671	102.5313788	100.2595648	98.04915989	95.89814195	93.80456901	91.76657533	89.78236786	87.85022288
220125A00010	1/25/2022	1.89	1/25/2027		104.90933	102.5654026	100.2854037	98.06722392	95.90883456	93.80828617	91.76370512	89.77329006	87.83530864
220126A00002	1/26/2022	1.9	12/18/2026		104.68811	102.4492775	100.2693121	98.1462296	96.0781336	94.06320744	92.09970998	90.1859717	88.32039112
220126A00003	1/26/2022	1.9	12/18/2026		104.68811	102.4492775	100.2693121	98.1462296	96.0781336	94.06320744	92.09970998	90.1859717	88.32039112
220131A00003	1/31/2022	1.98	2/1/2027		105.16866	102.8024304	100.5011736	98.26275247	96.08511587	93.96629116	91.90438088	89.89755944	87.94406996
220131A00006	1/31/2022	1.83	2/1/2027		105.00557	102.6373493	100.3342424	98.0941052	95.91487976	93.79458713	91.73132386	89.72325867	87.76862929
220201A00011	2/1/2022	1.86	4/20/2026		103.01257	101.4510303	99.92087204	98.42122416	96.95124342	95.51011732	94.09706264	92.71132419	91.35217349
220203A00009	2/3/2022	1.99	2/2/2027		105.20011	102.8305166	100.5260555	98.28458708	96.1040526	93.98247234	91.91794212	89.90862993	87.95277284
220204A00004	2/4/2022	2.08	1/8/2027		105.23866	102.936734	100.6965418	98.51599839	96.393108	94.32595778	92.31271359	90.35161611	88.44097706
220204A00005	2/4/2022	1.83	1/10/2025		100.3142	100.0322094	99.75181679	99.4730056	99.1957624	98.92007389	98.64592695	98.37330857	98.10220592
220209A00010	2/9/2022	2.14	1/11/2027		105.39824	103.0863432	100.8366137	98.64696606	96.51539723	94.4399867	92.41889218	90.45034577	88.5326503
220209A00011	2/9/2022	2.14	1/11/2027		105.39824	103.0863432	100.8366137	98.64696606	96.51539723	94.4399867	92.41889218	90.45034577	88.5326503
220209A00012	2/9/2022	1.98	7/29/2025		101.41126	100.5760666	99.75458571	98.94647852	98.15142063	97.36909803	96.59920668	95.84145217	95.09554933
220209A00013	2/9/2022	1.98	7/29/2025		101.41126	100.5760666	99.75458571	98.94647852	98.15142063	97.36909803	96.59920668	95.84145217	95.09554933
220211A00010	2/11/2022	1.99	2/11/2025		100.58931	100.1743966	99.76305443	99.35524055	98.95090891	98.55001425	98.1525121	97.75835878	97.36751133
220214A00010	2/14/2022	2.46	12/21/2029		114.24742	108.7705107	103.5907118	98.69029103	94.05267296	89.66235709	85.50484172	81.56655393	77.83478478
220214A00012	2/14/2022	2.47	12/28/2029		114.34076	108.8421224	103.6426812	98.7245267	94.07091884	89.66620661	85.49575093	81.5458533	77.80369005
220216A00002	2/16/2022	2.09	2/14/2025		100.55806	100.1792906	99.8033808	99.43029734	99.06000831	98.69248231	98.32768838	97.96559607	97.60617535
220216A00003	2/16/2022	2.49	12/14/2029		114.36684	108.9061158	103.7406336	98.85283337	94.22629367	89.84565434	85.69654157	81.76549902	78.03992409
220217A00011	2/17/2022	2.08	2/14/2025		100.55426	100.1755002	99.79959905	99.42652421	99.05624374	98.68872626	98.32394081	97.96185692	97.60244458
220217A00012	2/17/2022	2.28	2/16/2027		106.0085	103.5871374	101.2333352	98.94483719	96.71947538	94.55516637	92.44990766	90.40177398	88.40891385
220217A00013	2/17/2022	2.08	2/14/2025		100.55426	100.1755002	99.79959905	99.42652421	99.05624374	98.68872626	98.32394081	97.96185692	97.60244458
220217A00015	2/17/2022	2.28	2/16/2027		106.0085	103.5871374	101.2333352	98.94483719	96.71947538	94.55516637	92.44990766	90.40177398	88.40891385

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220217A00016	2/17/2022	2.24	9/15/2026		104.73627	102.7551528	100.8215443	98.93401678	97.09119134	95.29173987	93.53438265	91.81788631	90.14106179
220217A00017	2/17/2022	2.27	1/29/2027		105.83319	103.4673983	101.1663165	98.92781855	96.74986	94.63047524	92.567774	90.55993799	88.60521769
220217A00018	2/17/2022	2.28	2/17/2027		106.01705	103.5925754	101.2358264	98.94453578	96.71652783	94.54971204	92.44207914	90.39169743	88.39670935
220217A00020	2/17/2022	2.08	2/13/2025		100.54924	100.17324	99.8000588	99.42966328	99.06202224	98.69710495	98.33488112	97.97532092	97.61839496
220217A00027	2/16/2024	2.56	2/17/2032		118.75508	110.9462673	103.7114796	97.00548393	90.78682621	85.01750182	79.66265247	74.69029111	70.07105216
220218A00003	2/18/2022	2.16	9/4/2026		104.49553	102.5474681	100.6454317	98.7880597	96.97403587	95.20209158	93.47100377	91.7795929	90.12672116
220222A00018	2/22/2022	2.5	12/19/2031		118.02025	110.4030688	103.3350527	96.7736362	90.6797724	85.01762344	79.75428019	74.85950808	70.30551629
220224A00010	2/24/2022	2.04	3/10/2025		100.65977	100.214778	99.77372059	99.33654834	98.90320999	98.47365515	98.04783428	97.62569874	97.20720072
220224A00018	2/24/2022	2.15	3/16/2026		103.21063	101.7434597	100.3044589	98.89288784	97.50803079	96.14919655	94.81571728	93.50694754	92.22226331
220224A00023	2/24/2022	2.15	3/16/2026		103.21063	101.7434597	100.3044589	98.89288784	97.50803079	96.14919655	94.81571728	93.50694754	92.22226331
220225A00014	2/25/2022	2.42	2/23/2029		112.06852	107.4860475	103.1179872	98.95320504	94.98120457	91.19208446	87.5765017	84.1256373	80.83116425
220225A00015	2/25/2022	2.26	2/25/2027		106.03665	103.5878922	101.2081502	98.89509255	96.64648308	94.46017385	92.33410126	90.26628212	88.25481007
220301A00013	3/1/2022	2.01	2/16/2027		105.35668	102.9432819	100.5972719	98.31639867	96.09849916	93.94149481	91.84338774	89.80225716	87.81625587
220301A00014	3/1/2022	1.85	1/10/2025		100.31986	100.0378576	99.75745478	99.47863346	99.20138017	98.92568162	98.65152468	98.37889634	98.10778376
220301A00015	3/1/2022	2	1/4/2027		105.02744	102.7387802	100.5112681	98.34283033	96.23148047	94.17531571	92.17251265	90.22132319	88.32007068
220302A00010	3/2/2022	2.14	1/13/2027		105.41242	103.0949491	100.8399166	98.6452331	96.5088916	94.42896695	92.40361194	90.43105348	88.50958901
220302A00011	3/2/2022	2.14	1/13/2027		105.41242	103.0949491	100.8399166	98.6452331	96.5088916	94.42896695	92.40361194	90.43105348	88.50958901
220304A00004	3/4/2022	2.12	12/29/2028		110.3505	105.9655829	101.7796802	97.78264387	93.96490468	90.31743563	86.83171776	83.49970825	80.3138108
220308A00011	3/8/2022	2.07	1/10/2025		100.3821	100.0999874	99.81947268	99.54053995	99.26317571	98.98736668	98.7130997	98.44036179	98.1691401
220308A00012	3/8/2022	2.51	3/8/2032		115.56618	109.0687599	103.024473	97.39835928	92.15835923	87.27506142	82.72146936	78.47279038	74.50624385
220309A00010	3/9/2022	2.27	3/8/2027		106.14551	103.6647254	101.2546801	98.91295951	96.63724461	94.4253093	92.27501595	90.18431133	88.15122271
220310A00008	3/10/2022	2.22	3/10/2025		100.91056	100.3836694	99.8623022	99.34637352	98.83579832	98.33049334	97.83037704	97.33536957	96.84539271
220310A00009	3/10/2022	2.31	3/10/2027		106.19999	103.7334063	101.3385769	99.01298253	96.75420517	94.55992712	92.42792614	90.35607075	88.342316
220310A00010	3/10/2022	2.31	3/10/2027		106.19999	103.7334063	101.3385769	99.01298253	96.75420517	94.55992712	92.42792614	90.35607075	88.342316
220311A00013	3/15/2022	2.35	3/15/2027		106.39623	103.8933234	101.4623007	99.10068429	96.80610108	94.57627358	92.40901559	90.3022279	88.25389429
220314A00004	3/14/2022	2.44	3/12/2027		106.59677	104.0994885	101.6736838	99.31690353	97.02679527	94.80110126	92.63765387	90.53437146	88.48925437
220314A00005	3/14/2022	2.36	3/14/2025		100.82696	100.370525	99.91823115	99.47001943	99.02583454	98.58562224	98.14932926	97.71690328	97.28829291
220314A00006	3/14/2022	2.36	3/14/2025		100.82696	100.370525	99.91823115	99.47001943	99.02583454	98.58562224	98.14932926	97.71690328	97.28829291
220314A00007	3/14/2022	2.44	3/12/2027		106.59677	104.0994885	101.6736838	99.31690353	97.02679527	94.80110126	92.63765387	90.53437146	88.48925437
220314A00008	3/14/2022	2.38	7/28/2025		101.73888	100.9049541	100.0846626	99.27767686	98.48367508	97.70234582	96.93338752	96.17650813	95.43142471
220314A00009	3/14/2022	2.38	7/28/2025		101.73888	100.9049541	100.0846626	99.27767686	98.48367508	97.70234582	96.93338752	96.17650813	95.43142471
220315A00014	3/15/2022	2.78	3/15/2032		120.56066	112.6103252	105.2485511	98.42857291	92.1075745	86.2463333	80.80890174	75.7623183	71.07634542
220315A00015	3/15/2022	3.18	3/13/2037		134.4463	120.831213	108.7827033	98.10990706	88.64620698	80.24604237	72.78214964	66.14317662	60.23161846

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220315A00018	3/15/2022	2.43	3/15/2027		106.59539	104.0899827	101.6565094	99.29249621	96.99556822	94.76344646	92.59394322	90.48495785	88.43447272
220315A00036	3/17/2022	2.63	3/16/2027		107.10168	104.5871739	102.1449029	99.77237427	97.46720163	95.22709484	93.04985563	90.93337334	88.87562078
220315A00037	3/17/2022	2.63	3/16/2027		107.10168	104.5871739	102.1449029	99.77237427	97.46720163	95.22709484	93.04985563	90.93337334	88.87562078
220317A00011	3/17/2022	2.48	3/17/2025		100.9011	100.4362191	99.97562514	99.5192617	99.0670705	98.61899438	98.17497719	97.73496381	97.29890012
220317A00023	5/3/2022	2.52	5/2/2025		101.22571	100.6333024	100.0478146	99.46912687	98.89712132	98.33168272	97.77269845	97.22005849	96.67365529
220317A00026	5/3/2022	2.59	5/3/2027		107.41352	104.7611137	102.1880392	99.69143485	97.26856368	94.91680547	92.63365076	90.41669541	88.26363538
220317A00027	5/3/2022	2.59	5/3/2027		107.41352	104.7611137	102.1880392	99.69143485	97.26856368	94.91680547	92.63365076	90.41669541	88.26363538
220317A00028	5/3/2022	2.59	5/3/2027		107.41352	104.7611137	102.1880392	99.69143485	97.26856368	94.91680547	92.63365076	90.41669541	88.26363538
220323A00016	6/2/2022	2.78	6/2/2025		101.61789	100.9387565	100.268691	99.60750811	98.95503219	98.31109205	97.67552101	97.04815669	96.42884089
220323A00017	6/2/2022	2.78	6/2/2025		101.61789	100.9387565	100.268691	99.60750811	98.95503219	98.31109205	97.67552101	97.04815669	96.42884089
220324A00007	3/24/2022	2.72	3/24/2025		101.06246	100.5778574	100.0979065	99.62253763	99.15168528	98.68528523	98.22327446	97.76559112	97.31217454
220324A00015	3/24/2022	2.79	3/3/2026		104.0404	102.6018581	101.1902958	99.80501796	98.44535386	97.11065515	95.80029492	94.51366681	93.25018417
220325A00010	3/28/2022	2.78	3/21/2025		101.06983	100.5934723	100.12161	99.65417967	99.19111881	98.73236625	98.27786194	97.82754695	97.38136342
220325A00011	3/28/2022	2.79	4/25/2025		101.33332	100.7598237	100.1928125	99.63217844	99.07781447	98.52961572	97.98747969	97.45130616	96.9209971
220325A00012	3/28/2022	2.85	3/23/2026		104.30614	102.8116504	101.3461891	99.90898552	98.49929372	97.11639343	95.75958908	94.4282087	93.12160293
220325A00015	3/28/2022	2.86	3/23/2027		107.73801	105.1963765	102.7282312	100.3310271	98.00231945	95.73976284	93.54110674	91.40419096	89.32694142
220325A00017	3/28/2022	2.86	3/23/2027		107.73801	105.1963765	102.7282312	100.3310271	98.00231945	95.73976284	93.54110674	91.40419096	89.32694142
220325A00018	3/28/2022	2.85	9/10/2026		105.9	103.9210738	101.9892305	100.1030638	98.26121674	96.46238178	94.70529881	92.98875301	91.31157289
220325A00019	3/28/2022	2.86	3/23/2027		107.73801	105.1963765	102.7282312	100.3310271	98.00231945	95.73976284	93.54110674	91.40419096	89.32694142
220325A00020	3/28/2022	2.86	3/23/2027		107.73801	105.1963765	102.7282312	100.3310271	98.00231945	95.73976284	93.54110674	91.40419096	89.32694142
220329A00007	3/29/2022	2.94	3/29/2029		114.68875	109.9523401	105.4412139	101.1434595	97.04785698	93.14383528	89.42143113	85.87125096	82.48443531
220329A00009	3/29/2022	2.94	3/29/2029		114.68875	109.9523401	105.4412139	101.1434595	97.04785698	93.14383528	89.42143113	85.87125096	82.48443531
220331A00010	3/31/2022	2.83	2/18/2026		103.97108	102.5710161	101.1966	99.84718248	98.52214024	97.22087011	95.94278842	94.6873302	93.4539484
220331A00011	3/31/2022	2.73	10/15/2024		100.07553	100.0339028	99.99233172	99.95081292	99.90934628	99.8679317	99.82656907	99.7852583	99.74399928
220331A00012	3/31/2022	2.81	3/17/2025		101.05482	100.5895165	100.1285078	99.6717323	99.21913177	98.77064897	98.32622775	97.88581296	97.44935044
220401A00009	4/1/2022	2.98	4/1/2027		108.12408	105.5528098	103.0565236	100.6326002	98.27852277	95.99187835	93.77035228	91.61172377	89.51386144
220404A00010	4/4/2022	2.93	4/2/2027		108.00693	105.4343246	102.9368117	100.5117614	98.15665133	95.8690628	93.646676	91.48726523	89.38869452
220404A00014	4/4/2022	2.94	4/5/2027		108.06152	105.4797053	102.9734224	100.5400162	98.17694287	95.88176383	93.65214036	91.48582901	89.38067699
220407A00014	4/7/2022	3.14	4/6/2029		113.18718	109.1553391	105.3069839	101.6325507	98.12303188	94.76994043	91.56527699	88.50149886	85.57149126
220407A00017	4/7/2022	3.16	4/6/2029		114.11815	109.8261599	105.7337881	101.8305014	98.10638848	94.55211555	91.15888906	87.91842137	84.82289871
220408A00012	4/8/2022	3.12	6/29/2026		105.70598	103.9282621	102.1891499	100.4874507	98.82202199	97.19176842	95.59563919	94.03262571	92.50175951
220408A00013	4/8/2022	3.15	1/14/2027		107.76476	105.4168821	103.1321628	100.908494	98.74384967	96.63628624	94.58393847	92.58501569	90.63779821
220408A00014	4/8/2022	3.12	6/29/2026		105.70598	103.9282621	102.1891499	100.4874507	98.82202199	97.19176842	95.59563919	94.03262571	92.50175951

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220411A00002	4/11/2022	3.18	4/9/2027		108.7147	106.113103	103.5877905	101.1360726	98.755372	96.44321832	94.19724296	92.0151742	89.89483251
220411A00008	4/11/2022	3.02	4/12/2027		108.47322	105.8814609	103.3668964	100.9267384	98.55831483	96.25906852	94.02655132	91.85841855	89.75242389
220412A00010	4/12/2022	3.09	3/15/2027		108.2385	105.7124221	103.2587318	100.8749445	98.55867213	96.3076227	94.11959613	91.99247986	89.92424478
220412A00016	4/12/2022	3.09	3/19/2027		108.27713	105.7396056	103.2751055	100.8811055	98.5551867	96.29502824	94.09840269	91.96317162	89.88728147
220412A00017	4/12/2022	3.09	3/19/2027		108.27713	105.7396056	103.2751055	100.8811055	98.5551867	96.29502824	94.09840269	91.96317162	89.88728147
220412A00018	4/12/2022	3.09	3/15/2027		108.2385	105.7124221	103.2587318	100.8749445	98.55867213	96.3076227	94.11959613	91.99247986	89.92424478
220418A00015	4/22/2022	3.03	7/28/2025		102.28116	101.4447612	100.622027	99.81262627	99.01623686	98.23254677	97.46125396	96.70206586	95.95469909
220418A00016	4/22/2022	3.11	9/15/2026		106.46287	104.4642194	102.5134201	100.6090331	98.7496703	96.93399449	95.16071732	93.42859709	91.73643669
220419A00014	4/19/2022	3.06	4/18/2025		101.43095	100.876424	100.327965	99.78547497	99.24885678	98.71801525	98.19285731	97.67329185	97.15922974
220419A00015	4/19/2022	3.14	4/17/2026		104.99436	103.4250641	101.8871831	100.3798409	98.90219758	97.45344359	96.03279843	94.63950936	93.27285015
220419A00016	4/19/2022	3.21	4/19/2027		108.89635	106.2639211	103.7092517	101.2295771	98.82224776	96.48472528	94.21457707	92.00947106	89.86717083
220420A00032	4/20/2022	3.26	10/16/2026		107.08394	104.9928386	102.953473	100.9642279	99.02354627	97.12993087	95.28194158	93.47819275	91.71735067
220420A00033	4/20/2022	3.29	4/20/2027		109.11405	106.4759273	103.9157713	101.4308083	99.01837969	96.67593862	94.40104436	92.19135719	90.04463347
220420A00034	6/15/2022	3.3	6/15/2027		109.72589	106.9227479	104.2061549	101.5728673	99.0197919	96.54397375	94.14258858	91.81293603	89.55243312
220420A00037	6/15/2022	3.3	6/15/2027		109.72589	106.9227479	104.2061549	101.5728673	99.0197919	96.54397375	94.14258858	91.81293603	89.55243312
220420A00061	6/15/2022	3.3	6/15/2027		109.72589	106.9227479	104.2061549	101.5728673	99.0197919	96.54397375	94.14258858	91.81293603	89.55243312
220421A00012	4/21/2022	3.31	4/21/2026		105.30372	103.7206463	102.1693827	100.6490367	99.15875262	97.69770587	96.26510183	94.86017428	93.48218421
220421A00013	4/21/2022	3.33	9/15/2026		106.89948	104.8963972	102.9412508	101.0326005	99.16905578	97.34927727	95.57197437	93.83590326	92.13986482
220421A00014	4/21/2022	3.24	5/30/2025		101.90292	101.2309803	100.5678962	99.91349082	99.26759455	98.63004225	98.00067302	97.37933004	96.7658605
220421A00016	4/21/2022	3.31	4/21/2026		105.30372	103.7206463	102.1693827	100.6490367	99.15875262	97.69770587	96.26510183	94.86017428	93.48218421
220422A00014	4/22/2022	3.36	9/29/2026		107.1102	105.0654972	103.0706401	101.1241034	99.22441479	97.37015709	95.55996595	93.79252738	92.0665755
220425A00026	4/25/2022	3.13	2/25/2026		104.46793	103.0432562	101.6450064	100.2725095	98.92511507	97.6021942	96.30313854	95.0273595	93.77428739
220425A00027	4/29/2022	3.15	8/20/2026		106.27927	104.354573	102.474412	100.6374925	98.84256505	97.08842432	95.37390746	93.69789216	92.05929504
220425A00028	4/29/2022	3.16	4/23/2027		108.80838	106.1657025	103.6013334	101.1124775	98.6964573	96.35070849	94.07277385	91.86029816	89.71102325
220426A00004	4/26/2022	3.41	4/26/2032		125.65385	117.3966656	109.7550851	102.6797147	96.12537553	90.05072297	84.41790276	79.19223913	74.34195244
220427A00011	4/29/2022	3.15	4/29/2027		108.84433	106.1840793	103.6030125	101.0982893	98.66718864	96.30710529	94.01554348	91.79011176	89.62851778
220428A00016	5/2/2022	3.09	10/15/2024		100.09076	100.0491242	100.0075407	99.96600949	99.92453044	99.88310346	99.84172846	99.80040532	99.75913395
220428A00019	4/28/2022	3.27	4/28/2027		109.14751	106.4861139	103.9038499	101.3978806	98.96548963	96.60407591	94.31114754	92.08431666	89.92129427
220429A00002	4/29/2022	3.63	4/29/2032		127.37553	119.0453682	111.3354933	104.1961511	97.5818303	91.45088311	85.76517796	80.48978552	75.59269403
220429A00007	4/29/2022	3.14	10/29/2024		100.17557	100.0951172	100.0147959	99.93460651	99.85454891	99.77462273	99.69482766	99.61516338	99.53562958
220502A00025	5/2/2022	3.21	5/2/2025		101.63504	101.0412592	100.4544061	99.87436444	99.30101609	98.73424571	98.17394052	97.61999036	97.07228752
220502A00030	5/4/2022	3.24	6/20/2025		102.09616	101.3655371	100.6453787	99.93545671	99.23555379	98.54545869	97.86496607	97.19387629	96.53199523
220506A00016	5/6/2022	3.35	5/6/2027		109.44103	106.7534986	104.1463495	101.6166777	99.16170591	96.77877539	94.46534022	92.21896159	90.0373025

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220509A00013	7/15/2022	3.37	7/15/2027		110.23466	107.3402588	104.5374156	101.8226876	99.19278367	96.64455726	94.17499911	91.78123027	89.4604955
220509A00014	7/15/2022	3.37	7/15/2027		110.23466	107.3402588	104.5374156	101.8226876	99.19278367	96.64455726	94.17499911	91.78123027	89.4604955
220509A00016	7/15/2022	3.37	7/15/2027		110.23466	107.3402588	104.5374156	101.8226876	99.19278367	96.64455726	94.17499911	91.78123027	89.4604955
220510A00015	5/13/2022	3.13	11/3/2025		103.31767	102.2040367	101.1143962	100.0479777	99.00404444	97.98189055	96.98083941	96.00024222	95.03947649
220510A00016	5/13/2022	3.23	5/5/2027		109.11472	106.4342781	103.8339726	101.3109109	98.86232602	96.48556895	94.17810305	91.93749824	89.76142583
220511A00002	5/11/2022	3.18	5/12/2025		101.7049	101.0833309	100.4693663	99.86286579	99.26369371	98.67171757	98.08680806	97.50883899	96.93768715
220511A00015	5/11/2022	3.29	5/11/2027		109.33439	106.6344947	104.0156703	101.4749807	99.0096125	96.61687324	94.2941853	92.03908006	89.84919248
220512A00013	5/12/2022	3.18	5/12/2027		109.05301	106.3541079	103.7363449	101.196771	98.73256797	96.34103893	94.01960212	91.76578506	89.57721915
220518A00009	5/18/2022	3.38	5/18/2028		113.48961	109.6727842	106.0066596	102.4844283	99.0996305	95.84613519	92.71812161	89.7100614	86.81670205
220519A00010	5/19/2022	3.15	11/19/2026		107.2033	105.0160592	102.8846053	100.8071212	98.78186619	96.80716957	94.8814275	93.0030996	91.17070591
220520A00006	5/20/2022	3.02	5/20/2027		108.6686	106.0179428	103.4483078	100.9566698	98.54013859	96.19595295	93.92147419	91.71417949	89.57165592
220526A00010	5/26/2022	3	5/26/2026		105.15634	103.4785037	101.8356525	100.22676	98.65083728	97.10693389	95.59413596	94.11156437	92.65837309
220526A00011	5/26/2022	3.29	5/24/2029		116.82285	111.8777451	107.1737946	102.6979045	98.43776817	94.3818118	90.51914633	86.8395231	83.33329248
220527A00014	5/27/2022	2.99	5/27/2026		105.14924	103.4687481	101.8233326	100.211965	98.63365244	97.08744079	95.57241264	94.08768554	92.63241031
220527A00015	5/27/2022	3.03	5/27/2027		108.79877	106.0619831	103.4084595	100.8351345	98.33907998	95.91749558	93.56770247	91.28713696	89.07334463
220601A00024	6/1/2022	3.09	6/2/2025		101.82841	101.1484843	100.4776284	99.81566259	99.16241105	98.51770251	97.88137016	97.25325151	96.63318826
220601A00038	6/3/2022	3.69	5/28/2032		128.06741	119.6294298	111.8248717	104.6025035	97.91550545	91.72106606	85.98001842	80.6565119	75.71771479
220602A00039	6/2/2022	3.11	6/2/2027		109.29895	106.5337102	103.8530555	101.2538521	98.7331081	96.28796332	93.91568244	91.61364856	89.37935718
220610A00068	6/10/2022	3.09	6/10/2025		101.09827	100.6823789	100.2707358	99.86327232	99.45991823	99.06060482	98.66526502	98.27383332	97.88624574
220615A00010	6/15/2022	3.86	6/15/2027		111.26404	108.4396519	105.7023049	103.0487482	100.4758734	97.98071068	95.56042173	93.21229255	90.93372712
220617A00030	6/17/2022	3.43	6/17/2025		101.21927	100.7996383	100.3843382	99.97329536	99.56643744	99.16369367	98.76499499	98.37027397	97.97946477
220622A00006	6/22/2022	3.58	6/22/2027		110.57446	107.7395671	104.9926299	102.3303347	99.74952026	97.24716759	94.82039217	92.46643696	90.18266558
220623A00005	6/23/2022	3.45	6/23/2027		110.22583	107.3929361	104.6480395	101.9878269	99.40913198	96.90893109	94.48433546	92.13258409	89.85103701
220624A00003	6/24/2022	3.5	6/24/2027		110.37542	107.5375815	104.7879541	102.1232118	99.54017818	97.03582019	94.60724008	92.25166843	89.96645733
220624A00016	6/24/2022	3.34	6/24/2026		106.18374	104.4132274	102.6809626	100.9857683	99.32651933	97.70213651	96.11158431	94.55386854	93.02803425
220624A00033	6/24/2022	3.5	6/24/2027		110.37542	107.5375815	104.7879541	102.1232118	99.54017818	97.03582019	94.60724008	92.25166843	89.96645733
220624A00044	6/24/2022	3.43	6/24/2025		102.27363	101.5312403	100.7996301	100.078567	99.36782398	98.66718044	97.97642204	97.29534048	96.62373327
220627A00055	6/27/2022	3.55	6/26/2026		106.43142	104.6555608	102.9181066	101.2178758	99.55373654	97.92460343	96.32943502	94.76723153	93.23703273
220628A00034	6/28/2022	3.61	6/28/2027		110.7261	107.8719098	105.1067028	102.4271088	99.82991351	97.3120479	94.87058069	92.50271089	90.20576086
220628A00044	8/15/2022	3.6	8/13/2027		111.20347	108.2148001	105.3228668	102.5240216	99.81477399	97.19178367	94.6518531	92.19192068	89.80905414
220628A00052	8/15/2022	3.6	8/13/2027		111.20347	108.2148001	105.3228668	102.5240216	99.81477399	97.19178367	94.6518531	92.19192068	89.80905414
220628A00053	8/15/2022	3.6	8/13/2027		111.20347	108.2148001	105.3228668	102.5240216	99.81477399	97.19178367	94.6518531	92.19192068	89.80905414
220629A00003	6/29/2022	3.59	6/29/2027		110.68182	107.8253901	105.0580866	102.3765363	99.7775164	97.25795034	94.81489965	92.44555659	90.14723722



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220629A00034	6/29/2022	3.51	6/29/2027		105.12937	103.6762838	102.2576227	100.8722862	99.51921399	98.19738848	96.90583246	95.64360731	94.40981112
220630A00036	6/30/2022	3.42	6/30/2027		110.21914	107.3663263	104.6026552	101.9247421	99.3293604	96.81342996	94.3740091	92.00828715	89.71357754
220630A00044	6/30/2022	3.34	6/30/2025		102.26398	101.5050423	100.7573556	100.0206752	99.29475961	98.57937408	97.87429072	97.17928818	96.49415138
220630A00045	6/30/2022	3.39	6/30/2026		106.19423	104.4092486	102.6630583	100.9544638	99.28231584	97.64551243	96.04299656	94.47375375	92.93680991
220630A00057	6/30/2022	3.34	6/30/2025		102.26398	101.5050423	100.7573556	100.0206752	99.29475961	98.57937408	97.87429072	97.17928818	96.49415138
220701A00024	7/1/2022	3.08	7/1/2025		102.07637	101.3154565	100.5658703	99.82736358	99.09969204	98.38261847	97.6759126	96.97935076	96.29271568
220701A00049	7/1/2022	3.19	7/1/2025		102.15991	101.398647	100.6487146	99.90986528	99.18185466	98.46444551	97.7574075	97.06051689	96.37355635
220701A00050	7/1/2022	3.26	7/1/2027		109.78297	106.9335258	104.1732341	101.498715	98.90674219	96.39423562	93.95825332	91.59598416	89.30474091
220705A00011	7/5/2022	3.14	7/7/2025		102.17771	101.3998048	100.6337421	99.87925291	99.13607627	98.40395892	97.68265513	96.97192641	96.27154122
220706A00032	7/6/2022	3.15	7/6/2027		109.75843	106.8903432	104.1124771	101.4214138	98.81389289	96.28680031	93.83716054	91.46212922	89.15898638
220707A00041	7/7/2022	3.41	7/7/2025		102.38725	101.6084536	100.8415068	100.086143	99.34210102	98.60912738	97.8869762	97.17540884	96.47419364
220711A00021	7/11/2022	3.27	7/11/2025		102.38019	101.5895184	100.8110683	100.0445549	99.28970471	98.54625274	97.8139419	97.0925228	96.38175346
220712A00016	7/15/2022	3.35	1/15/2026		104.332	103.0177179	101.731247	100.4717079	99.23825753	98.0300884	96.84642651	95.68652961	94.54968562
220715A00001	7/15/2022	3.44	7/15/2027		110.43281	107.5355849	104.7299916	102.0125791	99.3800542	96.8292682	94.35720998	91.96099872	89.63787739
220715A00027	7/15/2022	3.44	7/15/2027		110.43281	107.5355849	104.7299916	102.0125791	99.3800542	96.8292682	94.35720998	91.96099872	89.63787739
220715A00047	7/15/2022	3.44	7/15/2027		110.43281	107.5355849	104.7299916	102.0125791	99.3800542	96.8292682	94.35720998	91.96099872	89.63787739
220719A00004	7/19/2022	3.46	7/19/2027		110.53175	107.6220698	104.8046969	102.0761708	99.43317933	96.87255473	94.39126633	91.98641372	89.65522023
220722A00036	7/22/2022	3.34	7/22/2025		101.3193	100.8574927	100.4009758	99.94964943	99.50341514	99.06217728	98.62584268	98.19432062	97.76752274
220722A00044	9/1/2022	3.23	9/1/2027		110.31442	107.2860768	104.3574461	101.5247076	98.78420595	96.13244598	93.56608446	91.08192264	88.67689925
220722A00049	9/15/2022	3.25	9/15/2025		102.95032	101.9749258	101.0180204	100.0790788	99.15759816	98.25309432	97.36510083	96.49316822	95.63686321
220722A00050	9/15/2022	3.25	9/15/2025		102.95032	101.9749258	101.0180204	100.0790788	99.15759816	98.25309432	97.36510083	96.49316822	95.63686321
220722A00051	9/15/2022	3.23	9/15/2027		110.45573	107.3854511	104.4175442	101.5480303	98.77311052	96.08915421	93.49269098	90.98040247	88.54911478
220727A00004	7/27/2022	3.23	7/27/2027		109.95767	107.0341192	104.2039892	101.4637851	98.8101651	96.23993021	93.75001796	91.3374955	88.99955336
220727A00009	7/27/2022	3.31	7/28/2025		102.51476	101.6772936	100.853507	100.043066	99.24564808	98.46094103	97.68864258	96.92845997	96.18010959
220727A00027	7/27/2022	3.23	7/27/2027		109.95767	107.0341192	104.2039892	101.4637851	98.8101651	96.23993021	93.75001796	91.3374955	88.99955336
220727A00035	10/24/2022	3.33	10/24/2029		118.3914	112.9723691	107.8380966	102.9720721	98.35883236	93.98388741	89.83365399	85.89539398	82.15715731
220727A00049	7/27/2022	3.31	7/25/2025		102.48545	101.656429	100.8408173	100.0382948	99.24854805	98.47127355	97.70617731	96.95297455	96.21138929
220729A00035	8/3/2022	3.14	8/3/2027		109.76759	106.8274806	103.9818879	101.2272756	98.56025881	95.97759686	93.4761865	91.05305525	88.70535513
220729A00043	7/29/2022	3.04	7/29/2027		109.43229	106.5107971	103.6828656	100.9450013	98.29385872	95.72623512	93.23906379	90.82940734	88.49445158
220729A00045	7/29/2022	3.03	7/29/2027		109.40359	106.4825127	103.6549848	100.9175143	98.26675609	95.6995078	93.21270297	90.80340449	88.46879843
220729A00047	7/29/2022	3.06	1/29/2027		107.70067	105.312504	102.9895277	100.7295999	98.53066246	96.39073638	94.30791865	92.28037865	90.30635502
220801A00066	8/1/2022	2.93	7/30/2027		109.20028	106.3173962	103.5282867	100.8293793	98.2172553	95.6886452	93.24042131	90.8695907	88.57328865
220802A00009	8/2/2022	3	8/2/2027		109.35461	106.4232272	103.5860504	100.839553	98.18036351	95.60525407	93.11113346	90.69504063	88.35413847

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220804A00023	8/4/2022	3.19	8/4/2027		109.92157	106.9764672	104.1261101	101.3669464	98.69558065	96.10876218	93.60337829	91.17644755	88.82511352
220804A00037	8/4/2022	3.35	8/4/2025		102.61839	101.7610656	100.9180686	100.0890385	99.27363009	98.47150951	97.68235367	96.9058499	96.14169553
220808A00025	8/8/2022	3.25	8/6/2027		110.11467	107.1612477	104.3029766	101.5362865	98.85776195	96.26413348	93.75227058	91.31917503	88.96197452
220811A00021	8/11/2022	3.47	8/11/2025		102.79424	101.9167092	101.0541694	100.2062415	99.37255608	98.552756	97.74649609	96.95344251	96.17327234
220812A00001	8/12/2022	3.17	8/12/2027		110.18458	107.2080308	104.3279756	101.5407737	98.8429407	96.23114233	93.70218682	91.25301815	88.88070951
220812A00002	8/12/2022	3.17	8/12/2027		110.18458	107.2080308	104.3279756	101.5407737	98.8429407	96.23114233	93.70218682	91.25301815	88.88070951
220816A00009	8/16/2022	3.33	8/16/2027		110.44783	107.4618965	104.5729428	101.7773023	99.07146572	96.45207538	93.91591749	91.45991526	89.08112226
220817A00036	10/14/2022	3.41	10/15/2027		111.3121	108.1443334	105.0845464	102.1284463	99.27193348	96.5110952	93.84219592	91.26166819	88.76610394
220817A00037	10/14/2022	3.41	10/15/2027		111.3121	108.1443334	105.0845464	102.1284463	99.27193348	96.5110952	93.84219592	91.26166819	88.76610394
220817A00038	10/14/2022	3.41	10/15/2027		111.3121	108.1443334	105.0845464	102.1284463	99.27193348	96.5110952	93.84219592	91.26166819	88.76610394
220817A00047	8/17/2022	3.29	8/17/2027		110.58562	107.5893129	104.6905116	101.8855175	99.17079623	96.54296629	93.99879142	91.53517362	89.14914639
220819A00034	8/19/2022	3.73	8/19/2032		129.0412	120.3299261	112.2891235	104.863324	98.00192213	91.65872986	85.79156991	80.36190866	75.33452419
220823A00002	8/23/2022	3.38	8/23/2027		110.91237	107.8945676	104.9754258	102.1511887	99.41826325	96.77321255	94.21274808	91.73372251	89.33312283
220823A00009	8/23/2022	3.52	8/23/2027		111.07765	108.0630387	105.1468508	102.3253386	99.59492164	96.95217531	94.39382253	91.91672676	89.51788516
220823A00015	8/23/2022	3.78	8/30/2032		129.53108	120.7695617	112.6843149	105.2192153	98.32307824	91.94920112	86.0549497	80.60138428	75.55292211
220824A00011	8/24/2022	3.7	8/22/2025		103.11745	102.2078322	101.3142844	100.4363805	99.57371201	98.72588425	97.89251623	97.07323989	96.26769958
220825A00006	8/25/2022	3.56	8/25/2027		111.21689	108.1946637	105.2712597	102.4429084	99.70600945	97.0571193	94.4929431	92.01032754	89.60625391
220825A00022	8/25/2022	3.68	8/25/2025		103.13259	102.2145689	101.3129022	100.42716	99.55692275	98.70178561	97.86135763	97.03526131	96.22313197
220826A00033	8/26/2022	3.73	8/26/2025		103.1894	102.268314	101.3636874	100.4750823	99.60207545	98.74425836	97.90123677	97.07262993	96.25807009
220829A00048	8/29/2022	3.75	2/25/2025		101.29484	100.8840121	100.4765174	100.0723149	99.67136474	99.27362784	98.87906563	98.48764022	98.09931428
220829A00057	8/29/2022	3.67	8/31/2026		107.39937	105.4335191	103.5137353	101.638663	99.80699263	98.01746195	96.26885355	94.55999321	92.88974802
220830A00055	8/30/2022	3.7	8/30/2029		119.76105	114.46601	109.4413109	104.671712	100.1429091	95.84147267	91.75479026	87.87101235	84.17900256
220830A00093	11/16/2022	3.69	11/16/2029		120.47418	114.9355338	109.6902025	104.7210329	100.0119649	95.54795959	91.31492845	87.29966813	83.48979996
220831A00079	8/31/2022	3.79	8/29/2025		103.27842	102.3485424	101.4354278	100.5386217	99.65768965	98.79221265	97.94178632	97.10602026	96.28453751
220901A00033	9/1/2022	3.72	9/1/2027		111.76724	108.717297	105.7676034	102.9143207	100.1537767	97.48245985	94.89701125	92.39421715	89.97100184
220901A00035	9/1/2022	3.82	9/1/2028		116.34046	112.1688084	108.1725902	104.3434957	100.6736524	97.15560047	93.78226829	90.54695054	87.44328719
220906A00046	9/6/2022	3.79	9/7/2027		112.04475	108.9734842	106.0036941	103.1314658	100.3530631	97.66491421	95.06360348	92.54586377	90.10856903
220907A00010	9/7/2022	3.9	9/9/2032		131.31621	122.4242614	114.2206591	106.6480728	99.65424153	93.19149779	87.21634193	81.68905772	76.57336523
220907A00023	9/7/2022	3.76	9/8/2026		107.66949	105.6783593	103.7343983	101.8361988	99.98240547	98.17171236	96.40286073	94.67463693	92.9858705
220912A00033	9/12/2022	3.9	10/7/2024		100.06119	100.0417404	100.0223111	100.0029019	99.98351284	99.96414383	99.94479484	99.92546585	99.90615682
220912A00044	11/15/2022	3.85	11/14/2025		104.24688	103.0970164	101.9725718	100.8727079	99.79662398	98.74355393	97.71276425	96.70355231	95.7152448
220912A00046	11/15/2022	3.85	11/14/2025		104.24688	103.0970164	101.9725718	100.8727079	99.79662398	98.74355393	97.71276425	96.70355231	95.7152448
220912A00050	11/15/2022	3.76	11/15/2027		112.75184	109.4737245	106.3095204	103.2545942	100.3045312	97.45512348	94.7023585	92.04240908	89.47162333

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220912A00051	11/15/2022	3.76	11/15/2027		112.75184	109.4737245	106.3095204	103.2545942	100.3045312	97.45512348	94.7023585	92.04240908	89.47162333
220913A00017	9/13/2022	3.98	9/14/2026		108.17695	106.1637217	104.1985563	102.2800054	100.4066775	98.5772316	96.79037608	95.04486575	93.3395002
220913A00018	9/13/2022	3.91	9/13/2027		112.47453	109.3796158	106.3874534	103.4940662	100.6956517	97.98857523	95.36936238	92.8346904	90.3813809
220915A00035	9/15/2022	4.2	3/17/2025		101.70228	101.2352238	100.772468	100.313957	99.85963225	99.40943651	98.96331346	98.52120784	98.08306538
220915A00040	9/15/2022	4.16	9/15/2025		103.8331	102.8531003	101.8916444	100.948212	100.022299	99.11341984	98.22110693	97.3449096	96.48439342
220916A00018	9/16/2022	4.07	9/16/2027		112.11459	109.2049705	106.3917182	103.6710505	101.0393549	98.49318263	96.02923997	93.64438045	91.33559724
220916A00021	9/16/2022	4.17	9/16/2027		106.6561	105.0612665	103.5064769	101.990398	100.5117497	99.06930444	97.66188444	96.28835943	94.9476443
220916A00042	9/16/2022	4.07	9/16/2030		125.97365	119.3796606	113.1830953	107.3577984	101.879466	96.72550948	91.87492576	87.30817796	83.00708598
220916A00043	9/16/2022	4.07	9/16/2031		129.35537	121.5818611	114.3443433	107.6027957	101.3203881	95.46321276	90.00003817	84.90208488	80.14282099
220916A00045	9/16/2022	4.1	9/16/2032		133.00475	124.0260366	115.7425623	108.0963545	101.034573	94.5090297	88.47575656	82.8946155	77.72894654
220919A00033	9/19/2022	4	9/17/2027		112.7934	109.6821805	106.6745895	103.7665993	100.9543618	98.23420034	95.60260023	93.0562011	90.59178908
220919A00036	9/19/2022	4.11	9/19/2029		121.23094	116.0107429	111.05866	106.3593458	101.8984174	97.66238889	93.63861094	89.81521414	86.18105676
220920A00015	9/20/2022	4.33	10/21/2024		100.19816	100.1398277	100.0815746	100.0234044	99.96531696	99.90731205	99.84938949	99.79154911	99.73379075
220920A00024	9/20/2022	4.25	9/19/2025		103.97165	102.9797687	102.0068613	101.0523905	100.1158349	99.19669273	98.29448093	97.40873407	96.53900369
220920A00025	9/20/2022	4.23	9/18/2026		108.72528	106.695137	104.7136899	102.7794711	100.8910629	99.0471003	97.24626797	95.4872986	93.76897056
220920A00026	9/20/2022	4.1	9/20/2027		113.13196	110.0069897	106.9863396	104.0659483	101.2419328	98.51058275	95.86835244	93.31185198	90.83783967
220921A00014	9/21/2022	4.08	9/21/2027		113.08408	109.9569436	106.9343057	104.0120875	101.1863958	98.45351139	95.80987968	93.25210269	90.77693109
220921A00069	9/21/2022	3.98	9/21/2027		113.03771	109.9053562	106.8778075	103.9509694	101.1209333	98.38396509	95.7364963	93.17511581	90.69656193
220921A00074	9/21/2022	3.98	9/21/2027		113.03771	109.9053562	106.8778075	103.9509694	101.1209333	98.38396509	95.7364963	93.17511581	90.69656193
220929A00041	9/29/2022	4.38	9/29/2027		114.09688	110.9312373	107.872001	104.914994	102.0562269	99.29188947	96.61834148	94.03210421	91.52985224
220929A00043	9/29/2022	4.44	9/28/2029		123.81954	118.3386213	113.1404594	108.2089051	103.528815	99.0859859	94.8670906	90.85961986	87.05182775
220929A00063	9/29/2022	4.38	9/29/2027		114.09688	110.9312373	107.872001	104.914994	102.0562269	99.29188947	96.61834148	94.03210421	91.52985224
221003A00067	10/3/2022	4.48	11/13/2024		100.43753	100.3153847	100.1935505	100.0720271	99.95081304	99.82990729	99.70930858	99.5890157	99.46902745
221005A00041	10/5/2022	4.3	10/5/2027		113.93117	110.7510882	107.6783618	104.7087593	101.8382379	99.06293737	96.37917094	93.78341599	91.27230599
221006A00012	10/6/2022	4.37	10/6/2027		114.15851	110.9721243	107.8933508	104.9179425	102.0418447	99.26118612	96.57226937	93.97156198	91.45568802
221006A00033	10/6/2022	4.56	10/7/2024		100.0747	100.0552441	100.0358041	100.0163843	99.99698458	99.97760495	99.95824536	99.93890577	99.91958615
221007A00003	10/7/2022	4.67	10/7/2025		104.6369	103.5911165	102.5663162	101.5618747	100.5771885	99.61167794	98.66478583	97.7359764	96.8247343
221011A00036	10/11/2022	4.59	10/6/2026		109.6978	107.6068262	105.5670248	103.5768153	101.6346753	99.73914033	97.88880076	96.08229962	94.3183301
221011A00037	10/11/2022	4.68	10/7/2024		100.07716	100.0576993	100.0382574	100.0188356	99.99943398	99.98005242	99.9606909	99.94134939	99.92202785
221011A00122	10/11/2022	4.64	12/11/2024		100.76504	100.5650713	100.3659143	100.1675595	99.97000211	99.77323721	99.57725995	99.38206554	99.18764924
221012A00051	10/12/2022	4.7	10/11/2024		100.11823	100.0876508	100.0571071	100.0265984	99.99612467	99.96568584	99.93528183	99.90491259	99.87457806
221012A00053	10/12/2022	4.66	10/11/2024		100.1181	100.0861295	100.0541975	100.0223027	99.99044482	99.9586239	99.92683986	99.89509262	99.86338211
221014A00026	10/14/2022	4.63	10/14/2027		115.06573	111.8427867	108.7291394	105.7204544	102.8125931	100.0016055	97.28371995	94.65533418	92.1130066

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221014A00027	10/14/2022	4.63	10/14/2027		115.06573	111.8427867	108.7291394	105.7204544	102.8125931	100.0016055	97.28371995	94.65533418	92.1130066
221014A00032	10/14/2022	4.67	10/14/2027		114.20074	111.179113	108.2593277	105.4373059	102.7091581	100.0711757	97.51982049	95.0517163	92.66364004
221014A00043	10/14/2022	4.49	10/14/2027		114.89725	111.6707535	108.5538305	105.54213	102.6314983	99.817971	97.09776303	94.46725954	91.92300706
221014A00050	10/14/2022	4.49	10/14/2027		114.89725	111.6707535	108.5538305	105.54213	102.6314983	99.817971	97.09776303	94.46725954	91.92300706
221017A00055	10/17/2022	4.88	11/18/2024		100.43504	100.3252452	100.2157113	100.1064341	99.99741273	99.88864616	99.78013346	99.67187368	99.5638659
221018A00006	10/18/2022	4.55	10/18/2027		114.87345	111.6421534	108.5207481	105.5048626	102.5903243	99.77315112	97.04954169	94.41586579	91.8686557
221018A00007	10/18/2022	4.68	10/18/2027		107.86179	106.1734538	104.5286768	102.925977	101.3639373	99.84119896	98.35645943	96.90846925	95.49602954
221018A00030	10/18/2022	4.71	10/17/2025		104.82129	103.7464645	102.6937789	101.6625529	100.6521336	99.66189467	98.69123474	97.73957606	96.80636347
221018A00031	10/18/2022	4.71	10/17/2025		104.82129	103.7464645	102.6937789	101.6625529	100.6521336	99.66189467	98.69123474	97.73957606	96.80636347
221018A00047	10/18/2022	4.78	10/20/2025		104.93894	103.8550316	102.7936176	101.7540014	100.7355152	99.73751829	98.75939564	97.80055661	96.86043382
221018A00048	10/18/2022	4.71	10/19/2026		110.13007	107.9984114	105.9194767	103.8916067	101.9132115	99.98276241	98.09878941	96.25987818	94.46466762
221018A00049	10/18/2022	4.59	10/18/2027		114.99731	111.7640945	108.6408192	105.6231113	102.7067964	99.88789108	97.16259239	94.52726876	91.97845108
221019A00008	10/19/2022	4.8	10/17/2025		104.91658	103.8412199	102.7880025	101.7562522	100.745316	99.75456747	98.78340495	97.83125058	96.89754903
221019A00009	10/19/2022	4.8	10/17/2025		104.91658	103.8412199	102.7880025	101.7562522	100.745316	99.75456747	98.78340495	97.83125058	96.89754903
221020A00046	10/20/2022	4.95	1/21/2025		101.33628	101.0220258	100.7097352	100.3993878	100.0909652	99.78444966	99.47982333	99.1770687	98.87616848
221020A00052	10/20/2022	4.95	10/21/2024		100.23456	100.1761895	100.1179064	100.0597063	100.0015889	99.94355415	99.88560177	99.82773162	99.76994352
221021A00022	10/21/2022	4.84	10/21/2024		100.2281	100.1697382	100.1114604	100.0532656	99.99515358	99.9371241	99.87917701	99.82131214	99.76352932
221024A00018	10/24/2022	4.91	10/24/2024		100.26442	100.1977308	100.1311374	100.0646443	99.99825129	99.9319581	99.86576452	99.79967032	99.73367528
221025A00027	10/25/2022	4.57	10/25/2027		115.03123	111.777653	108.6352076	105.5994526	102.6661489	99.83125215	97.09090246	94.4414148	91.87926997
221027A00004	10/27/2022	4.76	10/28/2024		100.29571	100.2179233	100.1402619	100.062726	99.98531536	99.90802967	99.83086862	99.75383193	99.67691929
221027A00009	10/27/2022	4.68	10/27/2025		104.93187	103.8283517	102.7481384	101.6904955	100.6547196	99.64013671	98.64610008	97.67198911	96.71720801
221027A00050	10/27/2022	4.52	10/27/2027		114.90254	111.6452954	108.499476	105.4606155	102.524458	99.68694318	96.94419662	94.29251948	91.72837967
221027A00056	4/25/2023	4.48	4/25/2030		126.41766	120.250052	114.4315063	108.9403016	103.7561801	98.86024529	94.234863	89.86357058	85.73099296
221027A00060	12/1/2022	4.46	12/1/2027		115.1932	111.8297319	108.5841085	105.4514873	102.4272558	99.50702035	96.6865941	93.96198598	91.32938999
221027A00061	12/15/2022	4.45	12/15/2027		115.34754	111.9420538	108.6570516	105.4875266	102.428716	99.47608599	96.62531876	93.87230082	91.21311165
221027A00062	12/15/2022	4.45	12/15/2027		115.34754	111.9420538	108.6570516	105.4875266	102.428716	99.47608599	96.62531876	93.87230082	91.21311165
221027A00063	12/15/2022	4.45	12/15/2027		115.34754	111.9420538	108.6570516	105.4875266	102.428716	99.47608599	96.62531876	93.87230082	91.21311165
221028A00027	10/28/2022	4.73	10/28/2024		100.29338	100.215591	100.1379315	100.0603976	99.98298889	99.90570512	99.828546	99.75151122	99.6746005
221028A00056	10/28/2022	4.77	10/28/2024		100.29649	100.2187007	100.1410386	100.0635021	99.98609085	99.90880452	99.83164283	99.7546055	99.67769222
221031A00003	10/31/2022	4.89	11/12/2024		100.4761	100.3566822	100.2375636	100.1187421	100.0002167	99.88198628	99.76404959	99.64640555	99.52905302
221031A00004	10/31/2022	4.79	10/28/2025		105.06593	103.958828	102.8751544	101.8141734	100.7751763	99.75748407	98.76044507	97.78343416	96.82585118
221031A00033	10/31/2022	4.74	10/31/2025		105.05468	103.9392046	102.8475141	101.7788493	100.7324863	99.70773139	98.7039192	97.72041157	96.75659604
221031A00035	10/31/2022	4.67	10/30/2026		110.20402	108.040924	105.9318195	103.8749876	101.8687815	99.9116188	98.00197882	96.13839927	94.31947371

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221031A00036	10/31/2022	4.59	10/29/2027		115.14856	111.8817997	108.726902	105.679378	102.73495	99.88953729	97.13924606	94.48035938	91.9093281
221031A00042	10/31/2022	4.73	10/30/2026		110.33062	108.1661632	106.0557237	103.9975834	101.9900946	100.0316744	98.12080131	96.25601235	94.43590043
221031A00044	10/31/2022	4.89	10/31/2024		100.33809	100.2519593	100.1659738	100.0801343	99.99444058	99.90889226	99.82348899	99.73823041	99.65311616
221031A00045	10/31/2022	4.79	10/31/2025		105.10956	103.9937665	102.901759	101.8327819	100.7861112	99.761053	98.75694188	97.77313959	96.80903352
221102A00012	11/2/2022	4.82	11/3/2025		105.1868	104.062137	102.9616321	101.8845106	100.830032	99.79748638	98.78619347	97.79550085	96.82478255
221102A00026	11/2/2022	4.66	11/2/2027		115.42388	112.1412994	108.9713894	105.9096179	102.9516648	100.09341	97.33092241	94.66045022	92.07841151
221103A00036	10/13/2023	4.87	10/31/2024		100.33637	100.25024	100.1642559	100.0784179	99.99272567	99.90717883	99.82177702	99.7365199	99.65140711
221103A00050	11/3/2022	5.14	11/4/2024		100.40839	100.3111483	100.2141037	100.1172532	100.0205961	99.92413196	99.82786007	99.73177989	99.63589081
221107A00010	11/7/2022	5.12	11/7/2024		100.44286	100.3373019	100.2319741	100.126878	100.0220126	99.91737731	99.81297125	99.70879366	99.60484376
221107A00029	11/7/2022	4.83	11/9/2026		110.69156	108.4945939	106.3529463	104.2648401	102.2285697	100.2424974	98.30505	96.41471553	94.57004068
221107A00030	11/7/2022	4.7	11/5/2027		115.59253	112.2985478	109.1178416	106.0458473	103.0782126	100.2107872	97.43961167	94.76090755	92.17106798
221107A00048	11/7/2022	4.96	9/8/2025		104.50574	103.5417863	102.5956975	101.6669757	100.755145	99.85974669	98.98033855	98.11649416	97.26780218
221107A00053	11/7/2022	4.95	10/7/2025		104.92561	103.8782285	102.8518547	101.8458616	100.8596452	99.89262527	98.94424421	98.01396578	97.10127417
221107A00056	11/7/2022	4.73	11/8/2027		115.73031	112.4253891	109.234347	106.1525801	103.1757041	100.2995386	97.52009601	94.8335717	92.23633402
221108A00033	11/8/2022	4.7	11/8/2027		115.63565	112.3322231	109.1426356	106.0622858	103.0867907	100.2119711	97.43384075	94.74859593	92.15260612
221108A00036	11/8/2022	4.95	11/7/2025		105.3911	104.2540007	103.14156	102.0529851	100.9875122	99.94441033	98.92297864	97.92254554	96.94246694
221110A00023	11/10/2022	4.71	11/8/2024		100.41062	100.3023262	100.194276	100.0864701	99.97890768	99.87158794	99.76451	99.657673	99.55107611
221110A00024	11/10/2022	4.51	11/10/2025		104.94132	103.7984823	102.680633	101.5869592	100.5166816	99.46905384	98.44336119	97.4389187	96.45506969
221110A00025	11/10/2022	4.39	11/10/2026		109.76468	107.5749496	105.4404579	103.3594272	101.3301518	99.35099428	97.42038148	95.53680192	93.69880263
221110A00026	11/10/2022	4.29	11/10/2027		114.36842	111.0791769	107.9036129	104.8371239	101.8753237	99.01403054	96.24925608	93.57719517	90.99421616
221110A00038	11/10/2022	4.34	11/10/2027		114.52646	111.234725	108.0567285	104.9878696	102.0237601	99.16021621	96.3932476	93.71904726	91.13398174
221110A00039	11/10/2022	4.34	11/10/2027		114.52646	111.234725	108.0567285	104.9878696	102.0237601	99.16021621	96.3932476	93.71904726	91.13398174
221110A00064	1/17/2023	4.25	1/14/2028		115.07811	111.5924509	108.232781	104.9938175	101.8705315	98.85813483	95.95206669	93.1479816	90.44173768
221110A00065	1/17/2023	4.25	1/14/2028		115.07811	111.5924509	108.232781	104.9938175	101.8705315	98.85813483	95.95206669	93.1479816	90.44173768
221110A00074	11/10/2022	4.75	11/12/2024		100.45939	100.3399909	100.2208881	100.1020825	99.98357286	99.86535816	99.7474372	99.62980886	99.512472
221110A00075	11/10/2022	4.56	11/10/2025		104.99759	103.8544158	102.7362343	101.6422335	100.5716337	99.52368851	98.4976831	97.49293237	96.50877954
221110A00076	11/10/2022	4.45	11/10/2026		109.89312	107.7019906	105.5661265	103.4837509	101.4531574	99.4727077	97.54082801	95.6560061	93.81678832
221110A00084	11/10/2022	4.56	11/6/2025		104.94139	103.8097661	102.7026437	101.6192314	100.558772	99.52054067	98.50384258	97.5080117	96.53240924
221110A00086	11/10/2022	4.34	11/8/2027		114.49973	111.2142311	108.0420983	104.9787538	102.0198299	99.16116199	96.39877764	93.72888667	91.14787139
221110A00108	11/10/2022	4.48	12/10/2025		105.32199	104.092532	102.8919022	101.7190891	100.5731326	99.45311599	98.35816422	97.28744112	96.24014738
221110A00110	11/10/2022	4.47	1/13/2026		105.77113	104.4512842	103.1599178	101.8961054	100.6589651	99.44765248	98.26135929	97.09931095	95.96076504
221114A00002	11/14/2022	4.37	11/15/2027		114.68854	111.3796897	108.1855537	105.1014696	102.1229964	99.24590086	96.46614645	93.77988276	91.18343571
221116A00026	11/16/2022	4.78	11/15/2024		100.49655	100.3688102	100.2414131	100.1143544	99.98763271	99.86124668	99.73519491	99.60947605	99.48408872





	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221129A00044	11/29/2022	4.56	11/28/2025		105.25058	104.0552756	102.8872249	101.7455043	100.6292295	99.53755544	98.4696741	97.42481259	96.40223119
221129A00045	11/29/2022	4.56	11/28/2025		105.25058	104.0552756	102.8872249	101.7455043	100.6292295	99.53755544	98.4696741	97.42481259	96.40223119
221129A00046	11/29/2022	4.56	12/1/2025		105.2927	104.0886903	102.9123269	101.7626603	100.6387879	99.53984748	98.46501486	97.41350184	96.38455428
221129A00047	11/29/2022	4.56	12/1/2025		105.2927	104.0886903	102.9123269	101.7626603	100.6387879	99.53984748	98.46501486	97.41350184	96.38455428
221129A00048	11/29/2022	4.56	12/1/2025		105.2927	104.0886903	102.9123269	101.7626603	100.6387879	99.53984748	98.46501486	97.41350184	96.38455428
221129A00049	11/29/2022	4.56	12/1/2025		105.2927	104.0886903	102.9123269	101.7626603	100.6387879	99.53984748	98.46501486	97.41350184	96.38455428
221129A00050	11/29/2022	4.56	12/2/2025		105.30669	104.0997934	102.9206681	101.7683645	100.6419737	99.54062732	98.46349563	97.40978509	96.37873657
221129A00051	11/29/2022	4.56	12/2/2025		105.30669	104.0997934	102.9206681	101.7683645	100.6419737	99.54062732	98.46349563	97.40978509	96.37873657
221129A00052	11/29/2022	4.56	12/2/2025		105.30669	104.0997934	102.9206681	101.7683645	100.6419737	99.54062732	98.46349563	97.40978509	96.37873657
221129A00053	11/29/2022	4.56	12/2/2025		105.30669	104.0997934	102.9206681	101.7683645	100.6419737	99.54062732	98.46349563	97.40978509	96.37873657
221129A00054	11/29/2022	4.56	12/3/2025		105.32069	104.1108962	102.9290085	101.7740676	100.6451581	99.54140566	98.46197492	97.406067	96.37291777
221129A00055	11/29/2022	4.56	12/3/2025		105.32069	104.1108962	102.9290085	101.7740676	100.6451581	99.54140566	98.46197492	97.406067	96.37291777
221129A00056	11/29/2022	4.31	11/29/2027		114.68402	111.3344725	108.1021855	104.982349	101.9703784	99.06190621	96.25277051	93.5390034	90.91682081
221129A00059	11/29/2022	4.39	11/27/2026		109.99931	107.7583086	105.5747258	103.4466829	101.3723749	99.35007041	97.37810799	95.45489252	93.57889207
221129A00060	11/29/2022	4.39	11/27/2026		109.99931	107.7583086	105.5747258	103.4466829	101.3723749	99.35007041	97.37810799	95.45489252	93.57889207
221129A00061	11/29/2022	4.39	11/27/2026		109.99931	107.7583086	105.5747258	103.4466829	101.3723749	99.35007041	97.37810799	95.45489252	93.57889207
221129A00062	11/29/2022	4.39	11/27/2026		109.99931	107.7583086	105.5747258	103.4466829	101.3723749	99.35007041	97.37810799	95.45489252	93.57889207
221129A00064	11/29/2022	4.28	11/30/2027		114.6008	111.249674	108.0159584	104.894832	101.8817008	98.97218893	96.16212634	93.44753773	90.82463207
221129A00065	11/29/2022	4.28	11/30/2027		114.6008	111.249674	108.0159584	104.894832	101.8817008	98.97218893	96.16212634	93.44753773	90.82463207
221129A00066	11/29/2022	4.28	11/29/2027		114.5876	111.2395969	108.0088176	104.8904494	101.8799092	98.97283067	96.16505316	93.45260996	90.83171813
221129A00067	11/29/2022	4.28	11/29/2027		114.5876	111.2395969	108.0088176	104.8904494	101.8799092	98.97283067	96.16505316	93.45260996	90.83171813
221129A00068	11/29/2022	4.28	11/29/2027		114.5876	111.2395969	108.0088176	104.8904494	101.8799092	98.97283067	96.16505316	93.45260996	90.83171813
221129A00069	11/29/2022	4.28	11/26/2027		114.54799	111.2093636	107.9873902	104.8772953	101.8745269	98.97474863	96.17382716	93.4678217	90.8529735
221129A00070	11/29/2022	4.28	11/26/2027		114.54799	111.2093636	107.9873902	104.8772953	101.8745269	98.97474863	96.17382716	93.4678217	90.8529735
221129A00071	11/29/2022	4.28	11/26/2027		114.54799	111.2093636	107.9873902	104.8772953	101.8745269	98.97474863	96.17382716	93.4678217	90.8529735
221129A00072	11/29/2022	4.39	12/2/2026		110.06758	107.8116653	105.6138299	103.4721549	101.3848051	99.35002094	97.36611412	95.43146439	93.54451602
221129A00073	11/29/2022	4.39	12/2/2026		110.06758	107.8116653	105.6138299	103.4721549	101.3848051	99.35002094	97.36611412	95.43146439	93.54451602
221129A00075	11/29/2022	4.38	12/1/2026		110.03216	107.7794151	105.5846082	103.4458323	101.3612587	99.32913347	97.34777403	95.41556529	93.53095647
221129A00076	11/29/2022	4.38	12/1/2026		110.03216	107.7794151	105.5846082	103.4458323	101.3612587	99.32913347	97.34777403	95.41556529	93.53095647
221129A00077	11/29/2022	4.38	12/1/2026		110.03216	107.7794151	105.5846082	103.4458323	101.3612587	99.32913347	97.34777403	95.41556529	93.53095647
221129A00078	11/29/2022	4.38	12/1/2026		110.03216	107.7794151	105.5846082	103.4458323	101.3612587	99.32913347	97.34777403	95.41556529	93.53095647
221129A00083	11/29/2022	4.38	11/30/2026		110.01877	107.7689385	105.5769179	103.4408041	101.3587745	99.32908099	97.35004624	95.4200603	93.53757721
221129A00084	11/29/2022	4.38	11/30/2026		110.01877	107.7689385	105.5769179	103.4408041	101.3587745	99.32908099	97.35004624	95.4200603	93.53757721









	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221222A00013	12/22/2022	4.34	12/23/2025		105.32686	104.0608375	102.8253659	101.6193463	100.4417329	99.29152917	98.16778453	97.06959205	95.99608587
221222A00014	12/22/2022	4.65	12/23/2024		100.903	100.6696577	100.4374068	100.206238	99.97614364	99.74711629	99.51914846	99.29223275	99.06636185
221222A00024	12/22/2022	4.35	12/15/2025		105.23195	103.9890298	102.7755872	101.5905777	100.4330089	99.30193385	98.19644897	97.11569131	96.0588364
221222A00026	12/22/2022	4.22	12/15/2026		109.86157	107.571995	105.3421192	103.1699475	101.0535669	98.99114477	96.98092401	95.02121949	93.11041438
221222A00027	12/22/2022	4.16	12/15/2027		114.40244	111.0123338	107.7423001	104.5873491	101.5427318	98.60392726	95.76663025	93.02673917	90.380345
221222A00035	12/30/2022	4.34	12/30/2025		105.42062	104.1342805	102.8794401	101.6549526	100.4597248	99.29271578	98.15293337	97.03943145	95.95130735
221222A00053	12/22/2022	4.18	12/22/2027		113.99312	110.7070306	107.5382655	104.4819559	101.53346	98.68835496	95.9424252	93.29165145	90.73220043
221223A00016	12/23/2022	4.73	12/23/2024		100.92164	100.6882708	100.455991	100.2247934	99.99467045	99.76561453	99.53761822	99.31067414	99.08477497
221223A00025	12/23/2022	4.25	12/23/2027		114.79787	111.3787788	108.081408	104.9006731	101.8317337	98.86998353	96.01103735	93.25071887	90.58504912
221228A00044	12/28/2022	4.31	12/28/2027		115.05943	111.6219317	108.3072002	105.1100881	102.0256971	99.04936673	96.17666126	93.40335704	90.72543078
221228A00075	12/28/2022	4.09	12/28/2027		114.61535	111.1783302	107.8642817	104.6680386	101.584688	98.60955615	95.73819473	92.96636852	90.29004338
221228A00129	12/28/2022	4.11	12/28/2027		114.39477	111.0190018	107.7650807	104.6279348	101.6027279	98.6848511	95.86991034	93.15371553	90.53226982
221229A00075	12/29/2022	5.2	12/29/2037		162.84627	146.6529764	132.3667887	119.7469566	108.5845765	98.69821651	89.93016123	82.14318731	75.21779333
221230A00055	12/30/2022	4.59	12/30/2024		100.98691	100.7338395	100.4820391	100.2314977	99.98220606	99.73415473	99.48733449	99.2417362	98.99735081
221230A00059	12/30/2022	4.47	6/30/2025		103.17987	102.4163014	101.6640494	100.9228659	100.1925077	99.47273887	98.7633301	98.06405874	97.37470847
221230A00072	12/30/2022	4.8	12/31/2024		101.03189	100.7761928	100.5217851	100.2686586	100.0168036	99.76621054	99.51687003	99.26877271	99.02190935
221230A00086	12/30/2022	4.8	1/2/2025		101.05641	100.7951535	100.5352503	100.2766883	100.0194572	99.76354672	99.50894667	99.25564702	99.00363782
221230A00087	12/30/2022	4.56	1/2/2026		105.73977	104.4441209	103.1796489	101.9452359	100.7398144	99.56236683	98.41192306	97.28755739	96.18838612
221230A00088	12/30/2022	4.42	12/30/2026		110.51191	108.1732417	105.8963926	103.6792649	101.5198482	99.41621727	97.36652815	95.36901377	93.42197996
221230A00108	12/30/2022	4.8	12/30/2024		101.02015	100.7672417	100.5155983	100.2652107	100.0160694	99.76816526	99.52148903	99.27603163	99.03178408
221230A00109	12/30/2022	4.56	12/30/2025		105.69875	104.4105447	103.1538771	101.9275932	100.730599	99.56185272	98.42036137	97.3051781	96.21539946
221230A00111	12/30/2022	4.42	12/30/2026		110.51191	108.1732417	105.8963926	103.6792649	101.5198482	99.41621727	97.36652815	95.36901377	93.42197996
230103A00066	1/3/2023	4.19	7/15/2026		107.9535	106.1086259	104.3045675	102.5401207	100.8141226	99.12545487	97.47304106	95.85584496	94.27286858
230103A00068	1/3/2023	4.69	3/13/2025		101.88037	101.4238876	100.971509	100.5231816	100.078851	99.63846376	99.2019673	98.76931005	98.34044135
230103A00070	1/3/2023	4.53	10/15/2025		104.60307	103.5350778	102.4889817	101.4641094	100.4598183	99.47549207	98.51053837	97.5643883	96.63649503
230104A00004	1/4/2023	4.19	1/4/2028		114.752	111.2998589	107.9716702	104.7622211	101.6665577	98.67996597	95.79795889	93.0162634	90.33080884
230104A00044	1/4/2023	4.2	1/4/2028		114.78515	111.3324606	108.0037383	104.7937699	101.697601	98.71051699	95.82803043	93.04586784	90.35995813
230105A00020	1/5/2023	4.32	1/5/2028		115.19586	111.7335704	108.3956137	105.1767693	102.0720697	99.07678775	96.18642329	93.39669075	90.70350722
230105A00028	1/5/2023	4.93	10/18/2024		100.201	100.1509683	100.101002	100.0511026	100.0012701	99.95150429	99.901805	99.85217213	99.80260553
230106A00017	1/6/2023	4.23	1/6/2028		114.90993	111.4495567	108.1135847	104.8967841	101.7941848	98.80105678	95.912897	93.12541688	90.43453044
230106A00019	1/6/2023	4.23	1/6/2028		114.90993	111.4495567	108.1135847	104.8967841	101.7941848	98.80105678	95.912897	93.12541688	90.43453044
230106A00032	1/6/2023	4.28	1/6/2026		105.5387	104.2340612	102.9596581	101.7144398	100.4974032	99.30759132	98.1440902	97.00602669	95.89256614
230109A00011	1/9/2023	4.61	1/6/2025		101.05379	100.7815073	100.5106981	100.2413518	99.97345651	99.70700047	99.44197203	99.1783597	98.91615207

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230109A00027	1/9/2023	4.64	12/17/2024		100.83286	100.6162178	100.4005227	100.185767	99.97194447	99.75904906	99.54707463	99.33601514	99.12586459
230109A00042	1/9/2023	4.07	12/20/2027		114.17044	110.7700564	107.4905666	104.3269273	101.2743395	98.32823574	95.48426726	92.73829202	90.08636321
230109A00083	1/9/2023	4.79	1/11/2038		157.52335	141.6309818	127.6247601	115.2653343	104.3451388	94.68401188	86.12543837	78.53332528	71.78923218
230110A00006	1/10/2023	4.06	1/10/2028		114.39418	110.9311399	107.593023	104.3745841	101.2708327	98.27701851	95.38861818	92.60132268	89.91102587
230110A00023	1/10/2023	4.3	1/12/2026		105.53681	104.2207591	102.9333976	101.6737908	100.4410403	99.23428651	98.05270691	96.89551364	95.76195186
230110A00035	1/10/2023	4.08	1/10/2028		114.17427	110.7736176	107.4967864	104.3385889	101.2940803	98.35854889	95.52750347	92.79666207	90.16194093
230110A00037	1/11/2023	4.66	11/15/2024		100.48123	100.3535063	100.2261244	100.0990808	99.97237429	99.84600335	99.71996664	99.59426281	99.46889048
230110A00040	1/13/2023	4.07	12/13/2027		114.08461	110.7052949	107.4455443	104.3003992	101.2651361	98.33525834	95.50648347	92.77473119	90.13611247
230110A00043	1/10/2023	3.84	1/10/2028		113.94422	110.4817291	107.1443682	103.9268741	100.8242415	97.83170651	94.94473292	92.15899988	89.47039017
230110A00047	1/10/2023	3.84	1/10/2028		113.94422	110.4817291	107.1443682	103.9268741	100.8242415	97.83170651	94.94473292	92.15899988	89.47039017
230110A00055	1/10/2023	4.06	1/10/2028		114.39418	110.9311399	107.593023	104.3745841	101.2708327	98.27701851	95.38861818	92.60132268	89.91102587
230110A00070	1/10/2023	4.27	1/9/2026		105.45968	104.1506864	102.871112	101.619967	100.3963022	99.19921081	98.02782575	96.88131779	95.75889334
230110A00074	1/12/2023	4.65	1/10/2025		101.11203	100.8286003	100.5467736	100.2665343	99.98786889	99.71076415	99.43520684	99.16118394	98.88868256
230111A00004	1/11/2023	3.83	1/11/2028		113.92265	110.4577117	107.1180829	103.8984944	100.7939343	97.79963199	94.91104459	92.12384474	89.43390872
230111A00013	1/11/2023	4.25	1/9/2026		105.43384	104.1250233	102.845622	101.5946471	100.3711495	99.17422247	98.0029991	96.8566502	95.73438222
230111A00019	1/11/2023	3.83	1/11/2028		113.92265	110.4577117	107.1180829	103.8984944	100.7939343	97.79963199	94.91104459	92.12384474	89.43390872
230111A00039	1/11/2023	4.6	1/13/2025		101.13299	100.8412359	100.5511826	100.2628116	99.97610806	99.69105757	99.40764571	99.12585826	98.84568118
230111A00046	1/11/2023	4.28	1/13/2026		105.52354	104.2054022	102.9157066	101.6535364	100.4180103	99.208285	98.02355277	96.8630398	95.72600437
230111A00072	1/11/2023	4.21	1/12/2026		105.41979	104.1045353	102.8179621	101.55913	100.327141	99.12113609	97.94029292	96.78382402	95.65097487
230112A00004	1/12/2023	4	1/12/2028		114.21831	110.7525928	107.4120944	104.1915627	101.0859959	98.09063234	95.20093717	92.41259012	89.72147381
230112A00014	1/12/2023	4.09	1/12/2027		109.92241	107.5546439	105.2503083	103.0072773	100.8235136	98.69706349	96.62605226	94.60868076	92.6432215
230112A00041	1/12/2023	4.2	1/12/2026		105.40679	104.0916215	102.8051359	101.5463899	100.3144855	99.10856382	97.92780248	96.77141407	95.6386441
230112A00042	1/12/2023	4.09	1/12/2027		109.92241	107.5546439	105.2503083	103.0072773	100.8235136	98.69706349	96.62605226	94.60868076	92.6432215
230112A00044	1/12/2023	4	1/12/2028		114.21831	110.7525928	107.4120944	104.1915627	101.0859959	98.09063234	95.20093717	92.41259012	89.72147381
230112A00059	3/1/2023	4.04	3/2/2026		105.8271	104.3778333	102.9556769	101.5599358	100.1899367	98.84502882	97.52458277	96.22798982	94.95466103
230112A00060	3/15/2023	4.01	3/13/2026		105.91812	104.4382761	102.986659	101.562532	100.1651811	98.79391642	97.44807146	96.12700192	94.83008487
230112A00061	3/15/2023	4.01	3/13/2026		105.91812	104.4382761	102.986659	101.562532	100.1651811	98.79391642	97.44807146	96.12700192	94.83008487
230112A00062	3/15/2023	3.83	3/15/2028		114.39825	110.7472729	107.2345434	103.8540735	100.6001711	97.4674205	94.45066737	91.54500465	88.7457593
230112A00063	3/15/2023	3.83	3/15/2028		114.39825	110.7472729	107.2345434	103.8540735	100.6001711	97.4674205	94.45066737	91.54500465	88.7457593
230112A00065	1/12/2023	4.09	1/12/2027		109.92241	107.5546439	105.2503083	103.0072773	100.8235136	98.69706349	96.62605226	94.60868076	92.6432215
230112A00066	1/12/2023	4	1/12/2028		114.21831	110.7525928	107.4120944	104.1915627	101.0859959	98.09063234	95.20093717	92.41259012	89.72147381
230113A00037	1/26/2024	3.43	1/30/2026		104.59235	103.2437724	101.9193562	100.6184975	99.34061552	98.08514838	96.85155214	95.63930016	94.44788239
230113A00055	1/13/2023	3.88	1/13/2028		113.82951	110.3674634	107.0306537	103.8138245	100.7119726	97.72033514	94.83437571	92.04977237	89.362406

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230113A00057	1/13/2023	3.99	1/13/2028		113.10626	109.8962768	106.8014542	103.8169893	100.9383093	98.16105664	95.48107741	92.8944107	90.39727865
230113A00080	1/13/2023	4.18	1/13/2026		105.39324	104.0759906	102.7871744	101.5258684	100.291192	99.08230211	97.89839144	96.73868656	95.60244612
230117A00015	1/17/2023	4.52	1/17/2025		101.1556	100.8527593	100.5517434	100.2525382	99.95512742	99.65949477	99.36562423	99.07349998	98.78310638
230117A00040	1/17/2023	4.07	1/19/2027		109.96342	107.5758142	105.2526052	102.9916516	100.7909009	98.64838243	96.56220385	94.53054713	92.55166519
230117A00048	1/17/2023	3.97	1/14/2028		114.14207	110.672012	107.3275248	104.1033366	100.9944327	97.99603836	95.10360606	92.3128028	89.61949869
230117A00087	1/17/2023	3.93	1/18/2028		114.05565	110.5758326	107.2223035	103.9897678	100.8731841	97.86775057	94.96889299	92.17225193	89.47367151
230118A00019	1/18/2023	3.59	1/18/2028		113.1991	109.7266267	106.3804627	103.1553061	100.0461063	97.04805405	94.15656762	91.36728108	88.67603255
230118A00020	1/18/2023	3.87	1/16/2026		105.13038	103.8067486	102.5108418	101.2417905	99.99876384	98.78096555	97.58763209	96.41803094	95.27145899
230118A00023	1/18/2023	3.8	1/18/2028		113.6196	110.1470764	106.8006422	103.5750107	100.4651468	97.46625532	94.57376812	91.78333164	89.09079563
230118A00029	1/18/2023	3.81	1/18/2028		113.65314	110.1800576	106.8330777	103.6069151	100.4965342	97.49713957	94.60416235	91.81324859	89.12024762
230118A00033	1/18/2023	3.81	1/18/2028		113.65314	110.1800576	106.8330777	103.6069151	100.4965342	97.49713957	94.60416235	91.81324859	89.12024762
230118A00039	1/18/2023	3.81	1/18/2028		113.65314	110.1800576	106.8330777	103.6069151	100.4965342	97.49713957	94.60416235	91.81324859	89.12024762
230118A00053	1/18/2023	3.87	1/16/2026		105.13038	103.8067486	102.5108418	101.2417905	99.99876384	98.78096555	97.58763209	96.41803094	95.27145899
230118A00056	1/18/2023	3.87	1/16/2026		105.13038	103.8067486	102.5108418	101.2417905	99.99876384	98.78096555	97.58763209	96.41803094	95.27145899
230118A00058	1/23/2023	4	2/17/2026		105.59938	104.1903697	102.8071053	101.4489418	100.1152536	98.80543591	97.51890311	96.25508848	95.01344323
230118A00087	1/18/2023	4.02	1/16/2026		105.22079	103.8982049	102.603293	101.3351886	100.093063	98.87612217	97.6836043	96.51477872	95.36894403
230119A00034	1/19/2023	3.82	1/19/2028		113.6982	110.2215678	106.8712481	103.6419487	100.5286262	97.52647719	94.63092537	91.83760922	89.14237067
230119A00075	1/19/2023	4.44	1/21/2025		101.17644	100.8625023	100.5505234	100.2404863	99.93237271	99.62616465	99.32184442	99.0193945	98.7187976
230119A00105	1/19/2023	3.9	1/19/2027		109.5663	107.1834004	104.8647949	102.6083479	100.4120095	98.27381217	96.19186598	94.16435553	92.18953619
230119A00108	1/19/2023	3.81	1/19/2028		113.66463	110.1885594	106.8387864	103.6100189	100.4972142	97.49556919	94.60050816	91.80767001	89.11289712
230119A00137	1/19/2023	3.9	1/19/2027		109.5663	107.1834004	104.8647949	102.6083479	100.4120095	98.27381217	96.19186598	94.16435553	92.18953619
230120A00021	1/20/2023	4.13	1/20/2026		105.41432	104.0816942	102.7757779	101.4957826	100.2409486	99.01054574	97.8038727	96.62025506	95.45904415
230120A00022	1/20/2023	3.9	1/20/2028		113.97851	110.49438	107.1368857	103.9007181	100.7808223	97.77238371	94.87081507	92.0717441	89.37100229
230120A00027	1/20/2023	4.13	1/20/2026		105.41432	104.0816942	102.7757779	101.4957826	100.2409486	99.01054574	97.8038727	96.62025506	95.45904415
230120A00029	1/20/2023	3.9	1/20/2028		113.97851	110.49438	107.1368857	103.9007181	100.7808223	97.77238371	94.87081507	92.0717441	89.37100229
230120A00049	1/20/2023	4.53	1/16/2025		101.14712	100.8470556	100.548786	100.2522948	99.95756596	99.66458378	99.37333262	99.08379705	98.79596184
230120A00065	1/20/2023	4.52	1/21/2025		101.20151	100.8875256	100.5754978	100.265412	99.95724997	99.65099367	99.34662542	99.04412771	98.74348323
230120A00071	1/20/2023	4.31	1/21/2025		101.16022	100.8460411	100.5338226	100.2235507	99.91520698	99.60877347	99.30423232	99.00156594	98.70075695
230120A00079	1/20/2023	3.68	1/20/2028		113.52414	110.0406163	106.6839321	103.4487655	100.330047	97.32294798	94.42286818	91.62542332	88.92643363
230120A00099	1/20/2023	3.92	1/20/2026		105.24385	103.9107187	102.6043424	101.3239244	100.0687029	98.83794648	97.63095212	96.447044	95.28557211
230120A00103	1/20/2023	3.92	1/20/2026		105.24385	103.9107187	102.6043424	101.3239244	100.0687029	98.83794648	97.63095212	96.447044	95.28557211
230120A00114	1/20/2023	4.13	1/20/2026		105.41432	104.0816942	102.7757779	101.4957826	100.2409486	99.01054574	97.8038727	96.62025506	95.45904415
230120A00117	1/20/2023	3.9	1/20/2028		113.97851	110.49438	107.1368857	103.9007181	100.7808223	97.77238371	94.87081507	92.0717441	89.37100229

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230123A00016	1/23/2023	4.64	12/2/2024		100.66328	100.4882891	100.3139129	100.1401435	99.96697772	99.7944125	99.62244467	99.45107114	99.28028883
230123A00051	1/23/2023	3.75	1/21/2028		113.77122	110.280745	106.9174135	103.6758927	100.5511019	97.53820171	94.63258136	91.8298462	89.12580639
230123A00078	1/23/2023	4.41	6/23/2025		102.98644	102.2439081	101.5121107	100.7908134	100.0797911	99.37882509	98.68770272	98.00621741	97.3341683
230124A00004	1/24/2023	3.99	1/24/2028		114.32888	110.8276527	107.4539892	104.2025425	101.0682236	98.0461841	95.13180346	92.32067678	89.60860354
230124A00014	1/24/2023	4.23	1/26/2026		105.62217	104.2750079	102.9531142	101.6558054	100.3824263	99.13234504	97.90495197	96.69965878	95.51589748
230124A00015	1/24/2023	4.09	1/25/2027		110.08534	107.679685	105.3392765	103.0619655	100.8456852	98.68844984	96.58835049	94.54355201	92.55228953
230124A00022	1/24/2023	4.39	1/24/2025		101.2193	100.8966991	100.5761622	100.2576722	99.9412095	99.62675459	99.31428838	99.00379194	98.69524662
230124A00024	1/24/2023	4.23	1/23/2026		105.58437	104.2440171	102.9296617	101.6405667	100.376024	99.13535236	97.91789581	96.7230226	95.55012404
230124A00025	1/24/2023	4.09	1/25/2027		110.08534	107.679685	105.3392765	103.0619655	100.8456852	98.68844984	96.58835049	94.54355201	92.55228953
230124A00035	1/24/2023	4.23	1/26/2026		105.62217	104.2750079	102.9531142	101.6558054	100.3824263	99.13234504	97.90495197	96.69965878	95.51589748
230124A00041	1/24/2023	4.6	1/24/2025		101.26168	100.9392776	100.6189355	100.3006355	99.98435802	99.67008381	99.35779382	99.04746922	98.73909144
230124A00045	1/24/2023	3.99	1/24/2028		114.32888	110.8276527	107.4539892	104.2025425	101.0682236	98.0461841	95.13180346	92.32067678	89.60860354
230124A00046	1/24/2023	3.99	1/24/2028		114.32888	110.8276527	107.4539892	104.2025425	101.0682236	98.0461841	95.13180346	92.32067678	89.60860354
230124A00055	6/15/2023	4.13	6/15/2032		131.66808	123.0414951	115.0633611	107.6810575	100.8465146	94.51579549	88.64871931	83.2085209	78.16154323
230124A00056	3/28/2023	4.19	3/28/2033		134.77989	125.1980078	116.3992583	108.3148282	100.8823087	94.04506683	87.75168337	81.95544742	76.61390264
230124A00058	6/15/2023	4.21	6/15/2034		138.99195	127.9323442	117.8863261	108.7543788	100.4472902	92.88503464	85.99578118	79.71501366	73.98474961
230125A00010	1/25/2023	4.01	1/25/2027		109.89712	107.4937111	105.1554993	102.8803385	100.6661634	98.51098934	96.41290884	94.37008794	92.38076295
230125A00021	1/25/2023	3.95	1/26/2026		105.35585	104.0088531	102.6871505	101.3900565	100.1169147	98.86709215	97.63997824	96.43498368	95.25153959
230125A00022	1/25/2023	3.8	1/25/2027		109.59864	107.1948217	104.8563139	102.5809574	100.366681	98.21149485	96.11348632	94.07081672	92.08171783
230125A00023	1/25/2023	3.69	1/25/2028		113.6148	110.1157281	106.7444946	103.4957409	100.3643598	97.34548565	94.43448124	91.62692606	88.91860472
230125A00030	1/25/2023	3.91	1/25/2028		114.07096	110.5712725	107.1992136	103.9494419	100.8168652	97.79663169	94.88411745	92.07491403	89.36481743
230125A00031	1/25/2023	3.74	1/25/2028		112.69039	109.4572297	106.341227	103.3374512	100.441206	97.64801815	94.95362587	92.35396736	89.84517042
230126A00015	1/26/2023	4.08	1/26/2027		110.07432	107.6660273	105.3231162	103.0434357	100.8249171	98.66557182	96.56348867	94.51682973	92.52382731
230126A00034	1/26/2023	4.56	1/24/2025		101.24881	100.9264347	100.6061183	100.2878438	99.97159183	99.65734296	99.34507819	99.03477869	98.7264259
230126A00036	1/26/2023	4.19	1/26/2026		105.5686	104.2218185	102.9002956	101.6033512	100.3303303	99.08060126	97.85355461	96.64860218	95.46517611
230127A00012	1/27/2023	4	1/27/2028		114.39866	110.8878392	107.5051869	104.245336	101.1031747	98.07383201	95.15266497	92.33524661	89.6173548
230127A00044	1/27/2023	4.25	1/27/2026		105.6616	104.311987	102.9873936	101.6871633	100.4106585	99.15726378	97.92638504	96.71744841	95.52989947
230127A00045	1/27/2023	4.12	1/27/2027		110.18116	107.768821	105.4220288	103.1386299	100.9165521	98.75380398	96.64847079	94.59871119	92.6027539
230127A00046	1/27/2023	4	1/27/2028		114.39866	110.8878392	107.5051869	104.245336	101.1031747	98.07383201	95.15266497	92.33524661	89.6173548
230127A00048	1/27/2023	4	1/27/2028		114.39866	110.8878392	107.5051869	104.245336	101.1031747	98.07383201	95.15266497	92.33524661	89.6173548
230127A00053	1/27/2023	4	1/27/2028		114.39866	110.8878392	107.5051869	104.245336	101.1031747	98.07383201	95.15266497	92.33524661	89.6173548
230127A00056	1/27/2023	3.78	1/27/2028		113.94218	110.4319689	107.050136	103.7912982	100.6503288	97.62234251	94.70268334	91.8869121	89.17079521
230127A00059	1/27/2023	4.41	1/27/2025		101.2599	100.9289114	100.600088	100.2734132	99.94886573	99.62642491	99.3060702	98.98778137	98.67153843

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230127A00060	1/30/2023	4.25	2/3/2026		105.75408	104.3860581	103.0423909	101.7224806	100.4257502	99.15164124	97.89961256	96.66913991	95.45971522
230127A00073	1/27/2023	4.24	2/17/2026		105.93545	104.5239709	103.1382849	101.777741	100.4417127	99.12959387	97.84079808	96.5747575	95.33092238
230127A00075	1/27/2023	4.23	7/28/2025		103.34932	102.5071371	101.6787078	100.8636943	100.0617722	99.27262767	98.49595675	97.73146507	96.97886748
230127A00079	1/27/2023	4.23	7/28/2025		103.34932	102.5071371	101.6787078	100.8636943	100.0617722	99.27262767	98.49595675	97.73146507	96.97886748
230127A00095	1/27/2023	4.59	1/27/2025		101.29347	100.9627055	100.6341009	100.3076397	99.98330105	99.66106416	99.34090866	99.02281439	98.70676148
230127A00096	1/27/2023	4.21	1/27/2026		105.60793	104.2586881	102.9344669	101.6346024	100.3584573	99.1054163	97.87488539	96.66629091	95.47907859
230130A00045	1/30/2023	4.02	1/28/2028		114.47833	110.9633571	107.5767821	104.3132288	101.1675768	98.13494679	95.2106874	92.39036356	89.66974514
230130A00086	1/30/2023	4.16	2/1/2027		110.34021	107.9118155	105.5497242	103.2517628	101.0158414	98.8399504	96.72215666	94.6606003	92.65349144
230130A00087	1/30/2023	4.04	1/28/2028		114.54597	111.0298617	107.6421773	104.3775446	101.2308423	98.19718992	95.27193515	92.45064201	89.72907947
230130A00095	2/3/2023	4.25	5/26/2026		107.24728	105.5513463	103.8907325	102.2643959	100.6713388	99.11060234	97.58126449	96.08243828	94.61327014
230130A00096	1/30/2023	4.67	1/30/2025		101.35555	101.0163471	100.6794133	100.3447259	100.0122625	99.68200108	99.35391979	99.02799711	98.70421182
230130A00127	1/30/2023	4.02	2/1/2028		114.52735	111.0001297	107.6021125	104.3278924	101.1723142	98.13046443	95.19765874	92.36943001	89.64151713
230131A00004	1/31/2023	3.76	1/31/2028		113.9209	110.3998072	107.00785	103.7396205	100.5899632	97.55396396	94.62693822	91.80441866	89.08214406
230131A00006	1/31/2023	4.23	2/2/2026		105.71295	104.3482348	103.0077626	101.6909464	100.3972128	99.12600656	97.87678992	96.64904172	95.4422569
230131A00009	1/31/2023	3.98	1/31/2028		114.37894	110.8572237	107.4644305	104.1951702	101.0443024	98.0069271	95.07837302	92.25418512	89.53011369
230131A00032	2/3/2023	4.17	7/30/2026		107.96037	106.076876	104.235758	102.4358136	100.6758804	98.95483642	97.27159835	95.62511982	94.01439
230131A00034	2/3/2023	3.99	12/23/2027		113.94472	110.5395956	107.2558246	104.0883294	101.032282	98.0830881	95.2363739	92.48797408	89.83392015
230131A00057	1/31/2023	4.1	1/29/2027		110.15912	107.741504	105.3897044	103.1015653	100.87501	98.70804219	96.59874198	94.54526255	92.54582695
230131A00067	1/31/2023	4.02	2/2/2026		105.538	104.1727897	102.8318595	101.5146184	100.2204919	98.94892353	97.69937435	96.47132215	95.26426086
230131A00071	1/31/2023	4.22	1/30/2026		105.65906	104.3029181	102.9710614	101.6628888	100.377816	99.11527776	97.87472694	96.65563373	95.45748508
230131A00087	2/3/2023	4.26	1/5/2026		105.39605	104.0961854	102.8267223	101.5865942	100.3747846	99.19032399	98.03228667	96.89978868	95.79198527
230131A00095	1/31/2023	4.22	1/30/2026		105.65906	104.3029181	102.9710614	101.6628888	100.377816	99.11527776	97.87472694	96.65563373	95.45748508
230201A00003	2/1/2023	3.93	1/31/2028		114.20941	110.690556	107.3005496	104.0340007	100.8857712	97.85096388	94.92490981	92.10315632	89.38145593
230201A00011	2/1/2023	3.93	2/1/2028		114.22194	110.6998839	107.306891	104.0375589	100.8867371	97.84951669	94.92121785	92.09737763	89.37373896
230201A00012	2/1/2023	4.08	2/1/2027		110.15043	107.7243151	105.3644563	103.0686799	100.8348974	98.66110052	96.54535755	94.48580981	92.48066863
230201A00047	2/1/2023	4.42	2/3/2025		101.34411	100.9935802	100.6454765	100.299776	99.95645369	99.61548519	99.27684626	98.94051305	98.60646203
230201A00048	2/1/2023	4.42	2/3/2025		101.34411	100.9935802	100.6454765	100.299776	99.95645369	99.61548519	99.27684626	98.94051305	98.60646203
230202A00006	2/2/2023	3.92	2/2/2027		109.78398	107.3592255	105.0007857	102.7064876	100.4742382	98.30202484	96.18791174	94.13003643	92.12660664
230202A00008	2/2/2023	3.81	2/2/2028		113.82692	110.3085584	106.9192883	103.6537002	100.5066377	97.4731863	94.54866111	91.72859459	89.00872545
230202A00011	2/2/2023	3.92	2/2/2027		109.78398	107.3592255	105.0007857	102.7064876	100.4742382	98.30202484	96.18791174	94.13003643	92.12660664
230202A00033	2/2/2023	4.26	2/3/2025		101.28819	100.9377828	100.5897991	100.2442179	99.90101444	99.5601641	99.22164274	98.8854265	98.55149185
230202A00034	2/2/2024	3.41	2/2/2026		104.5989	103.2421286	101.9094699	100.6003342	99.31415199	98.05037153	96.80845841	95.58789476	94.38817866
230202A00038	2/2/2023	3.84	2/2/2028		113.92881	110.4087217	107.0177742	103.7505542	100.6019037	97.56690685	94.6408771	91.81934555	89.09804954



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230202A00041	2/2/2023	3.82	2/2/2028		113.86089	110.3419462	106.952117	103.6859849	100.538393	97.50442649	94.57939978	91.75884491	89.03850014
230202A00042	2/2/2023	3.82	2/2/2028		113.86089	110.3419462	106.952117	103.6859849	100.538393	97.50442649	94.57939978	91.75884491	89.03850014
230202A00045	2/2/2023	3.62	2/2/2028		113.46941	109.9499738	106.5598862	103.2937211	100.1463052	97.11270826	94.18823071	91.36839122	88.6489156
230202A00050	2/2/2023	3.82	2/2/2028		113.86089	110.3419462	106.952117	103.6859849	100.538393	97.50442649	94.57939978	91.75884491	89.03850014
230202A00061	2/2/2023	4.16	2/2/2026		105.61785	104.2538111	102.9140059	101.5978454	100.3047564	99.03418405	97.78559089	96.558456	95.35227461
230202A00065	2/2/2023	3.87	5/15/2028		115.26427	111.4233511	107.7334815	104.1878535	100.7800107	97.50382449	94.35347539	91.3234355	88.40845205
230202A00096	2/2/2023	3.81	2/2/2028		113.82692	110.3085584	106.9192883	103.6537002	100.5066377	97.4731863	94.54866111	91.72859459	89.00872545
230203A00021	2/8/2023	4.21	6/17/2026		107.47227	105.712489	103.9903265	102.3046365	100.6543238	99.03833789	97.45566974	95.90535031	94.38644831
230203A00025	2/3/2023	4.63	2/3/2025		101.39006	101.0397461	100.6918507	100.346353	100.0032284	99.66245242	99.32400097	98.98785032	98.65397704
230203A00026	2/3/2023	3.98	2/3/2028		114.41696	110.8856132	107.4838459	104.2062225	101.0475652	98.00293903	95.06763974	92.23718155	89.50728585
230203A00038	2/3/2023	4.1	2/3/2027		110.22512	107.7919938	105.4254621	103.123334	100.883506	98.70395518	96.58273617	94.51797731	92.50787758
230203A00039	2/3/2023	3.98	2/3/2028		114.41696	110.8856132	107.4838459	104.2062225	101.0475652	98.00293903	95.06763974	92.23718155	89.50728585
230203A00043	2/14/2023	4.31	2/13/2026		105.97697	104.5772424	103.2029042	101.8533202	100.5278778	99.22598443	97.94706643	96.69056835	95.45595225
230203A00045	2/14/2023	4.31	2/13/2026		105.97697	104.5772424	103.2029042	101.8533202	100.5278778	99.22598443	97.94706643	96.69056835	95.45595225
230203A00046	2/10/2023	4.65	2/10/2025		101.48206	101.1122221	100.7450891	100.3806323	100.0188222	99.65963004	99.30302739	98.94898619	98.59747882
230203A00048	2/10/2023	4.65	2/10/2025		101.48206	101.1122221	100.7450891	100.3806323	100.0188222	99.65963004	99.30302739	98.94898619	98.59747882
230203A00050	2/14/2023	4.64	2/14/2025		101.52683	101.1458446	100.7677264	100.3924467	100.0199733	99.65027485	99.2833202	98.91907882	98.55752056
230203A00051	2/14/2023	4.64	2/14/2025		101.52683	101.1458446	100.7677264	100.3924467	100.0199733	99.65027485	99.2833202	98.91907882	98.55752056
230203A00053	2/10/2023	4.32	2/10/2026		105.94841	104.557927	103.1925256	101.8515817	100.5344936	99.24067897	97.96957377	96.72063194	95.49332447
230203A00054	2/10/2023	4.32	2/10/2026		105.94841	104.557927	103.1925256	101.8515817	100.5344936	99.24067897	97.96957377	96.72063194	95.49332447
230203A00057	2/3/2023	4.34	2/3/2026		105.8766	104.5077066	103.1631786	101.842422	100.5448597	99.2699326	98.01709926	96.78583507	95.57563161
230203A00058	2/3/2023	4.34	2/3/2026		105.8766	104.5077066	103.1631786	101.842422	100.5448597	99.2699326	98.01709926	96.78583507	95.57563161
230203A00059	2/3/2023	4.67	2/3/2025		101.40404	101.0536931	100.7057677	100.3602403	100.017086	99.67628048	99.33779967	99.00161981	98.66771746
230206A00008	2/6/2023	4.58	2/6/2025		101.4366	101.0775856	100.7211172	100.3671711	100.0157205	99.66673904	99.32020066	98.97607969	98.63435078
230206A00009	2/6/2023	4.58	2/6/2025		101.4366	101.0775856	100.7211172	100.3671711	100.0157205	99.66673904	99.32020066	98.97607969	98.63435078
230207A00025	2/7/2023	4.62	2/7/2025		101.46322	101.101378	100.7421289	100.3854421	100.0312901	99.67964594	99.33048294	98.98377479	98.63949556
230207A00046	2/7/2023	4.83	2/7/2025		101.51052	101.1489039	100.7898697	100.4333921	100.0794438	99.72799803	99.37902809	99.03250785	98.68841148
230208A00029	2/8/2023	4.27	2/8/2027		110.69984	108.2456828	105.8590361	103.537673	101.2794491	99.08230335	96.94425365	94.86339372	92.83788958
230208A00036	2/8/2023	4.43	2/6/2026		106.04248	104.663369	103.3089436	101.9785989	100.6717467	99.38781764	98.12626025	96.88654036	95.66814041
230208A00038	2/8/2023	4.27	2/8/2027		110.69984	108.2456828	105.8590361	103.537673	101.2794491	99.08230335	96.94425365	94.86339372	92.83788958
230208A00039	2/8/2023	4.17	2/8/2028		115.12881	111.5703808	108.142923	104.8409234	101.659131	98.59254223	95.63638834	92.78612282	90.03740997
230208A00040	2/8/2023	4.26	2/8/2029		120.11824	115.4053109	110.9085985	106.6170404	102.5201942	98.6082021	94.87175565	91.30206194	87.89081262
230208A00041	2/8/2023	4.32	2/8/2030		124.6918	118.7989395	113.2287607	107.9618472	102.9800471	98.26638595	93.80498511	89.58098534	85.58047647

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230208A00055	2/8/2023	4.22	2/6/2026		105.86637	104.4867593	103.131869	101.8010934	100.4938431	99.20954729	97.94765349	96.70762639	95.48894736
230208A00060	2/8/2023	4.06	2/8/2027		110.39733	107.9427503	105.5557994	103.2342366	100.9759118	98.77875802	96.64078807	94.56009057	92.53482685
230209A00015	2/9/2023	4.8	2/5/2025		101.47459	101.1185682	100.7650525	100.4140139	100.0654265	99.71926453	99.37550278	99.03411627	98.69508038
230209A00023	2/9/2023	4.79	2/10/2025		101.5337	101.1637423	100.7964944	100.4319231	100.0699992	99.71069391	99.35397867	98.99982547	98.64820669
230209A00024	2/9/2023	4.4	2/5/2026		105.98702	104.6113173	103.2601938	101.9330477	100.6292945	99.34836819	98.08972077	96.85282121	95.63715501
230209A00025	2/9/2023	4.25	2/5/2027		110.60988	108.1659959	105.7891238	103.4770556	101.2276701	99.03892769	96.90886704	94.83560138	92.81731529
230209A00027	2/9/2023	4.12	2/7/2028		114.94509	111.3927879	107.971159	104.6747061	101.4981935	98.43663222	95.48526696	92.639564	89.89519963
230209A00028	2/9/2023	4.9	12/9/2024		100.79292	100.5984422	100.4047267	100.2117692	100.0195651	99.82811006	99.63739957	99.44742924	99.25819471
230209A00037	2/9/2023	4.12	2/9/2028		114.97122	111.4124696	107.9848272	104.6827715	101.5010415	98.43462456	95.47874321	92.62884299	89.88058074
230209A00049	2/9/2023	4.17	2/9/2028		115.14202	111.580357	108.1498878	104.8450824	101.660677	98.59165647	95.63324077	92.78087306	90.03020789
230210A00009	2/10/2023	4.93	12/11/2024		100.82297	100.6229216	100.4236851	100.2252511	100.0276147	99.83077103	99.63471525	99.43944256	99.24494821
230210A00035	2/10/2023	4.52	2/10/2026		106.22457	104.8320927	103.4647265	102.1218514	100.8028646	99.5071828	98.2342413	96.98349315	95.75440856
230210A00040	2/10/2023	4.29	8/10/2027		113.17399	110.1649459	107.2528223	104.4339796	101.7049325	99.06234478	96.50302276	94.02390796	91.62207073
230210A00043	2/10/2023	4.34	2/10/2027		110.89586	108.4331915	106.038408	103.7092634	101.4435969	99.23933195	97.09447164	95.00709568	92.9753568
230210A00045	2/10/2023	4.43	8/10/2026		108.59136	106.6715528	104.7955281	102.9620252	101.1698313	99.41777563	97.70472836	96.02959844	94.39133217
230210A00055	2/10/2023	4.02	2/10/2028		114.93422	111.3658565	107.9292297	104.6187809	101.4292142	98.3554844	95.39278317	92.53652718	89.78234616
230210A00062	2/10/2023	4.13	2/10/2027		110.59287	108.1297811	105.7346889	103.405341	101.1395707	98.93529547	96.79051325	94.70329864	92.67179961
230210A00065	2/10/2023	4.02	2/10/2028		114.93422	111.3658565	107.9292297	104.6187809	101.4292142	98.3554844	95.39278317	92.53652718	89.78234616
230213A00020	2/15/2023	4.28	1/25/2028		115.31929	111.7985982	108.4061157	105.1364722	101.9845563	98.94549767	96.01465441	93.18760113	90.4601175
230214A00031	2/14/2023	4.31	2/14/2028		115.68824	112.1022154	108.6487044	105.3221059	102.1170849	99.02855945	96.05168679	93.1818511	90.4146515
230214A00042	2/14/2023	4.96	2/14/2025		101.64841	101.2671376	100.8887424	100.513187	100.1404395	99.77046842	99.40324263	99.03873155	98.67690506
230214A00049	2/14/2023	4.38	2/14/2029		120.7327	115.9873498	111.460363	107.1405247	103.017256	99.08057249	95.32104801	91.72978036	88.29835963
230214A00050	2/14/2023	4.31	2/14/2028		115.68824	112.1022154	108.6487044	105.3221059	102.1170849	99.02855945	96.05168679	93.1818511	90.4146515
230215A00008	2/15/2023	4.49	2/16/2027		111.34377	108.8572143	106.4396311	104.0887229	101.8022808	99.57818177	97.4143855	95.30893017	93.25992919
230215A00019	2/15/2023	5.01	2/18/2025		101.71996	101.3274631	100.9380069	100.5515557	100.1680748	99.78752996	99.40988738	99.03511386	98.6631767
230215A00035	2/15/2023	4.47	2/17/2026		106.37206	104.9555496	103.5649456	102.1995955	100.8588696	99.54215813	98.24887153	96.97843891	95.73030761
230215A00045	2/15/2023	4.37	2/15/2028		115.9078	112.3150097	108.8550474	105.5222984	102.3114117	99.21729015	96.23507675	93.36014227	90.58807321
230216A00045	2/16/2023	4.43	5/16/2028		117.34124	113.4594667	109.730047	106.1461248	102.7011915	99.38906932	96.20389186	93.14008674	90.19235883
230216A00046	2/16/2023	4.42	4/17/2028		116.91433	113.1240499	109.4800383	105.975827	102.6052715	99.36253316	96.24206172	93.23857959	90.34706673
230217A00036	2/17/2023	4.44	2/17/2028		116.17603	112.5726016	109.1025655	105.7602676	102.5403276	99.43762054	96.44726338	93.56460243	90.78520115
230217A00052	2/17/2023	4.55	2/17/2027		111.50351	109.0119194	106.5895105	104.2339722	101.9430866	99.71472246	97.5468314	95.43744412	93.38466683
230221A00004	2/21/2023	4.47	2/18/2028		116.29323	112.6847709	109.2099743	105.8631713	102.6389669	99.53222258	96.53804248	93.6517609	90.86892998
230221A00007	2/21/2023	4.5	10/18/2027		114.71863	111.489727	108.3706591	105.3570517	102.4447341	99.62972616	96.9082283	94.27661209	91.73141147

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230222A00024	2/22/2023	4.74	3/2/2026		106.83258	105.3757633	103.9461856	102.5431506	101.1659816	99.81402429	98.48664611	97.18323523	95.9031997
230223A00010	2/23/2023	4.68	10/3/2025		104.67284	103.6368519	102.6214434	101.6260069	100.6499564	99.69272872	98.75378248	97.83259671	96.92867018
230223A00012	2/23/2023	4.68	10/3/2025		104.67284	103.6368519	102.6214434	101.6260069	100.6499564	99.69272872	98.75378248	97.83259671	96.92867018
230223A00033	2/23/2023	4.5	2/23/2028		116.46714	112.840569	109.3488171	105.9861502	102.7471072	99.62648733	96.61933684	93.72093537	90.92678398
230224A00014	2/24/2023	4.98	2/24/2025		101.8191	101.4093779	101.0029633	100.5998136	100.1998895	99.80315233	99.40956405	99.01908721	98.63168496
230224A00015	2/24/2023	4.86	3/17/2026		107.22327	105.7224873	104.2505137	102.8065919	101.389988	99.99999356	98.63592394	97.29711767	95.98293532
230224A00018	2/24/2023	5.19	2/24/2025		101.87216	101.4626904	101.0565153	100.6535983	100.2539002	99.85738269	99.46400774	99.07373806	98.68653695
230224A00029	2/24/2023	4.87	2/24/2026		106.92741	105.4874553	104.0741425	102.6867904	101.3247439	99.9873695	98.6740543	97.38420539	96.11724892
230227A00060	2/27/2023	4.86	2/27/2026		106.96019	105.5108987	104.0885655	102.6924984	101.3220311	99.97651937	98.65534031	97.35789121	96.08358887
230228A00009	2/28/2023	4.69	2/27/2026		106.83473	105.3844829	103.9612416	102.5643116	101.193025	99.84673575	98.52481943	97.22667184	95.95170842
230228A00010	2/28/2023	4.5	2/26/2027		111.72107	109.1948266	106.7394915	104.3526734	102.0320748	99.77548925	97.58079696	95.44596095	93.36902328
230301A00029	3/1/2023	4.59	3/1/2028		116.87808	113.2233965	109.7052428	106.3177796	103.0554495	99.91296207	96.88527896	93.96760076	91.15535428
230301A00036	3/1/2023	4.91	3/2/2026		107.07677	105.6181177	104.1867377	102.7819314	101.4030211	100.0493518	98.72029007	97.4152234	96.13355909
230301A00047	3/1/2023	4.61	3/1/2028		116.61514	113.0262271	109.57272	106.2487269	103.0486473	99.9671552	96.99918394	94.13991198	91.38474966
230302A00028	3/2/2023	5.02	3/2/2026		107.23478	105.7749353	104.3423891	102.9364366	101.5563996	100.2016225	98.87147145	97.56533339	96.28261516
230302A00047	3/2/2023	4.76	3/2/2028		116.16392	112.7672395	109.4964891	106.346238	103.3113191	100.3868178	97.56805743	94.85058677	92.23016762
230303A00019	3/3/2023	5.26	3/3/2025		101.99838	101.5692182	101.1436772	100.7217081	100.3032659	99.88830656	99.47678665	99.06866345	98.663895
230303A00020	3/3/2023	4.96	3/3/2026		107.16342	105.7013852	104.2667335	102.8587626	101.4767911	100.1201601	98.78823272	97.48039284	96.19604453
230303A00035	5/15/2023	4.65	5/15/2030		127.60754	121.3481447	115.4454252	109.8770217	104.6220954	99.66121878	94.97627242	90.55034994	86.36767029
230303A00036	5/15/2023	4.53	5/15/2028		117.69646	113.8110276	110.077941	106.4903443	103.0417348	99.72593959	96.53709713	93.46963914	90.51827426
230303A00037	5/15/2023	4.81	5/15/2026		108.0224	106.3500998	104.7121915	103.107684	101.5356199	99.99507837	98.48517315	97.00505124	95.55389111
230303A00038	4/14/2023	4.56	4/14/2028		117.37707	113.5873277	109.9434876	106.4391115	103.0680829	99.82458863	96.70310233	93.69836841	90.80538721
230303A00041	4/14/2023	4.56	4/14/2028		117.37707	113.5873277	109.9434876	106.4391115	103.0680829	99.82458863	96.70310233	93.69836841	90.80538721
230303A00057	3/3/2023	4.77	3/3/2027		112.24882	109.7057508	107.2343265	104.8321179	102.4967946	100.2261186	98.01794052	95.8701951	93.78089765
230303A00059	3/3/2023	4.56	3/3/2027		111.94013	109.3966147	106.9248585	104.5224307	102.1869943	99.91630515	97.708208	95.56063212	93.47158762
230306A00019	3/6/2023	5.26	3/6/2025		102.04073	101.603178	101.1693858	100.739309	100.3128999	99.89011145	99.47089773	99.05521337	98.64301381
230306A00040	3/6/2023	5.05	3/6/2025		101.98414	101.5463224	101.1122768	100.6819541	100.2553064	99.83228666	99.41284855	98.99694659	98.58453607
230307A00004	3/7/2023	4.67	3/7/2028		116.9042	113.2929762	109.8184484	106.4746483	103.255903	100.1568184	97.17226439	94.29736007	91.5274602
230307A00020	3/7/2023	4.98	3/9/2026		107.28153	105.802193	104.3508621	102.926808	101.5293267	100.1577378	98.81138401	97.48962963	96.19185998
230307A00021	3/7/2023	4.63	3/7/2028		117.09952	113.4239997	109.8863698	106.4807062	103.2013726	100.0430042	97.00049344	94.06897592	91.24381765
230307A00022	3/7/2023	4.77	3/8/2027		112.32055	109.7626399	107.2771714	104.8616721	102.5137735	100.2312018	98.0117735	95.85339116	93.75403963
230307A00026	3/7/2023	4.98	3/6/2026		107.23687	105.7660745	104.3229793	102.9068641	101.517036	100.1528256	98.81358555	97.49869013	96.20753397
230307A00034	3/7/2023	4.41	3/7/2028		116.63198	112.9570505	109.4202418	106.0156123	102.7375086	99.58055035	96.53961515	93.60982496	90.78653305

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230307A00039	3/7/2023	5.29	3/7/2025		102.068	101.6276053	101.1910279	100.7582142	100.3291156	99.90368418	99.48187304	99.06363592	98.64892742
230307A00056	3/7/2023	5.08	3/7/2025		102.01104	101.5703882	101.133556	100.7004951	100.2711566	99.84549269	99.42345601	99.00500023	98.59007977
230307A00057	3/7/2023	5.08	3/7/2025		102.01104	101.5703882	101.133556	100.7004951	100.2711566	99.84549269	99.42345601	99.00500023	98.59007977
230307A00058	3/7/2023	5.29	3/7/2025		102.068	101.6276053	101.1910279	100.7582142	100.3291156	99.90368418	99.48187304	99.06363592	98.64892742
230307A00114	3/7/2023	4.65	3/7/2028		117.16935	113.4926177	109.9538081	106.5469974	103.2665483	100.1070948	97.06352827	94.1309833	91.30482491
230308A00019	3/8/2023	5.05	3/9/2026		107.38344	105.9033281	104.451236	103.0264338	101.6282171	100.2559053	98.90884054	97.58638699	96.28792962
230308A00030	3/8/2023	5.22	9/8/2025		104.75291	103.7876971	102.8403568	101.9103997	100.9973493	100.1007468	99.22014957	98.35513088	97.50527908
230309A00002	3/9/2023	5.41	3/10/2025		102.16417	101.715232	101.2702563	100.8291905	100.3919832	99.95858362	99.52894206	99.10300961	98.68073819
230309A00003	3/9/2023	5.06	3/9/2026		107.398	105.9177759	104.4655751	103.0406661	101.6423443	100.2699292	98.9227629	97.60020947	96.30165386
230309A00004	3/9/2023	4.86	3/9/2027		112.55744	109.9937868	107.5027867	105.0819664	102.728948	100.4414486	98.21727621	96.05432543	93.9505734
230309A00005	3/9/2023	5.06	3/9/2026		107.398	105.9177759	104.4655751	103.0406661	101.6423443	100.2699292	98.9227629	97.60020947	96.30165386
230309A00021	3/9/2023	5.41	3/10/2025		102.16417	101.715232	101.2702563	100.8291905	100.3919832	99.95858362	99.52894206	99.10300961	98.68073819
230309A00027	3/9/2023	4.68	3/9/2028		117.30186	113.6171512	110.0708462	106.6569948	103.3699317	100.2042655	97.15486321	94.21683684	91.38553021
230309A00030	3/9/2023	5.01	3/9/2026		107.32521	105.8455366	104.3938795	102.9695048	101.5717083	100.1998096	98.85315109	97.53109707	96.23303269
230309A00031	3/9/2023	5.01	3/9/2026		107.32521	105.8455366	104.3938795	102.9695048	101.5717083	100.1998096	98.85315109	97.53109707	96.23303269
230309A00032	3/9/2023	4.82	3/9/2027		112.45853	109.8961111	107.4063204	104.9866832	102.6348222	100.3484554	98.12539148	95.96352582	93.8608362
230309A00033	3/9/2023	4.82	3/9/2027		112.45853	109.8961111	107.4063204	104.9866832	102.6348222	100.3484554	98.12539148	95.96352582	93.8608362
230309A00034	3/9/2023	4.64	3/9/2028		117.16198	113.4796984	109.9357602	106.5242099	103.2393847	100.0758952	97.02861067	94.09264523	91.26334462
230309A00035	3/9/2023	4.64	3/9/2028		117.16198	113.4796984	109.9357602	106.5242099	103.2393847	100.0758952	97.02861067	94.09264523	91.26334462
230309A00036	3/9/2023	4.46	3/9/2028		116.83385	113.1497235	109.6042382	106.1914203	102.9055877	99.74133282	96.69350811	93.75721177	90.92777479
230309A00038	3/9/2023	4.85	3/9/2026		107.21207	105.7313171	104.2786238	102.853262	101.4545257	100.0817326	98.73422345	97.41136088	96.11252852
230309A00041	3/9/2023	4.85	3/9/2026		107.21207	105.7313171	104.2786238	102.853262	101.4545257	100.0817326	98.73422345	97.41136088	96.11252852
230309A00057	3/9/2023	4.86	3/9/2027		112.55744	109.9937868	107.5027867	105.0819664	102.728948	100.4414486	98.21727621	96.05432543	93.9505734
230309A00068	4/10/2023	5.21	4/9/2025		102.49574	101.9627642	101.4353539	100.9134187	100.3968735	99.88563499	99.37962139	98.87875272	98.38295058
230309A00080	3/9/2023	4.68	3/9/2028		117.30186	113.6171512	110.0708462	106.6569948	103.3699317	100.2042655	97.15486321	94.21683684	91.38553021
230309A00091	3/9/2023	4.68	3/9/2028		117.30186	113.6171512	110.0708462	106.6569948	103.3699317	100.2042655	97.15486321	94.21683684	91.38553021
230309A00096	3/9/2023	4.68	3/9/2028		117.30186	113.6171512	110.0708462	106.6569948	103.3699317	100.2042655	97.15486321	94.21683684	91.38553021
230310A00017	3/10/2023	4.43	3/9/2029		121.26052	116.4333831	111.831337	107.442668	103.2563315	99.26191218	95.44958546	91.81008032	88.33464545
230310A00024	3/10/2023	4.38	3/10/2028		116.26575	112.5962447	109.064855	105.6656279	102.3929033	99.24129428	96.20567296	93.28115628	90.46309301
230310A00030	3/10/2023	4.38	3/10/2028		116.26575	112.5962447	109.064855	105.6656279	102.3929033	99.24129428	96.20567296	93.28115628	90.46309301
230310A00037	3/10/2023	4.69	3/10/2026		106.87341	105.3944491	103.943537	102.5199464	101.122971	99.7519284	98.40615913	97.08502562	95.78791132
230310A00039	3/10/2023	4.33	3/10/2028		116.09075	112.4242932	108.8958666	105.4995204	102.2295972	99.0807132	96.04774303	93.12580627	90.31025417
230310A00040	3/10/2023	4.38	3/10/2028		116.26575	112.5962447	109.064855	105.6656279	102.3929033	99.24129428	96.20567296	93.28115628	90.46309301

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230310A00047	6/9/2023	4.22	6/9/2028		116.87418	112.9319957	109.1469284	105.5117961	102.0197877	98.66444403	95.43963749	92.3395527	89.35866854
230310A00049	3/10/2023	4.7	3/10/2026		106.888	105.4089244	103.9579031	102.5342053	101.1371244	99.76597817	98.42010698	97.09887323	95.80166032
230310A00054	9/8/2023	4.09	9/11/2028		117.54169	113.3171133	109.2711367	105.3952434	101.6813727	98.12188905	94.70955709	91.43751874	88.29927133
230310A00062	3/10/2023	4.38	4/10/2028		116.67518	112.9097342	109.2890256	105.8066855	102.4566578	99.2331862	96.13079746	93.14428593	90.26869879
230310A00068	3/10/2023	5.03	3/10/2025		101.99453	101.5460414	101.1015075	100.6608807	100.2241096	99.79114361	99.36193288	98.93642856	98.51458263
230310A00069	3/10/2023	4.7	3/9/2026		106.87389	105.3976525	103.9493665	102.5283049	101.133765	99.76506806	98.42155789	97.10260016	95.80758143
230310A00071	3/10/2023	4.38	3/10/2028		116.26575	112.5962447	109.064855	105.6656279	102.3929033	99.24129428	96.20567296	93.28115628	90.46309301
230310A00073	3/10/2023	4.7	3/6/2026		106.83156	105.3638347	103.9237514	102.5105962	101.1236779	99.76232827	98.42590136	97.11377263	95.82533796
230310A00088	3/10/2023	5.03	3/10/2025		101.99453	101.5460414	101.1015075	100.6608807	100.2241096	99.79114361	99.36193288	98.93642856	98.51458263
230310A00089	3/10/2023	4.7	3/10/2026		106.888	105.4089244	103.9579031	102.5342053	101.1371244	99.76597817	98.42010698	97.09887323	95.80166032
230310A00091	3/10/2023	4.53	3/10/2027		111.75509	109.1986848	106.7148672	104.3011625	101.9551918	99.67467128	97.45740822	95.30129653	93.20431289
230310A00092	3/10/2023	4.38	3/10/2028		116.26575	112.5962447	109.064855	105.6656279	102.3929033	99.24129428	96.20567296	93.28115628	90.46309301
230310A00114	3/10/2023	4.5	3/10/2027		111.68083	109.1253463	106.6424377	104.2296222	101.8845214	99.60485216	97.38842223	95.23312609	93.13694092
230310A00120	3/10/2023	4.33	3/10/2028		116.09075	112.4242932	108.8958666	105.4995204	102.2295972	99.0807132	96.04774303	93.12580627	90.31025417
230313A00032	3/13/2023	4.45	3/13/2025		101.77124	101.3150451	100.862955	100.4149142	99.97086848	99.53076423	99.09454898	98.66217118	98.23358016
230313A00036	3/13/2023	4.06	3/13/2028		115.18218	111.5231219	108.0022735	104.6136643	101.3516143	98.21071892	95.18583364	92.27206047	89.46473456
230313A00048	3/13/2023	4.25	3/13/2026		106.2702	104.787654	103.3333889	101.9066596	100.5067507	99.13297124	97.78465356	96.46115224	95.16184326
230313A00052	3/13/2023	4.17	3/15/2027		110.92724	108.3673229	105.8805501	103.4644054	101.1164785	98.83445655	96.61611909	94.45933406	92.36205359
230313A00057	3/13/2023	4.06	3/13/2028		115.18218	111.5231219	108.0022735	104.6136643	101.3516143	98.21071892	95.18583364	92.27206047	89.46473456
230313A00061	3/13/2023	4.06	3/13/2028		115.18218	111.5231219	108.0022735	104.6136643	101.3516143	98.21071892	95.18583364	92.27206047	89.46473456
230313A00072	3/13/2023	4.06	3/13/2028		115.18218	111.5231219	108.0022735	104.6136643	101.3516143	98.21071892	95.18583364	92.27206047	89.46473456
230313A00078	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00080	3/13/2023	4.59	3/14/2025		101.84716	101.3880019	100.9329972	100.4820922	100.0352313	99.59236023	99.15342542	98.7183744	98.28715561
230313A00090	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00091	3/13/2023	4.15	3/13/2028		115.49794	111.833366	108.3071591	104.9133406	101.646225	98.50040264	95.47072409	92.55228667	89.74042102
230313A00093	3/16/2023	4.65	3/17/2025		101.9119	101.4442658	100.9809444	100.5218715	100.0669885	99.61623823	99.16956423	98.72691122	98.2882249
230313A00095	3/16/2023	4.65	3/17/2025		101.9119	101.4442658	100.9809444	100.5218715	100.0669885	99.61623823	99.16956423	98.72691122	98.2882249
230313A00096	3/13/2023	4.36	3/14/2033		136.11759	126.5201164	117.7025632	109.5967458	102.1407913	95.27852663	88.95892548	83.13561222	77.76641554
230313A00098	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00099	3/13/2023	4.59	3/13/2025		101.8349	101.3785366	100.9262782	100.4780702	100.0338583	99.59358895	99.15720966	98.72466885	98.29591586
230313A00102	3/13/2023	4.15	3/13/2028		115.49794	111.833366	108.3071591	104.9133406	101.646225	98.50040264	95.47072409	92.55228667	89.74042102
230313A00104	3/13/2023	4.58	3/13/2025		101.83035	101.3740015	100.9217551	100.4735591	100.029359	99.58910147	99.1527339	98.72020473	98.29146331
230313A00109	3/13/2023	4.58	3/13/2025		101.83035	101.3740015	100.9217551	100.4735591	100.029359	99.58910147	99.1527339	98.72020473	98.29146331



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230313A00112	3/13/2023	4.15	3/13/2028		115.49794	111.833366	108.3071591	104.9133406	101.646225	98.50040264	95.47072409	92.55228667	89.74042102
230313A00113	3/13/2023	4.58	3/13/2025		101.83035	101.3740015	100.9217551	100.4735591	100.029359	99.58910147	99.1527339	98.72020473	98.29146331
230313A00117	3/13/2023	4.59	3/13/2025		101.8349	101.3785366	100.9262782	100.4780702	100.0338583	99.59358895	99.15720966	98.72466885	98.29591586
230313A00119	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00121	3/13/2023	4.29	3/15/2027		111.22598	108.6623119	106.1718633	103.7521233	101.4006792	99.11521587	96.89351053	94.73342897	92.63292124
230313A00123	3/13/2023	4.22	9/15/2027		113.42981	110.3147631	107.3032117	104.3911382	101.5747076	98.85025512	96.21427747	93.66342466	91.19449247
230313A00128	3/13/2023	4.18	12/15/2027		114.46762	111.0764524	107.8053864	104.6494303	101.6038342	98.66407614	95.82585014	93.08505377	90.43777719
230313A00134	3/13/2023	4.16	4/14/2028		115.93781	112.1738089	108.5549774	105.0749005	101.7274877	98.50695048	95.40778619	92.42476186	89.55289948
230313A00135	3/13/2023	4.17	6/15/2028		116.76341	112.8057405	109.0064416	105.3582368	101.8542345	98.48790098	95.25303936	92.14377	89.15451206
230313A00149	3/13/2023	4.15	3/13/2028		115.49794	111.833366	108.3071591	104.9133406	101.646225	98.50040264	95.47072409	92.55228667	89.74042102
230313A00152	3/13/2023	4.18	3/13/2028		115.60319	111.9367806	108.4087876	105.0132327	101.7444286	98.59696388	95.56568757	92.6456954	89.83231651
230313A00158	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00159	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00177	3/13/2023	4.41	3/13/2026		106.50491	105.0205726	103.5645421	102.1360779	100.7344637	99.35900779	98.00904163	96.68391912	95.38301552
230313A00179	3/13/2023	4.29	3/15/2027		111.22598	108.6623119	106.1718633	103.7521233	101.4006792	99.11521587	96.89351053	94.73342897	92.63292124
230313A00180	3/13/2023	4.15	3/13/2028		115.49794	111.833366	108.3071591	104.9133406	101.646225	98.50040264	95.47072409	92.55228667	89.74042102
230313A00215	3/13/2023	4.13	3/13/2028		115.42777	111.7644228	108.2394067	104.8467458	101.580756	98.43602848	95.4074151	92.49001418	89.67915736
230314A00003	3/14/2023	4.64	3/16/2026		106.88415	105.3887098	103.9219355	102.4830703	101.0713855	99.68617726	98.32676561	96.99249341	95.6827254
230314A00006	3/14/2023	4.92	1/13/2025		101.22618	100.9342589	100.6440345	100.3554931	100.0686199	99.78340047	99.49982038	99.21786542	98.93752153
230314A00011	3/14/2023	4.38	3/14/2028		116.31792	112.6362	109.0934616	105.6836951	102.4011885	99.24050671	96.19647666	93.26417304	90.43890512
230314A00014	3/14/2023	4.18	3/14/2028		115.22753	111.6991265	108.3042811	105.0371473	101.8921679	98.86406076	95.94780287	93.13861648	90.4319555
230314A00015	3/14/2023	4.55	9/14/2026		109.30658	107.281898	105.3055001	103.3759332	101.4917994	99.65175214	97.85449395	96.09877428	94.38338743
230314A00016	3/14/2023	4.38	3/14/2028		116.31792	112.6362	109.0934616	105.6836951	102.4011885	99.24050671	96.19647666	93.26417304	90.43890512
230314A00017	3/14/2023	4.39	1/18/2028		115.59859	112.0929701	108.7143356	105.4573702	102.3170084	99.28842608	96.36702715	93.54843141	90.82846307
230314A00019	3/14/2023	4.39	1/18/2028		115.59859	112.0929701	108.7143356	105.4573702	102.3170084	99.28842608	96.36702715	93.54843141	90.82846307
230314A00021	3/14/2023	4.41	10/13/2027		114.37372	111.1642842	108.063705	105.0676672	102.1720504	99.37292124	96.6665243	94.04927256	91.51773894
230314A00024	3/14/2023	4.41	10/13/2027		114.37372	111.1642842	108.063705	105.0676672	102.1720504	99.37292124	96.6665243	94.04927256	91.51773894
230314A00028	3/14/2023	4.43	7/14/2027		113.22183	110.2877461	107.4460794	104.6933573	102.0262611	99.44161847	96.93639558	94.50769007	92.15272444
230314A00030	3/14/2023	4.43	7/14/2027		113.22183	110.2877461	107.4460794	104.6933573	102.0262611	99.44161847	96.93639558	94.50769007	92.15272444
230314A00032	3/14/2023	4.45	4/14/2027		112.03491	109.3759676	106.7949952	104.2892332	101.8560401	99.49288472	97.19734055	94.96708075	92.79987341
230314A00034	3/14/2023	4.45	4/14/2027		112.03491	109.3759676	106.7949952	104.2892332	101.8560401	99.49288472	97.19734055	94.96708075	92.79987341
230314A00054	3/14/2023	4.46	3/15/2027		111.64921	109.080213	106.5845569	104.1597236	101.8032969	99.51295823	97.28648173	95.12173009	93.0166504
230314A00067	3/14/2023	4.16	3/14/2028		115.84659	112.1655298	108.6236738	105.2150037	101.9337901	98.77458203	95.73219148	92.80167931	89.97834189

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230314A00070	3/14/2023	4.25	3/12/2027		111.29622	108.7356594	106.2480786	103.830981	101.4819667	99.19873273	96.97906774	94.82084832	92.72203471
230314A00073	3/14/2023	4.84	3/14/2025		101.96154	101.5020688	101.0467602	100.5955533	100.1483924	99.70522323	99.26599226	98.83064695	98.39913574
230314A00081	3/14/2023	4.16	3/14/2028		115.84659	112.1655298	108.6236738	105.2150037	101.9337901	98.77458203	95.73219148	92.80167931	89.97834189
230315A00007	3/15/2023	4.2	3/16/2026		106.23501	104.7445693	103.2827027	101.8486605	100.4417164	99.06116862	97.7063394	96.37657365	95.07123812
230315A00010	3/15/2023	4.2	3/13/2026		106.19685	104.7148669	103.2611535	101.8349663	100.4355903	99.06233482	97.71453229	96.39153759	95.09272693
230315A00012	3/15/2023	4.24	9/15/2025		103.91071	102.9303025	101.9684465	101.0246193	100.0983166	99.18905285	98.29636022	97.41978797	96.55890157
230315A00013	3/15/2023	4.2	3/16/2026		106.23501	104.7445693	103.2827027	101.8486605	100.4417164	99.06116862	97.7063394	96.37657365	95.07123812
230315A00016	3/15/2023	4.08	3/16/2027		110.7156	108.1555749	105.668791	103.2527257	100.9049629	98.62318417	96.40516388	94.24876508	92.15193532
230315A00023	3/15/2023	4.2	3/16/2026		106.23501	104.7445693	103.2827027	101.8486605	100.4417164	99.06116862	97.7063394	96.37657365	95.07123812
230315A00024	3/15/2023	4.03	3/15/2028		115.10105	111.4377874	107.9131135	104.5210319	101.2558386	98.11210638	95.08467004	92.168612	89.35924918
230315A00030	3/15/2023	4.03	3/15/2028		115.10105	111.4377874	107.9131135	104.5210319	101.2558386	98.11210638	95.08467004	92.168612	89.35924918
230315A00049	3/15/2023	4.28	3/14/2025		101.70534	101.2465589	100.7919311	100.3414005	99.8949116	99.45241011	99.01384255	98.57915645	98.14830026
230315A00052	3/15/2023	4.07	3/14/2025		101.64575	101.1867001	100.7318095	100.2810241	99.83428846	99.39154786	98.95274872	98.51783836	98.08676504
230315A00055	3/15/2023	4.2	3/11/2026		106.1714	104.6950636	103.2467834	101.8258314	100.4315001	99.06310597	97.71998839	96.40150877	95.10704961
230315A00068	3/15/2023	4.2	3/16/2026		106.23501	104.7445693	103.2827027	101.8486605	100.4417164	99.06116862	97.7063394	96.37657365	95.07123812
230315A00076	3/15/2023	4.28	3/14/2025		101.70534	101.2465589	100.7919311	100.3414005	99.8949116	99.45241011	99.01384255	98.57915645	98.14830026
230315A00084	3/15/2023	4.08	3/24/2027		110.81497	108.2315125	105.7225698	103.2855588	100.9180013	98.61752012	96.38183421	94.20875415	92.09617783
230315A00086	3/15/2023	4.28	3/11/2025		101.67113	101.220725	100.7743223	100.3318698	99.8933152	99.45860696	99.02769448	98.60052801	98.17705869
230315A00097	3/15/2023	4.08	3/15/2027		110.70318	108.1460812	105.6620653	103.248617	100.903328	98.62388706	96.40807551	94.25376287	92.15890286
230315A00098	3/15/2023	4.08	3/15/2027		110.70318	108.1460812	105.6620653	103.248617	100.903328	98.62388706	96.40807551	94.25376287	92.15890286
230315A00112	3/15/2023	4.5	3/14/2025		101.80599	101.3469378	100.8920425	100.4412462	99.99449335	99.55172955	99.11290136	98.67795629	98.24684277
230315A00116	3/15/2023	4.36	3/16/2026		106.47106	104.9788022	103.515151	102.079355	100.670687	99.28844449	97.93194893	96.60054447	95.29359713
230315A00117	3/15/2023	4.17	3/15/2027		110.92724	108.3673229	105.8805501	103.4644054	101.1164785	98.83445655	96.61611909	94.45933406	92.36205359
230315A00125	3/15/2023	4.11	3/15/2027		110.77786	108.2198284	105.7348935	103.3205464	100.9743782	98.69407689	96.47742337	94.3222866	92.22661977
230315A00128	3/15/2023	4.43	3/14/2025		101.77396	101.314999	100.8601889	100.4094771	99.96280825	99.52012791	99.08138265	98.64651997	98.21548833
230315A00130	3/15/2023	4.43	3/14/2025		101.77396	101.314999	100.8601889	100.4094771	99.96280825	99.52012791	99.08138265	98.64651997	98.21548833
230315A00131	3/15/2023	4.13	3/15/2027		110.82765	108.2689933	105.7834457	103.3684994	101.021745	98.74087011	96.52365528	94.36796909	92.27176438
230315A00133	3/15/2023	3.9	3/15/2028		114.94433	111.2762296	107.7471073	104.3509397	101.0820002	97.93484051	94.90427555	91.98536927	89.1734212
230316A00001	3/16/2023	3.81	3/16/2028		114.63931	110.9737388	107.4472027	104.053673	100.7874154	97.64297482	94.61515976	91.6990283	88.88987459
230316A00017	3/16/2023	3.81	3/16/2028		114.63931	110.9737388	107.4472027	104.053673	100.7874154	97.64297482	94.61515976	91.6990283	88.88987459
230316A00021	3/16/2023	4.2	3/16/2026		106.23501	104.7445693	103.2827027	101.8486605	100.4417164	99.06116862	97.7063394	96.37657365	95.07123812
230316A00032	3/16/2023	4.39	3/16/2026		106.51532	105.0227209	103.558735	102.1226102	100.713619	99.33105871	97.97425072	96.642539	95.33528945
230316A00039	3/16/2023	4.63	3/17/2025		101.90258	101.434975	100.9716788	100.5126308	100.0577727	99.60704704	99.16039753	98.71776885	98.2791067

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230316A00042	3/16/2023	4.42	3/14/2025		101.76939	101.3104364	100.8556384	100.4049387	99.9582818	99.51561339	99.07687997	98.64202907	98.21100913
230316A00046	3/16/2023	4.18	6/16/2026		107.40699	105.650628	103.9317657	102.2492641	100.6020329	98.98902596	97.40923873	95.86170623	94.34550107
230316A00047	3/16/2023	4.07	9/16/2027		112.99163	109.8803061	106.872493	103.9641754	101.1515134	98.43083761	95.79864034	93.2515677	90.78641187
230316A00048	3/16/2023	4.05	6/16/2028		116.32324	112.3708987	108.5768929	104.9339494	101.4351716	98.07402133	94.84429796	91.74011843	88.75589896
230316A00050	3/16/2023	4.2	3/16/2026		106.23501	104.7445693	103.2827027	101.8486605	100.4417164	99.06116862	97.7063394	96.37657365	95.07123812
230316A00054	3/16/2023	4.62	3/17/2025		101.89792	101.4303296	100.967046	100.5080105	100.0531648	99.60245145	99.15581418	98.71319766	98.27454759
230316A00055	3/16/2023	4.03	3/16/2028		115.11311	111.4468269	107.9193466	104.5246603	101.2570508	98.11107915	95.08156861	92.16359111	89.35245369
230316A00058	3/16/2023	4.1	3/16/2027		110.76544	108.2047942	105.7173964	103.3007305	100.9523803	98.67002678	96.45144399	94.29449462	92.19712587
230316A00060	3/16/2023	3.89	3/16/2027		110.45062	107.8895714	105.4019001	102.9850758	100.6366751	98.35437265	96.13593653	93.97922365	91.88217582
230316A00061	3/16/2023	4.31	9/16/2025		103.99159	103.0079736	102.0430163	101.0961939	100.1669979	99.25493848	98.359544	97.48035997	96.61694829
230316A00067	3/16/2023	3.89	3/16/2027		110.45062	107.8895714	105.4019001	102.9850758	100.6366751	98.35437265	96.13593653	93.97922365	91.88217582
230316A00072	3/16/2023	4.1	3/16/2027		110.76544	108.2047942	105.7173964	103.3007305	100.9523803	98.67002678	96.45144399	94.29449462	92.19712587
230316A00076	3/16/2023	4.45	3/16/2026		106.60384	105.1105582	103.6459031	102.2091206	100.7994829	99.41628716	98.05885429	96.72652806	95.41867407
230316A00078	3/16/2023	4.34	3/16/2027		111.36361	108.7954261	106.3006606	103.8767887	101.5213891	99.23213812	97.00680535	94.84324912	92.73941241
230316A00082	3/16/2023	4.3	3/16/2028		116.06265	112.3797527	108.8361225	105.4257364	102.1428612	98.98204224	95.93808806	93.00605638	90.18124067
230316A00113	3/16/2023	4.28	3/16/2026		106.47396	104.9797001	103.5141169	102.0764545	100.6659835	99.281999	97.92382031	96.59078956	95.28227079
230317A00015	3/17/2023	4.13	3/17/2028		115.47714	111.8016649	108.2653872	104.8622722	101.5865841	98.43286572	95.39592372	92.47081414	89.65282909
230317A00016	3/17/2023	4.22	3/17/2027		111.07734	108.509985	106.0161256	103.5932304	101.2388727	98.95072408	96.72654937	94.56420256	92.46162256
230317A00024	3/17/2023	4.54	3/17/2025		101.86066	101.3931666	100.9299835	100.4710479	100.0163014	99.5656867	99.11914737	98.67662817	98.23807479
230317A00025	3/17/2023	4.35	3/17/2026		106.46945	104.9744734	103.5082091	102.0698978	100.6588087	99.27423558	97.91549652	96.58193238	95.27290605
230317A00026	3/17/2023	4.22	3/17/2027		111.07734	108.509985	106.0161256	103.5932304	101.2388727	98.95072408	96.72654937	94.56420256	92.46162256
230317A00031	5/18/2023	4.3	5/19/2025		102.48343	101.8397713	101.2042225	100.5766264	99.9568343	99.34470088	98.74008454	98.14284714	97.55285391
230317A00032	5/18/2023	4.27	5/19/2025		102.46422	101.8206303	101.1851497	100.5576214	99.93789636	99.32582945	98.72127904	98.124107	97.53417857
230317A00047	3/17/2023	4.1	3/17/2028		115.37155	111.6979253	108.1634447	104.7620768	101.4880875	98.33602126	95.30068648	92.37714076	89.56067772
230317A00048	3/17/2023	4.1	3/17/2028		115.37155	111.6979253	108.1634447	104.7620768	101.4880875	98.33602126	95.30068648	92.37714076	89.56067772
230317A00049	3/17/2023	4.1	3/17/2028		115.37155	111.6979253	108.1634447	104.7620768	101.4880875	98.33602126	95.30068648	92.37714076	89.56067772
230317A00050	3/17/2023	4.1	3/17/2028		115.37155	111.6979253	108.1634447	104.7620768	101.4880875	98.33602126	95.30068648	92.37714076	89.56067772
230317A00051	3/17/2023	4.35	3/17/2026		106.46945	104.9744734	103.5082091	102.0698978	100.6588087	99.27423558	97.91549652	96.58193238	95.27290605
230320A00005	3/20/2023	4.37	3/20/2025		101.81643	101.3407614	100.8695561	100.4027465	99.9402712	99.48206983	99.02808316	98.57825307	98.1325225
230320A00006	3/20/2023	4.25	3/20/2026		106.36022	104.8579129	103.3846034	101.9395278	100.521944	99.13113565	97.76641062	96.42710029	95.11255843
230320A00033	3/20/2023	4.35	3/20/2026		106.50887	105.0054036	103.5309625	102.0847747	100.6660979	99.27421497	97.90843342	96.56808413	95.2525204
230320A00092	3/20/2023	4.31	3/20/2026		106.44941	104.9464073	103.4724188	102.026676	100.6084364	99.21698324	97.8516243	96.5116906	95.19653561
230321A00001	3/21/2023	4.48	3/23/2026		106.74261	105.2291362	103.7450268	102.2894982	100.8617957	99.46119051	98.08697889	96.73848099	95.41503987

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230321A00002	3/21/2023	4.33	3/19/2027		111.37804	108.801339	106.2985239	103.8670508	101.5044755	99.20845261	96.976731	94.80714959	92.69763297
230321A00009	3/21/2023	4.27	3/21/2028		116.02082	112.3245356	108.7685509	105.346775	102.0534114	98.88294632	95.83013304	92.88997773	90.05772563
230321A00020	3/21/2023	4.73	11/18/2024		100.52332	100.3872514	100.251567	100.1162636	99.9813395	99.84679314	99.71262288	99.5788271	99.44540419
230321A00025	3/21/2023	4.57	3/21/2025		101.92345	101.4447278	100.9705136	100.5007471	100.0353657	99.57430816	99.11751418	98.66492466	98.21648159
230321A00029	3/21/2023	4.57	3/21/2025		101.92345	101.4447278	100.9705136	100.5007471	100.0353657	99.57430816	99.11751418	98.66492466	98.21648159
230321A00052	3/21/2023	4.62	3/21/2025		101.9473	101.4685059	100.994226	100.5243942	100.058948	99.59782609	99.14096815	98.6883151	98.23980892
230321A00053	3/21/2023	4.27	3/21/2028		116.02082	112.3245356	108.7685509	105.346775	102.0534114	98.88294632	95.83013304	92.88997773	90.05772563
230321A00074	3/21/2023	4.23	3/21/2028		115.87959	112.1857828	108.6322092	105.212777	101.9216922	98.75344314	95.7027855	92.76472752	89.93451649
230322A00004	3/22/2023	4.3	3/22/2028		116.13957	112.4383684	108.8777416	105.4515776	102.1540652	98.97967637	95.92315154	92.97948453	90.14390907
230322A00005	3/22/2023	4.42	3/22/2029		121.3776	116.5105394	111.8721065	107.45031	103.2338531	99.2120874	95.37497317	91.71304069	88.21735513
230322A00006	3/22/2023	4.53	3/22/2030		126.3224	120.2583816	114.5326224	109.1243699	104.0142503	99.18417253	94.61723669	90.29764945	86.21064613
230322A00007	3/22/2023	4.54	3/21/2031		130.21696	122.9629344	116.1763496	109.824405	103.876767	98.30537518	93.08426049	88.18937925	83.59846077
230322A00009	3/22/2023	4.59	3/22/2032		134.38813	125.9090942	118.0485081	110.7575669	103.9915665	97.70954235	91.87393834	86.45030672	81.40703558
230322A00015	3/22/2023	4.24	3/22/2028		115.92755	112.2300767	108.6730722	105.2504292	101.95634	98.78528022	95.73199362	92.7914772	89.95896775
230322A00020	3/22/2023	4.2	3/22/2029		120.77428	115.9089917	111.272739	106.8534892	102.6399084	98.62131474	94.78763729	91.12937796	87.63757578
230322A00029	3/22/2023	4.67	3/21/2025		101.97114	101.492284	101.0179384	100.5480413	100.0825303	99.62134402	99.16442212	98.71170554	98.26313624
230323A00027	3/23/2023	4.43	3/24/2025		101.89214	101.4052033	100.9229296	100.4452539	99.97211046	99.50343489	99.039164	98.57923577	98.12358935
230323A00028	3/23/2023	4.1	3/23/2028		114.76126	111.2271941	107.8274892	104.5562344	101.4078152	98.37689633	95.45840592	92.64752082	89.93965294
230323A00029	3/23/2023	4.39	3/24/2031		129.25524	122.0234132	115.2586968	108.928246	103.0016988	97.45097179	92.25007846	87.37496169	82.80334119
230323A00030	3/23/2023	4.72	3/23/2037		153.82209	139.0170514	125.8817821	114.2149091	103.8404959	94.6047051	86.37291327	79.02721464	72.46426129
230323A00034	3/23/2023	4.23	3/23/2026		106.36892	104.8583562	103.3771069	101.9243889	100.4994488	99.10155906	97.73001726	96.38414475	95.06328574
230323A00048	3/23/2023	4.07	3/23/2028		115.339	111.6490622	108.0995079	104.6842309	101.3974207	98.23355078	95.18736274	92.25385209	89.42825434
230323A00051	3/23/2023	3.85	3/23/2028		114.86284	111.1736294	107.6250375	104.2109379	100.9255028	97.7631891	94.71872357	91.78708753	88.96350343
230323A00054	3/23/2023	3.95	3/23/2028		114.91463	111.232154	107.6898554	104.2816311	101.0016777	97.8444758	94.80477375	91.87757346	89.05811658
230323A00056	3/23/2023	4	3/23/2027		110.6016	108.0236185	105.5199407	103.0879873	100.7252899	98.42948001	96.1982853	94.02952437	91.92110277
230323A00058	3/23/2023	3.96	9/23/2027		112.74585	109.6180738	106.5950469	103.6726719	100.847039	98.11441318	95.47122526	92.91406356	90.43966594
230323A00064	3/23/2023	4.25	3/21/2025		101.77085	101.2925481	100.8187543	100.3494054	99.88443889	99.4237934	98.96740875	98.51522585	98.06718672
230323A00065	3/23/2023	3.85	3/23/2028		114.86284	111.1736294	107.6250375	104.2109379	100.9255028	97.7631891	94.71872357	91.78708753	88.96350343
230323A00081	3/23/2023	3.85	3/23/2028		114.86284	111.1736294	107.6250375	104.2109379	100.9255028	97.7631891	94.71872357	91.78708753	88.96350343
230324A00001	3/24/2023	4.04	6/24/2026		107.26759	105.4898175	103.7503724	102.0480813	100.3818177	98.75050141	97.15309574	95.58860533	94.05607405
230324A00006	3/24/2023	4.06	3/24/2026		106.12714	104.6157402	103.1337199	101.6802978	100.2547176	98.85624889	97.48418658	96.13784948	94.81657936
230324A00009	3/24/2023	4.19	3/24/2025		101.77569	101.2890846	100.8071369	100.3297849	99.85696306	99.38860687	98.92465318	98.46504003	98.00970657
230324A00021	3/24/2023	3.72	3/24/2028		113.33948	109.9222169	106.6341197	103.4695207	100.4230328	97.48953672	94.66416577	91.94229194	89.31951261

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230324A00023	3/24/2023	3.69	3/24/2028		114.30756	110.6253156	107.0836289	103.6763655	100.3976941	97.24206912	94.20421458	91.27910983	88.46197555
230324A00029	3/24/2023	4.01	3/24/2025		101.72703	101.2400933	100.7578306	100.2801728	99.80705397	99.33840955	98.87417612	98.41429146	97.95869454
230324A00031	3/24/2023	4.01	3/24/2025		101.72703	101.2400933	100.7578306	100.2801728	99.80705397	99.33840955	98.87417612	98.41429146	97.95869454
230324A00032	3/24/2023	3.93	3/24/2028		114.85568	111.171435	107.6275456	104.2178991	100.9366803	97.77835882	94.73767266	91.80961416	88.98941604
230324A00036	3/24/2023	3.98	3/24/2027		110.5635	107.9832364	105.4774174	103.0434611	100.6788916	98.38133353	96.1485079	93.97822711	91.86839085
230324A00050	3/24/2023	4.13	3/24/2026		103.20842	102.4000732	101.6058833	100.8254561	100.0584165	99.30440368	98.56307005	97.83408093	97.11711381
230327A00045	3/27/2023	4.42	3/27/2025		101.92266	101.4273303	100.9368236	100.4510676	99.96999337	99.49353351	99.02162173	98.55419308	98.09118381
230327A00046	3/27/2023	4.22	3/27/2026		106.40509	104.8833325	103.3913048	101.9282103	100.4932801	99.08577189	97.70496899	96.35017929	95.02073408
230327A00047	3/27/2023	4.08	3/27/2028		115.42318	111.7204894	108.1590717	104.7327613	101.4356947	98.26229569	95.2072597	92.26553887	89.4323282
230328A00011	3/28/2023	4.53	3/28/2025		101.98904	101.4907506	100.997338	100.5087285	100.024852	99.54564011	99.07102546	98.60094208	98.13532525
230328A00019	3/28/2023	4.12	3/27/2026		106.37783	104.8542511	103.3604704	101.8956876	100.4591311	99.05005635	97.66774462	96.31150163	94.98065673
230328A00020	3/28/2023	3.98	3/28/2028		115.38412	111.67159	108.101004	104.6661519	101.3611319	98.18033183	95.11841355	92.17029768	89.3311497
230328A00024	3/28/2023	4.2	3/28/2028		115.86144	112.1481922	108.5766469	105.1406179	101.834221	98.65186086	95.58821442	92.63821665	89.7970463
230328A00026	3/28/2023	4.34	3/28/2029		121.08645	116.2087127	111.5609756	107.1311314	102.9077763	98.8801638	95.03816367	91.37222303	87.87333051
230328A00027	3/28/2023	4.22	3/28/2028		115.08336	111.560861	108.1722966	104.9117696	101.773674	98.75268344	95.84373505	93.04201504	90.3429448
230328A00028	3/28/2023	4.34	3/27/2026		106.87093	105.2869	103.7347722	102.2136459	100.7226555	99.26096746	97.82777886	96.42231575	95.04383196
230328A00037	3/28/2023	4.21	3/28/2028		115.53474	111.9006212	108.4059021	105.0444109	101.8102896	98.69797249	95.70217024	92.81785424	90.04024223
230328A00045	3/28/2023	4.21	3/28/2028		115.53474	111.9006212	108.4059021	105.0444109	101.8102896	98.69797249	95.70217024	92.81785424	90.04024223
230328A00047	3/28/2023	4.21	3/28/2028		115.53474	111.9006212	108.4059021	105.0444109	101.8102896	98.69797249	95.70217024	92.81785424	90.04024223
230328A00051	3/28/2023	4.53	3/28/2033		133.92781	125.2864632	117.3266344	109.989411	103.2213221	96.97380669	91.20273674	85.86798899	80.93306017
230328A00052	3/28/2023	4.53	3/28/2033		133.92781	125.2864632	117.3266344	109.989411	103.2213221	96.97380669	91.20273674	85.86798899	80.93306017
230328A00098	3/28/2023	4.24	3/29/2027		111.28168	108.6783831	106.1505254	103.6954743	101.3107091	98.99381217	96.74246434	94.55443996	92.42760265
230328A00100	3/28/2023	4.19	3/28/2028		115.82594	112.1133145	108.5423785	105.1069417	101.8011206	98.61932025	95.5562183	92.60675023	89.76609531
230328A00111	3/28/2023	4.36	3/27/2026		106.61591	105.0925022	103.5988494	102.1341582	100.6976586	99.28860771	97.90628817	96.55000712	95.21909522
230328A00122	3/28/2023	4.58	3/28/2025		102.01385	101.515493	101.0220094	100.5333294	100.0493829	99.57010152	99.09541785	98.62526593	98.15958103
230329A00019	3/29/2023	4.76	10/1/2024		100.01683	100.0140495	100.0112707	100.0084944	100.0057205	100.002949	100.0001799	99.99741326	99.99464898
230329A00020	3/29/2023	4.23	3/29/2028		115.98058	112.2624012	108.6861977	105.2457663	101.9352077	98.74891226	95.68154393	92.72802521	89.88352325
230329A00043	3/29/2023	4.36	3/27/2026		106.61591	105.0925022	103.5988494	102.1341582	100.6976586	99.28860771	97.90628817	96.55000712	95.21909522
230329A00055	3/29/2023	4.59	3/28/2025		102.01881	101.5204414	101.0269437	100.5382495	100.0542891	99.5749938	99.10029633	98.6301307	98.16443218
230330A00011	3/30/2023	4.21	3/30/2028		115.92209	112.202113	108.6243014	105.1824319	101.8705935	98.68316535	95.61480092	92.66041307	89.81515992
230330A00029	3/30/2023	4.6	4/1/2025		102.07309	101.5634929	101.0589822	100.5594859	100.0649296	99.57524037	99.09034647	98.61017773	98.13466532
230330A00061	3/30/2023	4.65	3/31/2025		102.08587	101.5789898	101.0771443	100.5802579	100.0882574	99.60107082	99.11862793	98.64085968	98.16769836
230330A00062	3/30/2023	4.42	3/30/2026		106.74628	105.2136405	103.7110917	102.2378215	100.793048	99.37601649	97.98599869	96.62229116	95.28421445



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230330A00080	3/30/2023	4.44	3/31/2025		102.02016	101.5129881	101.0108608	100.513702	100.0214382	99.53399733	99.05130883	98.5733034	98.09991313
230330A00083	3/30/2023	4.1	3/30/2027		111.15265	108.5437484	106.0106244	103.5506287	101.1612237	98.83997637	96.58455253	94.39271258	92.26230692
230331A00014	3/31/2023	4.34	3/31/2026		106.63826	105.1037365	103.5993956	102.124419	100.678021	99.25944389	97.86795595	96.50285076	95.16344598
230331A00033	3/31/2023	4.34	3/31/2026		106.63826	105.1037365	103.5993956	102.124419	100.678021	99.25944389	97.86795595	96.50285076	95.16344598
230331A00055	3/31/2023	4.5	3/31/2025		102.01018	101.5035233	101.0018979	100.50523	100.0134464	99.52647525	99.04424624	98.56669035	98.09373992
230331A00057	3/31/2023	4.08	3/31/2028		115.472	111.7571681	108.1844854	104.7477255	101.4409724	98.25860044	95.19525916	92.24585768	89.40555082
230404A00002	4/4/2023	4.1	4/2/2027		110.97856	108.3678373	105.8330618	103.3715766	100.9808338	98.65839059	96.40190375	94.20912519	92.07789729
230404A00004	4/4/2023	4.45	4/4/2025		102.03311	101.5153445	101.0028435	100.4955242	99.99330834	99.49611898	99.00388086	98.5165202	98.03396466
230404A00019	4/4/2023	4.45	4/4/2025		102.03311	101.5153445	101.0028435	100.4955242	99.99330834	99.49611898	99.00388086	98.5165202	98.03396466
230404A00040	4/4/2023	4.28	4/4/2025		101.94544	101.4279415	100.9156995	100.4086373	99.90667666	99.40974067	98.91775412	98.43064322	97.94833569
230405A00008	4/5/2023	4.01	10/6/2025		103.94401	102.9048383	101.8864903	100.888341	99.90979303	98.9502724	98.00922741	97.0861275	96.18046226
230405A00010	4/5/2023	3.96	4/6/2026		106.13776	104.5902529	103.0733719	101.5862773	100.1281644	98.69825689	97.29580576	95.92008813	94.57040601
230405A00012	4/5/2023	3.8	4/5/2028		114.53513	110.8223692	107.2522708	103.8185648	100.5152927	97.33678988	94.2776696	91.33280764	88.49732801
230405A00020	4/5/2023	4.17	4/4/2025		101.88872	101.3713867	100.8593122	100.3524164	99.85062086	99.35384883	98.86202505	98.37507577	97.8929287
230405A00021	4/5/2023	3.96	4/6/2026		106.13776	104.5902529	103.0733719	101.5862773	100.1281644	98.69825689	97.29580576	95.92008813	94.57040601
230405A00022	4/5/2023	3.8	4/5/2028		114.53513	110.8223692	107.2522708	103.8185648	100.5152927	97.33678988	94.2776696	91.33280764	88.49732801
230405A00028	4/5/2023	3.78	4/5/2028		114.46367	110.7521806	107.1833157	103.7508085	100.4487016	97.27133172	94.21331316	91.26952285	88.43508586
230405A00037	4/5/2023	3.71	4/6/2026		105.87963	104.3321025	102.8152339	101.3281871	99.87015545	98.44036122	97.03805389	95.66250916	94.31302771
230405A00044	4/5/2023	3.8	4/5/2028		114.53513	110.8223692	107.2522708	103.8185648	100.5152927	97.33678988	94.2776696	91.33280764	88.49732801
230405A00045	4/5/2023	4.15	5/5/2025		102.22704	101.6229865	101.0260767	100.4361888	99.85319926	99.27698732	98.70743518	98.1444277	97.5878524
230405A00046	4/5/2023	3.82	10/5/2027		112.46232	109.3047405	106.2539472	103.3057253	100.4560504	97.70108008	95.03714426	92.46073665	89.9685063
230405A00049	4/5/2023	3.81	4/5/2028		114.57086	110.8574636	107.2867483	103.8524429	100.5485882	97.36951896	94.30984782	91.36445004	88.52844909
230405A00050	4/5/2023	4.38	10/7/2024		100.07102	100.0515612	100.0321242	100.0127073	99.99331047	99.97393373	99.95457703	99.93524034	99.9159236
230405A00051	4/5/2023	4.17	4/7/2025		101.92251	101.3967975	100.8765191	100.3615894	99.85192606	99.3474485	98.84807767	98.35373618	97.86434816
230406A00016	4/6/2023	3.89	4/6/2028		113.61441	110.1992452	106.9133885	103.7511376	100.7070804	97.77607494	94.95323467	92.2339139	89.61369448
230406A00017	4/6/2023	3.99	4/7/2025		101.86998	101.3439167	100.8233006	100.3080436	99.79806317	99.29327828	98.7936097	98.29897974	97.80931231
230406A00023	4/6/2023	3.84	4/6/2028		114.69008	110.971664	107.3961823	103.9573537	100.6492051	97.46605812	94.40251334	91.45343453	88.61393445
230406A00026	4/6/2023	3.92	4/6/2027		110.57126	107.9542844	105.4137089	102.9468469	100.5511263	98.22408115	95.96334666	93.76665449	91.63182801
230406A00029	4/6/2023	3.84	4/6/2028		114.69008	110.971664	107.3961823	103.9573537	100.6492051	97.46605812	94.40251334	91.45343453	88.61393445
230406A00038	4/6/2023	4.24	4/7/2025		101.95919	101.4333656	100.9129775	100.3979389	99.88816755	99.3835827	98.88410535	98.3896581	97.9001651
230406A00039	3/29/2024	3.43	3/31/2026		105.25778	103.7341711	102.2405469	100.7761003	99.34005091	97.93164569	96.55015779	95.19488533	93.86515032
230406A00041	5/31/2024	3.25	5/29/2026		105.60559	103.9156864	102.2611264	100.6408651	99.05390005	97.49926762	95.97604153	94.48333087	93.0202784
230406A00042	4/6/2023	3.99	4/7/2025		101.86998	101.3439167	100.8233006	100.3080436	99.79806317	99.29327828	98.7936097	98.29897974	97.80931231

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230406A00043	7/31/2024	3.2	7/31/2026		106.17245	104.3032654	102.4762462	100.6901997	98.94397186	97.2364487	95.56655412	93.93324858	92.33552761
230406A00045	4/29/2024	3.41	4/30/2027		109.53536	106.8631352	104.2704464	101.7544401	99.31238206	96.94165416	94.63974849	92.40426199	90.23289133
230406A00046	6/28/2024	3.35	6/30/2027		110.02393	107.1738567	104.4128578	101.7375537	99.14472004	96.63127845	94.19428914	91.83094322	89.53855584
230406A00047	8/30/2024	3.31	8/31/2027		110.5413	107.5124278	104.5831677	101.7497067	99.00839704	96.35575039	93.78842991	91.30324288	88.89713363
230406A00050	4/6/2023	3.67	4/6/2027		110.14662	107.5305977	104.991076	102.5253591	100.1308683	97.8051317	95.54577886	93.35053609	91.21722179
230406A00052	4/6/2023	4.02	4/6/2026		106.22978	104.6815396	103.1639373	101.676134	100.2173247	98.78673261	97.38360856	96.0072293	94.65689654
230406A00088	4/6/2023	4.23	10/7/2024		100.06944	100.0499736	100.0305235	100.0110937	99.99168418	99.97229491	99.95292585	99.93357694	99.91424817
230406A00091	4/6/2023	3.99	4/7/2025		101.86998	101.3439167	100.8233006	100.3080436	99.79806317	99.29327828	98.7936097	98.29897974	97.80931231
230406A00105	4/6/2023	3.84	4/6/2028		114.69008	110.971664	107.3961823	103.9573537	100.6492051	97.46605812	94.40251334	91.45343453	88.61393445
230410A00011	4/10/2023	4.08	4/9/2027		111.01817	108.3868147	105.8324139	103.3522567	100.9437461	98.60439247	96.33180899	94.12370621	91.97788762
230410A00012	4/10/2023	3.98	4/10/2028		115.24041	111.5005468	107.9046965	104.4465111	101.1199604	97.91931235	94.83911734	91.87419207	89.01960514
230411A00028	4/11/2023	4.2	4/11/2025		102.02633	101.4887386	100.9568297	100.4305117	99.90969655	99.39429809	98.88423189	98.37941528	97.87976729
230411A00030	4/11/2023	4.2	4/11/2025		102.02633	101.4887386	100.9568297	100.4305117	99.90969655	99.39429809	98.88423189	98.37941528	97.87976729
230411A00045	4/11/2023	4.66	10/11/2024		100.11697	100.086396	100.0558533	100.0253456	99.99487288	99.96443505	99.93403206	99.90366382	99.87333029
230411A00054	4/11/2023	3.74	4/11/2028		114.69747	110.956546	107.360048	103.901593	100.5751213	97.37487412	94.29537658	91.33142201	88.47805732
230412A00001	4/12/2023	4.62	10/11/2024		100.11572	100.0851411	100.0545995	100.0240928	99.99362108	99.96318426	99.93278228	99.90241505	99.87208253
230412A00002	4/12/2023	4.42	4/11/2025		102.10133	101.5640257	101.0323965	100.5063479	99.9857923	99.47064361	98.96081775	98.45623232	97.95680662
230412A00005	4/12/2023	4.16	4/10/2026		106.49736	104.9356758	103.4050047	101.9044993	100.4333393	98.99073357	97.57591894	96.18815914	94.82674345
230412A00006	4/12/2023	4.04	4/12/2027		110.95421	108.3150541	105.7532636	103.2661049	100.8509601	98.50532033	96.22678045	94.01303382	91.86186772
230412A00007	4/12/2023	3.95	4/12/2028		115.1575	111.4132852	107.813442	104.3515958	101.0216937	97.81798312	94.73499493	91.7675278	88.91063358
230412A00028	4/12/2023	3.69	4/12/2028		114.52959	110.78876	107.1924601	103.7343073	100.408233	97.20847021	94.1295363	91.16621759	88.31355443
230412A00031	4/12/2023	3.91	4/10/2026		106.23761	104.6759015	103.1452448	101.6447897	100.1737141	98.73122514	97.31655831	95.92897582	94.5677656
230412A00033	4/12/2023	4.04	4/12/2027		110.95421	108.3150541	105.7532636	103.2661049	100.8509601	98.50532033	96.22678045	94.01303382	91.86186772
230412A00037	4/12/2023	4.62	10/15/2024		100.1555	100.1138154	100.072179	100.0305949	99.98906313	99.94758347	99.90615584	99.86478015	99.8234563
230412A00038	4/12/2023	3.69	4/12/2028		114.52959	110.78876	107.1924601	103.7343073	100.408233	97.20847021	94.1295363	91.16621759	88.31355443
230412A00044	4/12/2023	3.91	4/10/2026		106.23761	104.6759015	103.1452448	101.6447897	100.1737141	98.73122514	97.31655831	95.92897582	94.5677656
230412A00053	4/12/2023	4.2	4/12/2028	4/10/2026	113.19983	110.1462652	107.2040268	104.368295	101.634488	98.99825117	96.45544421	94.00212919	91.63455926
230412A00059	4/12/2023	4.2	4/12/2028	4/10/2026	113.19983	110.1462652	107.2040268	104.368295	101.634488	98.99825117	96.45544421	94.00212919	91.63455926
230413A00017	4/13/2023	3.88	4/13/2028		114.91817	111.1753222	107.5769197	104.1165829	100.7882513	97.58616524	94.50484916	91.53909583	88.68395162
230413A00018	4/13/2023	3.96	4/13/2027		110.76137	108.1218386	105.5597605	103.0723952	100.6571193	98.31141897	96.03288427	93.81920416	91.66816177
230413A00020	4/13/2023	3.88	4/13/2028		114.91817	111.1753222	107.5769197	104.1165829	100.7882513	97.58616524	94.50484916	91.53909583	88.68395162
230413A00021	4/13/2023	4.07	4/13/2026		106.39724	104.8278692	103.2897618	101.7820556	100.3039196	98.85455278	97.43318281	96.03906445	94.67147857
230413A00024	4/13/2023	4.41	4/14/2025		102.13176	101.5860727	101.0462366	100.5121544	99.98373422	99.46088615	98.94352214	98.43155603	97.92490343

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230413A00030	4/13/2023	4.33	4/14/2025		102.08829	101.5427378	101.0030356	100.4690863	99.94079807	99.41808092	98.90084685	98.38900971	97.88248513
230413A00031	4/13/2023	4.07	4/13/2026		106.39724	104.8278692	103.2897618	101.7820556	100.3039196	98.85455278	97.43318281	96.03906445	94.67147857
230413A00045	4/13/2023	4.33	4/11/2025		102.05317	101.5160176	100.9845349	100.4586317	99.93822036	99.42321488	98.91353118	98.40908685	97.90980122
230413A00069	4/13/2023	4.33	4/14/2025		102.08829	101.5427378	101.0030356	100.4690863	99.94079807	99.41808091	98.90084685	98.38900971	97.88248513
230413A00082	4/13/2023	4.01	4/13/2027		110.8899	108.2487007	105.684993	103.1960344	100.7792007	98.43197678	96.15195174	93.93681354	91.78434435
230417A00023	4/17/2023	3.86	4/7/2028		115.07944	111.3433833	107.7511456	104.2963918	100.9731033	97.77555922	94.69831999	91.73621169	88.88431167
230417A00034	4/17/2023	4.63	4/17/2025		102.28891	101.7344369	101.1859949	100.6434845	100.1068095	99.57587606	99.05059203	98.53086738	98.01661398
230417A00036	4/17/2023	4.63	4/17/2025		102.28891	101.7344369	101.1859949	100.6434845	100.1068095	99.57587606	99.05059203	98.53086738	98.01661398
230417A00037	4/17/2023	4.39	4/16/2026		106.93583	105.3535979	103.802972	102.283073	100.7930571	99.33211099	97.89945066	96.49431979	95.11598869
230417A00042	4/17/2023	4.58	4/17/2025		102.26132	101.7069395	101.1585836	100.6161586	100.0795685	99.54871915	99.02351863	98.50387686	97.98970571
230417A00044	4/17/2023	4.32	4/17/2026		106.84019	105.2559	103.7032876	102.1814726	100.689608	99.22687751	97.79249402	96.38569848	95.00575859
230417A00045	4/17/2023	4.21	4/16/2027		111.44386	108.7868283	106.207879	103.7042447	101.2732749	98.91242981	96.61927512	94.39147671	92.22679583
230417A00046	4/17/2023	4.13	4/17/2028		115.86842	112.0968938	108.4710956	104.9845802	101.631222	98.40520047	95.30098256	92.31330725	89.4371703
230417A00085	4/17/2023	4.68	4/17/2026		103.79011	102.9385468	102.1021043	101.2803633	100.4729226	99.67939607	98.89941199	98.13261226	97.37865175
230418A00007	4/18/2023	4.61	4/18/2025		102.29036	101.7331125	101.1819585	100.6367945	100.0975228	99.56404816	99.03627719	98.51411855	97.99748283
230418A00035	4/18/2023	4.13	4/18/2028		108.09952	106.1847978	104.324902	102.5178109	100.7615915	99.05439601	97.39445798	95.78008771	94.2096685
230418A00057	4/18/2023	4.36	4/18/2025		102.19607	101.6385812	101.0871924	100.5418039	100.0023181	99.4686391	98.94067338	98.41832926	97.90151709
230418A00059	4/18/2023	4.09	4/17/2026		106.60872	105.0241606	103.4713204	101.9493188	100.4573068	98.99446621	97.56000831	96.15317245	94.77322481
230419A00016	4/19/2023	4.41	4/18/2025		102.2238	101.6662232	101.1147473	100.5692725	100.0297009	99.49593694	98.96788683	98.44545899	97.92856371
230419A00024	4/19/2023	4.66	4/18/2025		102.31808	101.7607476	101.2095067	100.6642564	100.1248991	99.59133955	99.06348429	98.54124199	98.02452325
230419A00030	4/19/2023	4.39	4/20/2026		106.99127	105.3972403	103.8351696	102.3041705	100.8033843	99.33198366	97.88917128	96.4741782	95.08626275
230419A00035	4/19/2023	4.16	4/19/2028		116.0025	112.2227114	108.5891262	105.0952661	101.7349788	98.50241889	95.39203032	92.39853035	89.51689449
230419A00072	4/19/2023	4.53	10/20/2025		104.67215	103.5897647	102.5298504	101.4917124	100.4746835	99.47812332	98.50141735	97.54397544	96.60523064
230420A00003	4/20/2023	4.06	4/20/2026		106.60132	105.0082999	103.447266	101.9173229	100.4176107	98.94730073	97.50559455	96.09172213	94.70494079
230420A00024	4/20/2023	4.31	4/20/2026		106.86547	105.272459	103.7113974	102.1813896	100.6815774	99.21113413	97.76926271	96.35519468	94.96818878
230420A00056	4/20/2023	4.38	4/20/2033		136.64782	126.9199284	117.9905183	109.7890762	102.2516836	95.32036997	88.94253001	83.07040082	77.66059247
230420A00059	4/20/2023	4.72	4/20/2038		157.55292	141.3653059	127.1341648	114.6067816	103.5645755	93.81832125	85.20405831	77.5795886	70.82147633
230420A00060	4/20/2023	4.72	4/20/2038		157.55292	141.3653059	127.1341648	114.6067816	103.5645755	93.81832125	85.20405831	77.5795886	70.82147633
230420A00063	4/20/2023	4.65	4/20/2037		153.20352	138.3533906	125.188282	113.5038345	103.1216441	93.88583762	85.66011434	78.3251905	71.77658899
230420A00067	4/20/2023	4.57	4/21/2025		102.30529	101.7396937	101.1803693	100.627211	100.0801169	99.53898763	99.00372572	98.47423593	97.95042508
230420A00071	4/20/2023	4.31	4/20/2026		106.86547	105.272459	103.7113974	102.1813896	100.6815774	99.21113413	97.76926271	96.35519468	94.96818878
230421A00003	4/21/2023	4.72	10/21/2024		100.22106	100.1627004	100.1044285	100.0462395	99.9881332	99.9301095	99.87216818	99.81430908	99.75653201
230421A00006	4/21/2023	4.04	4/21/2028		115.59424	111.8159408	108.1840334	104.6920242	101.3337446	98.10333345	94.99522066	92.00411035	89.124966

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230421A00015	4/21/2023	4.54	4/21/2025		102.28841	101.7228649	101.1635941	100.610489	100.0634478	99.52237088	98.98716097	98.45772279	97.93396314
230421A00020	4/21/2023	4.23	4/21/2026		106.75307	105.1581497	103.5952416	102.0634561	100.5619316	99.08983839	97.64637654	96.23077485	94.84228948
230421A00023	4/21/2023	4.04	4/21/2028		115.59424	111.8159408	108.1840334	104.6920242	101.3337446	98.10333345	94.99522066	92.00411035	89.124966
230421A00025	4/21/2023	4.04	4/21/2028		115.59424	111.8159408	108.1840334	104.6920242	101.3337446	98.10333345	94.99522066	92.00411035	89.124966
230421A00036	4/21/2023	4.48	4/21/2025		102.25464	101.6892071	101.1300437	100.5770451	100.0301095	99.48913739	98.95403148	98.4246965	97.90103927
230421A00041	4/21/2023	4.22	4/21/2027		111.53621	108.8635451	106.2697168	103.7519141	101.30745	98.93375027	96.62834803	94.38887856	92.21307429
230421A00043	4/21/2023	4.1	4/21/2028		115.81131	112.0291055	108.3934069	104.8977147	101.5358559	98.30196593	95.19047092	92.19607158	89.31372805
230421A00044	4/21/2023	4.13	10/21/2027		113.6103	110.3901318	107.2798559	104.2750879	101.3716439	98.56553173	95.85294083	93.23023272	90.69393222
230421A00062	4/21/2023	4.33	4/21/2028		108.5415	106.5771263	104.6694527	102.8163806	101.0159032	99.26610294	97.56514625	95.91127963	94.30282543
230421A00064	4/21/2023	4.1	4/21/2028		115.81131	112.0291055	108.3934069	104.8977147	101.5358559	98.30196593	95.19047092	92.19607158	89.31372805
230424A00003	4/24/2023	4.15	4/26/2027		111.42029	108.7347157	106.1286692	103.5993029	101.1438948	98.75983757	96.44463335	94.19588822	92.01130714
230424A00005	4/24/2023	4.08	4/24/2028		115.7771	111.9867368	108.3434648	104.8407474	101.4723761	98.23245285	95.11537288	92.11580799	89.22869135
230424A00010	4/24/2023	4.55	4/24/2025		102.33098	101.7569926	101.189461	100.6282733	100.0733233	99.52450731	98.98172383	98.44487366	97.91385974
230424A00011	4/24/2023	4.55	4/24/2025		102.33098	101.7569926	101.189461	100.6282733	100.0733233	99.52450731	98.98172383	98.44487366	97.91385974
230424A00012	4/24/2023	4.28	4/24/2026		106.87252	105.2681	103.695983	102.15526	100.6450581	99.16453654	97.71288511	96.28932278	94.89309638
230424A00026	4/24/2023	4.28	4/24/2026		106.87252	105.2681	103.695983	102.15526	100.6450581	99.16453654	97.71288511	96.28932278	94.89309638
230424A00037	4/24/2023	4.79	10/24/2024		100.2564	100.189711	100.1231243	100.0566378	99.99025142	99.92396482	99.85777783	99.79169022	99.72570175
230424A00064	4/24/2023	4.28	4/24/2026		106.87252	105.2681	103.695983	102.15526	100.6450581	99.16453654	97.71288511	96.28932278	94.89309638
230425A00006	4/25/2023	3.89	4/24/2026		106.38465	104.7820568	103.2117685	101.6728799	100.1645173	98.68583894	97.23603376	95.81431999	94.41994376
230425A00011	4/25/2023	4.3	9/25/2025		104.09842	103.0891049	102.0994177	101.1287859	100.1766622	99.24252027	98.32585353	97.42617426	96.54301277
230425A00013	4/25/2023	4.67	10/25/2024		100.25846	100.1889997	100.1196501	100.0504069	99.98126981	99.91223859	99.84331299	99.77449278	99.70577772
230425A00020	4/25/2023	4.62	10/25/2024		100.25497	100.1855217	100.116175	100.0469347	99.97780049	99.90877213	99.83984939	99.77103204	99.70231983
230425A00024	4/25/2023	4.48	4/25/2025		102.30312	101.7264591	101.156309	100.5925614	100.0351087	99.48384576	98.93866972	98.39948007	97.86617846
230425A00029	4/25/2023	4.14	4/24/2026		106.65079	105.0482001	103.4778734	101.9389092	100.4304354	98.95161209	97.50162984	96.07970842	94.6850954
230425A00030	4/25/2023	4.01	4/26/2027		111.05532	108.3745452	105.7731882	103.2484056	100.7974784	98.41780261	96.10688336	93.86232963	91.68184916
230425A00031	4/25/2023	3.69	4/25/2028		114.68404	110.9024898	107.2681657	103.7745078	100.4152878	97.18458952	94.07679144	91.08655019	88.2087851
230425A00032	4/25/2023	3.95	4/25/2028		115.31804	111.5330343	107.8950794	104.3976384	101.0344988	97.79975958	94.68781291	91.69332815	88.81123636
230425A00037	4/25/2023	4.65	10/25/2024		100.25706	100.1876085	100.1182601	100.049018	99.97988208	99.910852	99.84192755	99.77310849	99.70439456
230425A00040	4/25/2023	3.89	4/24/2026		106.38465	104.7820568	103.2117685	101.6728799	100.1645173	98.68583894	97.23603376	95.81431999	94.41994376
230425A00045	4/25/2023	3.95	4/25/2028		115.31804	111.5330343	107.8950794	104.3976384	101.0344988	97.79975958	94.68781291	91.69332815	88.81123636
230425A00047	4/25/2023	4.01	4/26/2027		111.05532	108.3745452	105.7731882	103.2484056	100.7974784	98.41780261	96.10688336	93.86232963	91.68184916
230425A00050	4/25/2023	4.14	4/24/2026		106.65079	105.0482001	103.4778734	101.9389092	100.4304354	98.95161209	97.50162984	96.07970842	94.6850954
230425A00052	4/25/2023	4.01	4/26/2027		111.05532	108.3745452	105.7731882	103.2484056	100.7974784	98.41780261	96.10688336	93.86232963	91.68184916

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230425A00053	4/25/2023	4.14	4/24/2026		106.65079	105.0482001	103.4778734	101.9389092	100.4304354	98.95161209	97.50162984	96.07970842	94.6850954
230425A00104	4/25/2023	3.86	7/15/2026		107.35513	105.5158312	103.7172521	101.9581832	100.2374646	98.55398055	96.90665729	95.29446116	93.71639658
230425A00124	4/25/2023	4.42	4/25/2025		102.26869	101.6921407	101.1221021	100.558465	100.001122	99.44996777	98.90489966	98.36581709	97.83262173
230426A00003	4/26/2023	3.89	5/9/2028		115.26727	111.4432133	107.7690003	104.2379025	100.8435375	97.57984563	94.44107162	91.42174736	88.51667578
230426A00004	4/26/2023	3.89	5/9/2028		115.26727	111.4432133	107.7690003	104.2379025	100.8435375	97.57984563	94.44107162	91.42174736	88.51667578
230426A00005	4/26/2023	3.91	6/13/2028		115.75845	111.8254116	108.0497503	104.4242415	100.9420411	97.59666023	94.38194422	91.29205301	88.32144308
230426A00006	4/26/2023	3.91	6/13/2028		115.75845	111.8254116	108.0497503	104.4242415	100.9420411	97.59666023	94.38194422	91.29205301	88.32144308
230426A00007	4/26/2023	3.92	7/11/2028		116.13111	112.1105307	108.2536242	104.5527952	101.0008475	97.59095999	94.31666424	91.17182423	88.15061716
230426A00008	4/26/2023	3.92	7/11/2028		116.13111	112.1105307	108.2536242	104.5527952	101.0008475	97.59095999	94.31666424	91.17182423	88.15061716
230426A00009	4/26/2023	3.94	8/8/2028		116.53725	112.4297861	108.4923936	104.7171385	101.0964984	97.62333878	94.29089078	91.0927308	88.02276101
230426A00010	4/26/2023	3.94	8/8/2028		116.53725	112.4297861	108.4923936	104.7171385	101.0964984	97.62333878	94.29089078	91.0927308	88.02276101
230426A00011	4/26/2023	3.96	9/12/2028		117.03118	112.8138518	108.7750426	104.9062387	101.1993752	97.64681265	94.24131275	90.9760147	87.84441364
230426A00012	4/26/2023	3.96	9/12/2028		117.03118	112.8138518	108.7750426	104.9062387	101.1993752	97.64681265	94.24131275	90.9760147	87.84441364
230426A00013	4/26/2023	3.98	10/10/2028		117.44724	113.1406118	109.0193712	105.0745172	101.2975377	97.680378	94.21541405	90.89542677	87.71357832
230426A00014	4/26/2023	3.98	10/10/2028		117.44724	113.1406118	109.0193712	105.0745172	101.2975377	97.680378	94.21541405	90.89542677	87.71357832
230426A00025	4/26/2023	3.62	4/26/2028		114.44132	110.6612358	107.0284525	103.5364026	100.17885	96.94987145	93.84383899	90.85540328	87.97947817
230426A00026	4/26/2023	4.61	10/25/2024		100.25428	100.1848261	100.11548	100.0462403	99.97710662	99.90807884	99.83915667	99.77033989	99.70162825
230426A00033	4/26/2023	3.88	4/26/2028		115.07617	111.2926044	107.6561714	104.1603197	100.7988293	97.56579186	94.45559323	91.46289676	88.58262806
230426A00036	4/26/2023	4.06	4/27/2026		106.56294	104.9525598	103.3747047	101.8284553	100.3129287	98.82727492	97.37067483	95.94233905	94.54150648
230426A00037	4/26/2023	3.94	4/26/2027		110.87283	108.19446	105.5954477	103.0729569	100.6242702	98.24678513	95.93800837	93.69555033	91.51712016
230426A00040	4/26/2023	3.9	4/26/2028		115.14881	111.3639299	107.7262236	104.229135	100.8664428	97.63223727	94.52090309	91.52710246	88.64575986
230426A00043	4/26/2023	4.35	4/22/2025		102.19324	101.6252381	101.0635634	100.5081108	99.95877713	99.41546154	98.87806534	98.34649197	97.82064701
230426A00045	4/26/2023	4.34	4/25/2025		102.22278	101.6463828	101.0764928	100.5130031	99.95580624	99.40479712	98.85987292	98.32093312	97.78787941
230426A00046	4/26/2023	3.95	4/26/2028		115.3304	111.5422436	107.9013543	104.4011734	101.0354765	97.79835081	94.68417777	91.68761671	88.80358934
230426A00049	4/26/2023	4.13	4/27/2026		106.67438	105.0630845	103.4843249	101.937187	100.4207875	98.93427586	97.47683263	96.04766802	94.64602056
230426A00057	4/26/2023	4.44	4/25/2025		102.28017	101.7035801	101.1335044	100.5698305	100.0124509	99.46126043	98.91615635	98.37703809	97.84380731
230426A00062	4/26/2023	4.13	4/27/2026		106.67438	105.0630845	103.4843249	101.937187	100.4207875	98.93427586	97.47683263	96.04766802	94.64602056
230426A00063	4/26/2023	4.69	10/25/2024		100.25985	100.1903908	100.1210401	100.0517958	99.98265754	99.91362517	99.84469843	99.77587708	99.70716088
230426A00064	6/15/2023	3.87	6/15/2028		115.63176	111.6952793	107.916532	104.2882746	100.8036382	97.4561108	94.23951617	91.14799449	88.17598381
230426A00065	6/15/2023	3.87	6/15/2028		115.63176	111.6952793	107.916532	104.2882746	100.8036382	97.4561108	94.23951617	91.14799449	88.17598381
230426A00142	4/26/2023	4.51	4/27/2026		103.6538	102.8016666	101.9646852	101.1424339	100.3345103	99.54052668	98.76011017	97.99290139	97.23855405
230427A00013	4/27/2023	4.74	10/28/2024		100.29415	100.2163684	100.1387083	100.0611737	99.98376438	99.90647997	99.82932021	99.75228479	99.67537343
230427A00028	4/27/2023	4.74	10/28/2024		100.29415	100.2163684	100.1387083	100.0611737	99.98376438	99.90647997	99.82932021	99.75228479	99.67537343



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230427A00066	4/27/2023	4.07	4/27/2027		111.22463	108.5387459	105.9324756	103.4029669	100.9474919	98.56343832	96.2483035	93.99968903	91.81529564
230427A00069	4/27/2023	4.5	4/28/2025		102.35113	101.7659957	101.187563	100.6157129	100.0503335	99.49131514	98.93855102	98.3919365	97.85136929
230427A00077	4/27/2023	4.14	10/27/2026		109.04728	106.9049505	104.8160174	102.7787883	100.791639	98.85300827	96.96139566	95.11535809	93.31350742
230427A00078	4/27/2023	4.74	10/29/2024		100.30443	100.2238689	100.1434407	100.0631447	99.98298066	99.90294819	99.823047	99.74327678	99.66363721
230428A00010	4/28/2023	4.31	4/28/2025		102.28711	101.7016177	101.1228325	100.5506421	99.98493417	99.4255989	98.87252897	98.32561945	97.78476776
230428A00017	4/28/2023	4.17	4/28/2026		106.75132	105.1365475	103.5544149	102.0040004	100.484417	98.99481028	97.53435714	96.10226437	94.69776724
230428A00018	4/28/2023	3.99	4/28/2028		115.5006	111.7035289	108.054215	104.5460728	101.1728501	97.92860861	94.80770572	91.80477831	88.91472707
230428A00022	4/28/2023	4.78	10/28/2024		100.29727	100.2194781	100.1418154	100.0642783	99.98686634	99.90957937	99.83241704	99.75537906	99.67846515
230428A00026	4/28/2023	4.56	4/28/2025		102.38605	101.8008096	101.2222622	100.6502984	100.0848062	99.52567603	98.97280096	98.42607636	97.88539996
230428A00029	4/28/2023	4.23	4/28/2026		106.84701	105.2314471	103.6485365	102.0973579	100.5770237	99.08667921	97.62550092	96.19269532	94.78749736
230428A00040	4/28/2023	4.78	10/28/2024		100.29727	100.2194781	100.1418154	100.0642783	99.98686634	99.90957937	99.83241704	99.75537906	99.67846515
230428A00050	4/28/2023	4.31	4/28/2028		108.28167	106.3672231	104.5075464	102.7006173	100.944506	99.23736785	97.57743918	95.96303302	94.39253524
230428A00054	4/28/2023	4.62	3/13/2025		101.84854	101.3921419	100.9398474	100.4916036	100.0473561	99.60705139	99.17063695	98.73806121	98.3092735
230428A00055	4/28/2023	4.61	4/28/2026		103.73959	102.8866569	102.0488886	101.2258671	100.417189	99.62246657	98.84132608	98.07340771	97.31836473
230428A00066	4/28/2023	4.78	10/28/2024		100.29727	100.2194781	100.1418154	100.0642783	99.98686634	99.90957937	99.83241704	99.75537906	99.67846515
230501A00011	5/1/2023	4.09	4/26/2027		111.26387	108.5803569	105.9763202	103.4489184	100.9954306	98.61325115	96.29988335	94.05293454	91.87011086
230501A00012	5/1/2023	3.98	5/1/2028		115.50113	111.6953873	108.0380022	104.5223542	101.1421544	97.89143033	94.76450765	91.75599363	88.8607613
230501A00013	5/1/2023	4.54	5/1/2025		102.41152	101.8178823	101.2311353	100.6511568	100.0778301	99.51104127	98.95067881	98.39663385	97.84879994
230501A00022	5/1/2023	4.54	5/1/2025		102.41152	101.8178823	101.2311353	100.6511568	100.0778301	99.51104127	98.95067881	98.39663385	97.84879994
230501A00038	5/1/2023	4.33	5/1/2025		102.3348	101.7408303	101.1537659	100.5734822	99.99986213	99.4327913	98.87215795	98.31785287	97.76976926
230501A00039	5/1/2023	4.33	5/1/2025		102.3348	101.7408303	101.1537659	100.5734822	99.99986213	99.4327913	98.87215795	98.31785287	97.76976926
230501A00041	5/1/2023	4.58	4/28/2025		102.3977	101.8124142	101.2338286	100.661827	100.0962971	99.53712966	98.9842176	98.43745632	97.89674351
230502A00017	5/2/2023	4.26	5/4/2026		106.97449	105.341234	103.7411969	102.1734315	100.6370271	99.13110694	97.65482693	96.20737378	94.78796376
230502A00024	5/2/2023	4.38	5/2/2025		102.32913	101.7330121	101.1438439	100.5615064	99.98588114	99.41685251	98.85430751	98.29813569	97.74822912
230502A00025	5/2/2023	4.81	11/1/2024		100.34249	100.2535931	100.1648547	100.0762742	99.98785113	99.8995851	99.81147567	99.72352245	99.63572502
230502A00038	5/2/2023	3.86	5/2/2028		115.07533	111.2744817	107.6219728	104.1111727	100.7357883	97.48984325	94.36765989	91.36384252	88.47326162
230502A00042	5/2/2023	4.64	11/4/2024		100.35982	100.2626201	100.1656178	100.0688094	99.97219444	99.87577228	99.77954234	99.68350402	99.58765674
230502A00045	5/2/2023	4.38	5/2/2025		102.32913	101.7330121	101.1438439	100.5615064	99.98588114	99.41685251	98.85430751	98.29813569	97.74822912
230502A00047	5/2/2023	4.1	5/1/2026		106.67851	105.0559306	103.4662513	101.9085385	100.3818941	98.88545327	97.4183832	95.97988135	94.56917418
230502A00052	5/2/2023	3.96	5/3/2027		111.01181	108.311754	105.6921181	103.1500091	100.6826572	98.28741087	95.96173035	93.70318248	91.50943529
230502A00055	5/2/2023	4.08	5/4/2026		106.68441	105.0535794	103.455923	101.8904961	100.3563891	98.85272658	97.3786653	95.93339307	94.51612716
230502A00058	5/2/2023	4.39	5/2/2025		102.33506	101.7389245	101.1497366	100.5673794	99.99173469	99.42268676	98.86012261	98.3039318	97.7540064
230502A00076	5/2/2023	3.95	5/3/2027		110.98555	108.2858369	105.6665409	103.124764	100.6577368	98.26280791	95.9374378	93.67919353	91.48574332

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230502A00079	5/2/2023	3.6	5/2/2028		114.43753	110.6402131	106.9913996	103.4844478	100.1130484	96.87120989	93.75324076	90.75373242	87.86754346
230502A00081	5/2/2023	3.96	5/3/2027		111.01181	108.311754	105.6921181	103.1500091	100.6826572	98.28741087	95.96173035	93.70318248	91.50943529
230502A00086	5/2/2023	4.08	5/1/2026		106.64645	105.0241332	103.4347158	101.8772603	100.3508687	98.85467633	97.38785042	95.94958856	94.53911734
230502A00120	5/2/2023	4.38	5/2/2025		102.32913	101.7330121	101.1438439	100.5615064	99.98588114	99.41685251	98.85430751	98.29813569	97.74822912
230502A00122	5/2/2023	3.7	5/3/2027		110.54885	107.8501899	105.2320494	102.6915237	100.2258364	97.83232945	95.50845744	93.25178161	91.05996483
230503A00004	5/3/2023	3.94	5/3/2027		110.95928	108.2599198	105.6409637	103.0995189	100.6328164	98.23820495	95.91314525	93.65520457	91.46205135
230503A00012	5/3/2023	3.82	5/3/2028		114.94097	111.1397437	107.4869868	103.9760573	100.6006524	97.35478677	94.23277454	91.22921227	88.33896335
230503A00014	5/3/2023	3.94	5/3/2027		110.95928	108.2599198	105.6409637	103.0995189	100.6328164	98.23820495	95.91314525	93.65520457	91.46205135
230503A00017	5/3/2023	4.41	11/4/2024		100.34499	100.247726	100.1506602	100.0537893	99.95711274	99.86062998	99.76434036	99.66824329	99.57233818
230503A00020	5/3/2023	3.84	5/3/2028		115.014	111.211448	107.5574045	104.0452253	100.6686062	97.42156065	94.29840148	91.2937241	88.40239076
230503A00022	5/3/2023	4.4	5/2/2025		102.341	101.744837	101.1556292	100.5732524	99.99758824	99.42852101	98.86593771	98.30972792	97.75978368
230503A00025	5/3/2023	3.84	5/3/2028		115.014	111.211448	107.5574045	104.0452253	100.6686062	97.42156065	94.29840148	91.2937241	88.40239076
230503A00029	5/3/2023	4.08	5/4/2026		106.68441	105.0535794	103.455923	101.8904961	100.3563891	98.85272658	97.3786653	95.93339307	94.51612716
230503A00030	5/3/2023	3.84	5/3/2028		115.014	111.211448	107.5574045	104.0452253	100.6686062	97.42156065	94.29840148	91.2937241	88.40239076
230503A00031	5/3/2023	4.4	5/2/2025		102.341	101.744837	101.1556292	100.5732524	99.99758824	99.42852101	98.86593771	98.30972792	97.75978368
230503A00032	5/3/2023	4.08	5/1/2026		106.64645	105.0241332	103.4347158	101.8772603	100.3508687	98.85467633	97.38785042	95.94958856	94.53911734
230503A00034	5/3/2023	3.84	5/3/2028		115.014	111.211448	107.5574045	104.0452253	100.6686062	97.42156065	94.29840148	91.2937241	88.40239076
230503A00036	5/3/2023	4.15	5/2/2025		102.24016	101.6437446	101.0542977	100.4716935	99.89581305	99.32654047	98.76376236	98.20736797	97.65724903
230503A00038	5/3/2023	4.15	5/2/2025		102.24016	101.6437446	101.0542977	100.4716935	99.89581305	99.32654047	98.76376236	98.20736797	97.65724903
230503A00072	5/3/2023	3.83	5/4/2026		106.41362	104.7828102	103.1852122	101.6198822	100.0859085	98.58241394	97.10855356	95.66351357	94.24650973
230504A00006	5/4/2023	3.79	12/6/2027		113.09335	109.7496909	106.5238976	103.4110989	100.4066596	97.50616536	94.70541094	92.00038856	89.38727729
230504A00007	5/4/2023	3.82	7/6/2027		111.40414	108.5180715	105.7225082	103.0140266	100.3893624	97.84539734	95.37915184	92.98777736	90.66854971
230504A00011	5/4/2023	3.7	5/4/2026		106.20398	104.5749223	102.9790465	101.4154081	99.8830964	98.38123486	96.90897942	95.465517	94.05006407
230504A00019	5/4/2023	3.95	5/4/2026		106.47491	104.845829	103.2498919	101.6861539	100.1537062	98.6516741	97.17921523	95.7355181	94.31980072
230504A00020	5/4/2023	3.83	5/4/2027		110.68217	107.9837016	105.3657027	102.8252716	100.3596342	97.96613478	95.64223003	93.38548328	91.19355935
230504A00021	5/4/2023	3.76	5/4/2028		114.7333	110.9330303	107.2813211	103.7715208	100.3973183	97.1527206	94.03203467	91.02985066	88.14102597
230504A00034	5/4/2023	3.95	5/4/2026		106.47491	104.845829	103.2498919	101.6861539	100.1537062	98.6516741	97.17921523	95.7355181	94.31980072
230504A00040	5/4/2023	4.5	11/4/2024		100.34622	100.2490322	100.1520417	100.0552451	99.95864196	99.86223157	99.76601337	99.66998678	99.5741512
230504A00041	5/4/2023	3.95	5/4/2026		106.47491	104.845829	103.2498919	101.6861539	100.1537062	98.6516741	97.17921523	95.7355181	94.31980072
230504A00042	5/4/2023	3.83	5/4/2027		110.68217	107.9837016	105.3657027	102.8252716	100.3596342	97.96613478	95.64223003	93.38548328	91.19355935
230504A00043	5/4/2023	3.76	5/4/2028		114.7333	110.9330303	107.2813211	103.7715208	100.3973183	97.1527206	94.03203467	91.02985066	88.14102597
230504A00046	5/4/2023	4.24	5/5/2025		102.28118	101.6769417	101.0798494	100.4897805	99.90661145	99.33022151	98.76049282	98.19731025	97.64056129
230504A00047	5/4/2023	4.5	11/4/2024		100.34622	100.2490322	100.1520417	100.0552451	99.95864196	99.86223157	99.76601337	99.66998678	99.5741512

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230504A00049	5/4/2023	3.95	5/4/2026		106.47491	104.845829	103.2498919	101.6861539	100.1537062	98.6516741	97.17921523	95.7355181	94.31980072
230504A00054	5/4/2023	3.95	5/4/2026		106.47491	104.845829	103.2498919	101.6861539	100.1537062	98.6516741	97.17921523	95.7355181	94.31980072
230504A00055	5/4/2023	4.24	5/5/2025		102.28118	101.6769417	101.0798494	100.4897805	99.90661145	99.33022151	98.76049282	98.19731025	97.64056129
230504A00057	5/4/2023	3.86	5/4/2026		106.32987	104.7020017	103.1072549	101.5446862	100.0133872	98.51248392	97.04113441	95.59852775	94.18388242
230504A00058	5/4/2023	3.69	5/4/2028		114.4775	110.6818755	107.0346762	103.5292564	100.1593097	96.91884763	93.80218162	90.80390593	87.91888196
230504A00059	5/4/2023	4.34	5/4/2026		103.69293	102.8018888	101.9269109	101.0675469	100.2233683	99.39396266	98.57893304	97.777897	96.990486
230504A00064	5/4/2023	4.35	11/4/2024		100.33165	100.2344738	100.1374959	100.040712	99.94412146	99.84772367	99.75151805	99.65550402	99.55968098
230504A00065	5/4/2023	4.11	5/5/2025		102.20298	101.5990064	101.0021778	100.4123703	99.8294605	99.25332768	98.683854	98.12092435	97.56442623
230504A00069	5/4/2023	3.82	5/4/2026		106.26541	104.6380785	103.0438608	101.4818117	99.95102326	98.45062162	96.97976516	95.53764314	94.12347428
230504A00084	5/4/2023	3.5	5/4/2028		114.094	110.2972953	106.6493133	103.1433928	99.77320636	96.53274586	93.41630435	90.41845907	87.53405555
230504A00085	5/4/2023	4.24	5/5/2025		102.28118	101.6769417	101.0798494	100.4897805	99.90661145	99.33022151	98.76049282	98.19731025	97.64056129
230504A00092	5/4/2023	4.5	11/4/2024		100.34622	100.2490322	100.1520417	100.0552451	99.95864196	99.86223157	99.76601337	99.66998678	99.5741512
230505A00001	5/5/2023	4.33	5/5/2025		102.33532	101.7308969	101.1336221	100.5433722	99.96002365	99.38345569	98.81355047	98.25019281	97.69327018
230505A00002	5/5/2023	4.01	5/5/2026		106.58406	104.9513371	103.3518622	101.78469	100.2489073	98.74363543	97.26802822	95.82127055	94.40257696
230505A00005	5/5/2023	3.99	5/5/2026		106.55178	104.9193207	103.3201112	101.7531997	100.2176731	98.7126529	97.23729301	95.79077844	94.37232385
230505A00012	5/5/2023	4.6	11/5/2024		100.36663	100.2666626	100.166904	100.0673517	99.96800521	99.86886371	99.76992658	99.67119319	99.57266287
230505A00013	5/5/2023	4.33	5/5/2025		102.33532	101.7308969	101.1336221	100.5433722	99.96002365	99.38345569	98.81355047	98.25019281	97.69327018
230505A00014	5/5/2023	3.59	5/5/2028		114.43457	110.6288499	106.9722399	103.4580514	100.0799382	96.83187471	93.70813754	90.70328844	87.81215837
230505A00016	5/5/2023	3.85	5/5/2028		115.07385	111.2645865	107.6042578	104.0861971	100.7040748	97.45188031	94.32390432	91.31472151	88.41917478
230505A00017	5/5/2023	4.01	5/5/2026		106.58406	104.9513371	103.3518622	101.78469	100.2489073	98.74363543	97.26802822	95.82127055	94.40257696
230505A00022	5/5/2023	3.85	5/5/2028		115.07385	111.2645865	107.6042578	104.0861971	100.7040748	97.45188031	94.32390432	91.31472151	88.41917478
230505A00027	5/5/2023	4.01	5/5/2026		106.58406	104.9513371	103.3518622	101.78469	100.2489073	98.74363543	97.26802822	95.82127055	94.40257696
230505A00035	5/5/2023	3.9	5/5/2027		110.87821	108.1743719	105.5512025	103.0057966	100.5353709	98.13726102	95.80891546	93.54788984	91.3518417
230505A00048	5/5/2023	4.01	5/5/2026		106.58406	104.9513371	103.3518622	101.78469	100.2489073	98.74363543	97.26802822	95.82127055	94.40257696
230505A00071	5/5/2023	3.85	5/5/2028		115.07385	111.2645865	107.6042578	104.0861971	100.7040748	97.45188031	94.32390432	91.31472151	88.41917478
230508A00007	5/8/2023	3.92	5/8/2028		115.36545	111.542426	107.8690952	104.338742	100.9449944	97.68180261	94.54342022	91.52438746	88.61951498
230508A00012	5/8/2023	4.43	5/8/2025		102.43216	101.8191147	101.2134227	100.6149538	100.0235791	99.43917277	98.86161192	98.29077655	97.72654945
230508A00016	5/8/2023	4.14	5/8/2026		106.8324	105.1893788	103.5799267	102.0030774	100.4579055	98.94352015	97.45906416	96.00371173	94.5766673
230508A00017	5/8/2023	4.01	5/10/2027		111.22926	108.506852	105.865952	103.3036116	100.8170074	98.40343706	96.06031339	93.78515839	91.57559789
230508A00018	5/8/2023	3.92	5/8/2028		115.36545	111.542426	107.8690952	104.338742	100.9449944	97.68180261	94.54342022	91.52438746	88.61951498
230508A00025	5/8/2023	4.69	11/8/2024		100.40846	100.3001634	100.1921151	100.0843111	99.97675068	99.86943288	99.76235688	99.65552182	99.54892686
230509A00009	5/9/2023	4.45	5/9/2025		102.45664	101.8407463	101.2322734	100.6310897	100.0370646	99.45007058	98.86998298	98.29668021	97.73004349
230509A00010	5/9/2023	4.14	5/8/2026		106.8324	105.1893788	103.5799267	102.0030774	100.4579055	98.94352015	97.45906416	96.00371173	94.5766673

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230509A00019	5/9/2023	4.7	11/8/2024		100.40954	100.3012448	100.1931955	100.0853906	99.97782918	99.87051041	99.76343344	99.65659741	99.55000149
230509A00035	5/9/2023	4.14	5/8/2026		106.8324	105.1893788	103.5799267	102.0030774	100.4579055	98.94352015	97.45906416	96.00371173	94.5766673
230509A00036	5/9/2023	4.02	5/10/2027		111.25572	108.5329597	105.891715	103.3290377	100.8421042	98.42821197	96.08477358	93.80931079	91.59944923
230509A00037	5/9/2023	4.47	11/8/2024		100.39304	100.2846771	100.1765569	100.0686823	99.96105218	99.85366584	99.74652237	99.6396209	99.53296057
230509A00047	5/9/2023	4.43	5/9/2025		102.44439	101.828536	101.220105	100.6189629	100.0249791	99.43802586	98.85797879	98.28471621	97.71811935
230509A00048	5/9/2023	4.43	5/9/2025		102.44439	101.828536	101.220105	100.6189629	100.0249791	99.43802586	98.85797879	98.28471621	97.71811935
230509A00060	5/9/2023	3.92	5/9/2028		115.37732	111.551257	107.8750969	104.342108	100.9459059	97.68042896	94.53991996	91.51890901	88.6121973
230509A00118	5/9/2023	4.12	5/8/2026		106.79994	105.1571982	103.5480141	101.9714281	100.4265147	98.91238355	97.42817728	95.97307032	94.5462672
230510A00007	5/10/2023	4.39	5/9/2025		102.41988	101.8041155	101.1957683	100.5947093	100.0008079	99.41393642	98.83397041	98.26078821	97.69427106
230510A00009	5/10/2023	4.07	5/11/2026		106.7567	105.106105	103.4893438	101.9054396	100.3534556	98.83249047	97.34167682	95.88017937	94.44719352
230510A00014	5/10/2023	4.07	5/11/2026		106.7567	105.106105	103.4893438	101.9054396	100.3534556	98.83249047	97.34167682	95.88017937	94.44719352
230510A00018	11/10/2023	3.61	11/10/2026		108.09494	105.9234172	103.8067667	101.7432192	99.73107946	97.76871973	95.85457655	93.98714758	92.16498871
230510A00031	5/10/2023	4.14	5/9/2025		102.31574	101.6997118	101.091122	100.4898328	99.89571293	99.30863452	98.72847264	98.15510532	97.58841346
230510A00033	5/10/2023	4.39	5/12/2025		102.45624	101.8320454	101.2154808	100.6064026	100.0046749	99.41016495	98.82274305	98.24228273	97.66866049
230510A00037	5/10/2023	3.84	5/10/2028		115.09549	111.2717546	107.5979648	104.0673903	100.6736395	97.41064448	94.2726422	91.25415742	88.34998652
230510A00057	5/10/2023	3.98	5/11/2026		106.60991	104.9605537	103.3450103	101.7623023	100.2114934	98.69168293	97.202004	95.74162185	94.30973241
230510A00062	8/10/2023	3.78	8/10/2026		107.36655	105.4585965	103.5941927	101.7720922	99.99108832	98.25001627	96.54775179	94.88320929	93.25534036
230511A00011	5/11/2023	4.54	11/5/2024		100.36063	100.2606729	100.1609195	100.0613725	99.96203124	99.86289496	99.76396306	99.66523487	99.56670974
230511A00015	5/11/2023	4.25	5/12/2025		102.3693	101.7454173	101.1291535	100.5203736	99.91894158	99.32472476	98.73759355	98.15742147	97.58408506
230511A00023	5/11/2023	3.95	5/19/2026		106.65935	104.9876857	103.3505797	101.7470296	100.176068	98.63676444	97.12822394	95.6495852	94.20001894
230511A00029	5/11/2023	4.25	5/9/2025		102.33412	101.7186434	101.1105897	100.5098217	99.91620876	99.32962339	98.74994106	98.17704019	97.61080205
230511A00032	5/11/2023	3.7	5/11/2026		106.2868	104.6378991	103.0228368	101.4406417	99.8903758	98.37113676	96.88205609	95.42229758	93.99105575
230511A00034	5/11/2023	4	5/12/2025		102.26372	101.6395726	101.0230655	100.4140548	99.81240409	99.21798029	98.63065343	98.05029666	97.47678615
230511A00036	5/11/2023	3.79	5/19/2027		110.75235	108.0112993	105.3529397	102.7742518	100.2723493	97.84447094	95.48797402	93.20032858	90.9791116
230511A00038	5/11/2023	3.95	5/11/2026		106.56098	104.9120365	103.2968992	101.7145899	100.1641727	98.64474709	97.15544639	95.69543601	94.26391205
230511A00039	5/11/2023	3.86	11/27/2026		108.83961	106.6115243	104.4405913	102.3249412	100.2627766	98.25237327	96.29207661	94.38029815	92.51551238
230511A00042	5/11/2023	3.72	5/11/2028		114.66627	110.8475442	107.1787435	103.6531266	100.2642977	97.00618515	93.87302263	90.85933203	87.95990719
230511A00043	5/11/2023	3.72	5/16/2028		114.7228	110.8889848	107.2061246	103.6674163	100.2664014	96.99694948	93.8532398	90.82974344	87.92120689
230511A00044	5/11/2023	3.79	5/11/2027		110.65882	107.9412412	105.3051444	102.7475765	100.2657119	97.85684623	95.5183907	93.24786577	91.04289597
230511A00046	5/11/2023	3.95	5/11/2026		106.56098	104.9120365	103.2968992	101.7145899	100.1641727	98.64474709	97.15544639	95.69543601	94.26391205
230511A00050	5/11/2023	3.98	5/11/2026		106.60991	104.9605537	103.3450103	101.7623023	100.2114934	98.69168293	97.202004	95.74162185	94.30973241
230511A00052	5/11/2023	4.25	5/12/2025		102.3693	101.7454173	101.1291535	100.5203736	99.91894158	99.32472476	98.73759355	98.15742147	97.58408506
230511A00053	5/11/2023	4.53	11/12/2024		100.43314	100.3137616	100.1946837	100.075903	99.95741818	99.83922825	99.72133202	99.60372834	99.4864161

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230511A00067	5/11/2023	4.58	11/13/2024		100.44974	100.3275841	100.2057381	100.0842029	99.96297723	99.84205979	99.72144942	99.60114491	99.48114504
230511A00068	5/11/2023	4.31	5/12/2025		102.40656	101.7825437	101.1661509	100.5572432	99.95568445	99.36134199	98.77408619	98.19379058	97.62033167
230511A00069	5/11/2023	3.98	5/12/2026		106.62229	104.9700929	103.3518036	101.7664402	100.2130624	98.6907659	97.1986803	95.73596751	94.30182031
230511A00080	5/11/2023	3.49	5/11/2028		114.13378	110.3166553	106.649682	103.1261025	99.73950241	96.48379258	93.35319072	90.34220386	87.44561208
230512A00007	5/12/2023	4.08	5/12/2025		102.31341	101.6890879	101.0724087	100.4632274	99.86140754	99.26681603	98.67932288	98.09880122	97.52512721
230512A00008	5/12/2023	3.75	5/12/2026		106.38038	104.7279479	103.1094631	101.5239482	99.97046098	98.44809497	96.95597788	95.49326988	94.05916205
230512A00009	5/12/2023	4.08	5/12/2025		102.31341	101.6890879	101.0724087	100.4632274	99.86140754	99.26681603	98.67932288	98.09880122	97.52512721
230512A00010	5/12/2023	3.75	5/12/2026		106.38038	104.7279479	103.1094631	101.5239482	99.97046098	98.44809497	96.95597788	95.49326988	94.05916205
230512A00011	5/12/2023	3.78	5/12/2028		114.89818	111.0724075	107.3968841	103.8648506	100.4698945	97.20592846	94.06717148	91.04813167	88.14358995
230512A00020	5/12/2023	4.6	11/12/2024		100.44149	100.3221073	100.2030215	100.0842328	99.96574013	99.84754231	99.72963821	99.61202669	99.49470661
230512A00022	5/12/2023	4.33	5/12/2025		102.41898	101.7949191	101.1784833	100.569533	99.96793207	99.37354773	98.78625041	98.20591362	97.63241388
230512A00023	5/12/2023	4.6	11/13/2024		100.45218	100.330024	100.2081757	100.0866381	99.96541006	99.84449029	99.72387759	99.60357075	99.48356855
230512A00026	5/12/2023	4	5/12/2026		106.65496	105.0024923	103.3839316	101.7983014	100.2446617	98.72210775	97.22976918	95.76680775	94.33241612
230512A00033	5/12/2023	3.75	5/12/2026		106.38038	104.7279479	103.1094631	101.5239482	99.97046098	98.44809497	96.95597788	95.49326988	94.05916205
230512A00037	5/12/2023	3.86	5/12/2027		110.85613	108.1331346	105.4918333	102.9292584	100.4425752	98.02907061	95.68614751	93.41131857	91.20220092
230512A00042	5/12/2023	4	5/12/2026		106.65496	105.0024923	103.3839316	101.7983014	100.2446617	98.72210775	97.22976918	95.76680775	94.33241612
230515A00011	5/15/2023	4.11	5/15/2026		106.87291	105.2103724	103.5820607	101.9869788	100.424174	98.89272992	97.39176481	95.92042977	94.47790734
230515A00024	5/15/2023	4.69	11/15/2024		100.48506	100.3573322	100.2299465	100.1028992	99.97618889	99.84981418	99.72377371	99.59806612	99.47269004
230515A00031	5/15/2023	4.41	5/15/2025		102.50517	101.8725106	101.2476805	100.6305371	100.0209387	99.41874734	98.82382824	98.23604996	97.65528417
230515A00034	5/15/2023	4.69	11/15/2024		100.48506	100.3573322	100.2299465	100.1028992	99.97618889	99.84981418	99.72377371	99.59806612	99.47269004
230515A00045	5/15/2023	4.08	5/15/2026		106.82364	105.161527	103.5336265	101.9389485	100.3765406	98.84548642	97.34490445	95.87394599	94.43179375
230515A00072	5/15/2023	4.42	5/9/2025		102.43826	101.8224309	101.2140208	100.6128995	100.0189363	99.4320035	98.85197669	98.27873421	97.71215728
230515A00074	5/15/2023	4.11	5/15/2026		106.87291	105.2103724	103.5820607	101.9869788	100.424174	98.89272992	97.39176481	95.92042977	94.47790734
230515A00078	5/15/2023	3.96	5/17/2027		111.18212	108.4408573	105.7821209	103.2029058	100.7003366	98.27166237	95.91424998	93.62557839	91.40323286
230515A00080	5/15/2023	3.88	5/15/2028		115.30112	111.459528	107.7690036	104.2227397	100.8142793	97.5374929	94.38656057	91.35595374	88.44041905
230516A00009	5/16/2023	4.46	5/16/2025		102.54895	101.9133617	101.2856789	100.6657506	100.0534333	99.44858728	98.85107599	98.26076629	97.67752826
230516A00013	5/16/2023	4.11	5/15/2026		106.87291	105.2103724	103.5820607	101.9869788	100.424174	98.89272992	97.39176481	95.92042977	94.47790734
230516A00035	5/16/2023	4.11	5/15/2026		106.87291	105.2103724	103.5820607	101.9869788	100.424174	98.89272992	97.39176481	95.92042977	94.47790734
230516A00036	5/16/2023	4	5/17/2027		111.28875	108.5460504	105.8859153	103.3053334	100.8014285	98.3714487	96.01275989	93.72284014	91.49927389
230516A00037	5/16/2023	3.91	5/16/2028		115.42351	111.5768603	107.8815405	104.3307327	100.917965	97.63709423	94.48228753	91.44800432	88.52897995
230516A00044	5/16/2023	4.72	11/15/2024		100.48889	100.3611582	100.2337687	100.1067176	99.9800035	99.85362501	99.72758078	99.60186943	99.4764896
230516A00067	5/16/2023	4.44	5/16/2025		102.53631	101.900766	101.2731277	100.6532434	100.0409698	99.43616704	98.83869865	98.24843149	97.66523563
230516A00069	5/16/2023	4.1	5/15/2026		106.85648	105.1940906	103.5659159	101.9709687	100.4082962	98.87698209	97.37614469	95.90493517	94.46253614



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230517A00014	5/17/2023	4.14	5/18/2026		106.96065	105.2891446	103.6521557	102.0486783	100.4777474	98.93843513	97.42984898	95.95112978	94.50145034
230517A00019	5/17/2023	4.7	1/17/2025		101.21002	100.9070735	100.6059547	100.3066471	100.0091342	99.71340001	99.41942835	99.12720342	98.83670958
230517A00020	5/17/2023	4.47	7/17/2025		103.33971	102.5290714	101.7311901	100.9457655	100.1725072	99.41113329	98.66137093	97.92295541	97.19563005
230517A00046	5/17/2023	4.53	5/16/2025		102.59319	101.9574463	101.329608	100.7095256	100.0970556	99.4920581	98.89439667	98.30393812	97.7205525
230517A00048	5/17/2023	4.17	5/15/2026		106.97143	105.3080634	103.678929	102.0830392	100.5194408	98.98721693	97.48548552	96.01339732	94.57013452
230518A00015	5/18/2023	4.64	5/16/2025		102.66271	102.0267221	101.3986395	100.7783149	100.1656049	99.5603694	98.96247203	98.37177956	97.788162
230518A00017	5/18/2023	4.28	5/18/2026		107.19172	105.5182391	103.8793121	102.2739311	100.7011302	99.15998073	97.64958918	96.16909559	94.71767193
230518A00019	5/18/2023	3.81	5/18/2028		115.39387	111.5338987	107.8261682	104.263801	100.8402718	97.54938738	94.38526813	91.34232987	88.41526718
230519A00002	5/19/2023	4.95	11/19/2024		100.56489	100.4260154	100.2875335	100.1494471	100.0117546	99.87445418	99.73754418	99.60102289	99.46488863
230519A00010	5/19/2023	4.91	12/19/2024		100.91539	100.6930934	100.4717934	100.2514801	100.0321468	99.81378698	99.59639399	99.37996139	99.16448276
230519A00011	5/19/2023	4.73	5/19/2025		102.75877	102.1141262	101.4775984	100.849032	100.2282782	99.61519142	99.00963007	98.41145584	97.82053384
230519A00012	5/19/2023	4.53	12/19/2025		105.50768	104.2517272	103.0258084	101.8288552	100.6598476	99.51781359	98.40182548	97.31099787	96.24448509
230519A00013	5/19/2023	4.39	5/19/2026		107.38679	105.7089009	104.0656836	102.4561313	100.8792736	99.33417717	97.8199443	96.33571095	94.88064528
230519A00025	5/19/2023	4.95	11/19/2024		100.56489	100.4260154	100.2875335	100.1494471	100.0117546	99.87445418	99.73754418	99.60102289	99.46488863
230519A00026	5/19/2023	4.73	5/19/2025		102.75877	102.1141262	101.4775984	100.849032	100.2282782	99.61519142	99.00963007	98.41145584	97.82053384
230519A00027	5/19/2023	4.39	5/19/2026		107.38679	105.7089009	104.0656836	102.4561313	100.8792736	99.33417717	97.8199443	96.33571095	94.88064528
230519A00028	5/19/2023	4.73	5/19/2025		102.75877	102.1141262	101.4775984	100.849032	100.2282782	99.61519142	99.00963007	98.41145584	97.82053384
230519A00029	5/19/2023	4.39	5/19/2026		107.38679	105.7089009	104.0656836	102.4561313	100.8792736	99.33417717	97.8199443	96.33571095	94.88064528
230519A00030	5/19/2023	4.27	5/19/2027		112.03453	109.2762299	106.6010165	104.0058615	101.4878665	99.04425855	96.67238397	94.36970204	92.13377945
230519A00038	5/19/2023	3.92	5/19/2028		115.81289	111.9423867	108.2245509	104.652485	101.2196429	97.91981224	94.74709508	91.69589016	88.76087594
230519A00041	5/19/2023	3.92	5/19/2028		115.81289	111.9423867	108.2245509	104.652485	101.2196429	97.91981224	94.74709508	91.69589016	88.76087594
230522A00026	5/22/2023	4.35	5/22/2026		107.3609	105.6749825	104.0240209	102.4069911	100.8229107	99.27083543	97.74985711	96.25910175	94.79772811
230522A00029	5/22/2023	4.67	5/22/2025		102.75903	102.106067	101.4614295	100.8249554	100.1964901	99.57588277	98.96298642	98.3576577	97.75975678
230522A00043	5/22/2023	4.17	5/16/2028		116.38238	112.5181635	108.8057938	105.2384287	101.8095782	98.51308177	95.3430897	92.29404553	89.36066939
230522A00046	5/22/2023	4.17	5/22/2028		116.4578	112.5751849	108.8456702	105.2623378	101.818621	98.50828795	95.32542285	92.26440742	89.3199042
230522A00058	5/22/2023	4.7	5/19/2025		102.73956	102.0949852	101.4585256	100.830027	100.2093402	99.59631999	98.99082456	98.39271569	97.8018585
230522A00093	5/22/2023	4.17	5/22/2028		116.4578	112.5751849	108.8456702	105.2623378	101.818621	98.50828795	95.32542285	92.26440742	89.3199042
230523A00008	5/23/2023	4.44	5/26/2026		107.5651	105.8664184	104.2031047	102.5741166	100.9784551	99.41515995	97.88330802	96.38201112	94.91041449
230523A00024	5/23/2023	4.06	5/24/2027		111.76189	108.9883775	106.2988648	103.6902678	101.1596409	98.70416713	96.32115127	94.0080136	91.76228407
230523A00031	5/23/2023	4.76	11/22/2024		100.58344	100.4361128	100.2892287	100.1427862	99.99678341	99.85121819	99.70608857	99.56139257	99.4171282
230523A00045	5/23/2023	5	11/22/2024		100.60723	100.4599929	100.313201	100.1668492	100.0209354	99.87545758	99.73041385	99.58580221	99.44162071
230523A00047	5/23/2023	4.77	5/23/2025		102.83706	102.1810438	101.5334213	100.8940324	100.2627205	99.63933283	99.02372073	98.41573905	97.81524629
230523A00048	5/23/2023	4.44	5/26/2026		107.5651	105.8664184	104.2031047	102.5741166	100.9784551	99.41515995	97.88330802	96.38201112	94.91041449

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230523A00049	5/23/2023	4.31	5/24/2027		112.20711	109.4324941	106.7417628	104.1318472	101.5998093	99.14283899	96.75824753	94.44346126	92.19601586
230523A00083	5/23/2023	4.21	5/23/2028		116.61868	112.7302604	108.9952366	105.4066687	101.9579745	98.64290741	95.455538	92.39023511	89.44164929
230523A00085	5/23/2023	4.39	5/23/2029		122.02016	116.956937	112.1389051	107.5528015	103.1861591	99.02725102	95.0650427	91.28914668	87.68978106
230523A00086	5/23/2023	4.42	5/23/2030		126.37176	120.1237624	114.2334962	108.6784452	103.4376312	98.49150242	93.8218285	89.41160412	85.24496009
230523A00088	5/23/2023	4.59	5/23/2033		138.813	128.8971859	119.8006515	111.4505056	103.7807332	96.73151072	90.24859395	84.28277	78.78936552
230523A00089	5/23/2023	4.65	5/23/2034		143.09056	131.9050321	121.7339622	112.4785621	104.0501983	96.36929782	89.364377	82.97117859	77.13190558
230523A00090	5/23/2023	4.71	5/23/2035		147.3643	134.8888512	123.643303	113.4977055	104.3365557	96.05712078	88.56796213	81.78763776	75.64355946
230523A00091	5/23/2023	4.77	5/23/2036		151.56117	137.7809823	125.4658145	114.4489283	104.5835088	95.7401811	87.80485118	80.67682437	74.26716433
230524A00009	5/24/2023	3.9	5/24/2028		115.79919	111.9147452	108.1839802	104.5999307	101.1559878	97.84588088	94.66365784	91.60366687	88.6605394
230524A00020	5/24/2023	4.44	5/23/2025		102.67425	102.0181642	101.3704833	100.7310478	100.0997007	99.4762888	98.86066301	98.2526778	97.65219131
230524A00021	5/24/2023	4.44	5/23/2025		102.67425	102.0181642	101.3704833	100.7310478	100.0997007	99.4762888	98.86066301	98.2526778	97.65219131
230524A00028	5/24/2023	4.36	5/26/2026		107.43128	105.7337564	104.0715796	102.4437079	100.849143	99.28692517	97.7561318	96.25587519	94.78530108
230524A00037	5/24/2023	4.69	5/23/2025		102.78495	102.1291207	101.4816865	100.8424841	100.2113571	99.58815265	98.97272215	98.36492047	97.76460613
230524A00038	5/24/2023	4.36	5/26/2026		107.43128	105.7337564	104.0715796	102.4437079	100.849143	99.28692517	97.7561318	96.25587519	94.78530108
230524A00055	5/24/2023	4.7	11/22/2024		100.57462	100.4272974	100.2804231	100.1339905	99.98799738	99.84244187	99.69732194	99.55263561	99.40838089
230525A00004	5/25/2023	4.87	5/27/2025		102.95599	102.2884334	101.6295565	100.9791891	100.3371669	99.70332981	99.07752185	98.45959093	97.8493888
230525A00024	5/25/2023	5.06	11/25/2024		100.65194	100.4963427	100.3412336	100.1866104	100.0324707	99.8788124	99.72563311	99.57293061	99.42070268
230525A00094	5/25/2023	4.31	5/25/2028		117.01537	113.1139542	109.3665584	105.7662059	102.3062816	98.98050848	95.78292798	92.70788208	89.749996
230526A00013	5/26/2023	4.39	5/26/2026		107.61933	105.9178065	104.2517427	102.6200968	101.021866	99.45608698	97.92183316	96.4182134	94.94437006
230526A00016	5/26/2023	4.46	5/26/2027		112.63703	109.8509816	107.1492594	104.5287672	101.9865476	99.51977232	97.12573521	94.80184638	92.54562605
230526A00026	5/26/2023	4.49	5/26/2027		112.71775	109.9306113	107.2278207	104.6062846	102.0630451	99.5952729	97.20026135	94.87541979	92.61826781
230526A00027	5/26/2023	4.49	5/26/2027		112.71775	109.9306113	107.2278207	104.6062846	102.0630451	99.5952729	97.20026135	94.87541979	92.61826781
230526A00028	5/26/2023	4.38	5/26/2028		117.28845	113.3791551	109.6242269	106.0166754	102.5498674	99.21750906	96.01362615	92.93254581	89.96887938
230526A00029	5/26/2023	4.53	5/25/2029		122.70824	117.6232113	112.7844637	108.1786668	103.7932917	99.61655469	95.63736764	91.84529343	88.23050381
230526A00031	5/26/2023	4.54	5/24/2030		127.07356	120.8029258	114.8911648	109.3156849	104.0554425	99.09082494	94.40354529	89.97654566	85.79390789
230526A00033	5/26/2023	4.63	5/27/2031		131.51494	124.0210972	117.0212242	110.4798558	104.364266	98.6442396	93.29186574	88.28135062	83.58884574
230526A00034	5/26/2023	4.66	5/26/2032		135.61636	126.8993964	118.8304754	111.3574725	104.4327304	98.01265671	92.05735617	86.53029853	81.39801764
230530A00018	5/30/2023	5.13	11/25/2024		100.66282	100.5072074	100.3520856	100.1974498	100.0432976	99.88962665	99.73643483	99.58371984	99.43147944
230530A00027	5/30/2023	4.22	5/30/2028		116.74475	112.8341053	109.0783607	105.4704749	102.0037745	98.6719287	95.46892908	92.38907118	89.42693711
230530A00041	5/30/2023	4.93	5/27/2025		102.99574	102.3280358	101.669013	101.018501	100.3763355	99.74235652	99.1164079	98.49833758	97.88799728
230530A00045	5/30/2023	4.56	5/29/2026		108.12616	106.3512413	104.6146982	102.915349	101.2520604	99.62374574	98.02936248	96.46790988	94.93842695
230530A00048	5/30/2023	4.45	5/29/2026		107.6229	105.9154618	104.2436821	102.6065107	101.0029362	99.43198695	97.89272874	96.38426302	94.90572524
230530A00054	5/30/2023	4.56	5/29/2026		108.12616	106.3512413	104.6146982	102.915349	101.2520604	99.62374574	98.02936248	96.46790988	94.93842695

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230530A00055	5/30/2023	4.56	5/29/2026		108.12616	106.3512413	104.6146982	102.915349	101.2520604	99.62374574	98.02936248	96.46790988	94.93842695
230530A00118	5/30/2023	4.4	5/28/2027		112.50238	109.7125494	107.0073008	104.3835251	101.8382508	99.3686365	96.97196378	94.64563113	92.38714793
230530A00161	5/30/2023	5.08	11/29/2024		100.70311	100.5363662	100.3701703	100.2045236	100.0394234	99.87486683	99.7108514	99.54737441	99.38443323
230530A00166	5/30/2023	4.81	5/30/2025		102.95608	102.2801934	101.6131964	100.9549146	100.3051778	99.66382021	99.03068049	98.40560127	97.7884292
230530A00171	5/30/2023	4.43	5/29/2026		107.58928	105.8821322	104.2106395	102.5737499	100.9704523	99.39977496	97.86078395	96.35258082	94.87430112
230531A00006	5/31/2023	5.05	11/25/2024		100.65039	100.4947906	100.3396833	100.1850619	100.0309241	99.87726751	99.72409	99.57138929	99.41916314
230531A00036	5/31/2023	4.79	5/30/2025		102.94266	102.2668276	101.5998805	100.941648	100.2919601	99.65065106	99.01755938	98.39252775	97.77540285
230531A00037	5/31/2023	4.41	5/29/2026		107.55566	105.8488026	104.1775969	102.5409892	100.9379683	99.36756298	97.82883916	96.32089862	94.84287701
230531A00038	5/31/2023	4.01	5/28/2027		111.67769	108.894123	106.1951217	103.577578	101.0385168	98.57509282	96.18458464	93.86438779	91.612009
230531A00042	5/31/2023	4.01	5/28/2027		111.67769	108.894123	106.1951217	103.577578	101.0385168	98.57509282	96.18458464	93.86438779	91.612009
230531A00060	5/31/2023	4.44	2/27/2026		106.3604	104.9155922	103.4976626	102.1059236	100.739711	99.39838253	98.08131721	96.78791416	95.51759197
230531A00061	5/31/2023	4.42	4/1/2026		106.77355	105.235135	103.7269987	102.2483264	100.7983284	99.37624313	97.98133532	96.61289507	95.27023673
230531A00062	5/31/2023	4.39	4/30/2026		107.12992	105.5063282	103.9156095	102.3568353	100.8291095	99.33156914	97.86338315	96.42375062	95.01189951
230531A00063	5/31/2023	4.37	5/29/2026		107.48841	105.7821434	104.1115117	102.4754676	100.8730005	99.303139	97.76494959	96.25753421	94.78002878
230531A00085	5/31/2023	5.05	12/2/2024		100.73494	100.5598653	100.3853976	100.2115369	100.0382801	99.86562411	99.69356577	99.52210198	99.35122965
230531A00088	5/31/2023	4.79	5/30/2025		102.94266	102.2668276	101.5998805	100.941648	100.2919601	99.65065106	99.01755938	98.39252775	97.77540285
230531A00090	5/31/2023	4.41	6/1/2026		107.59672	105.8811635	104.2015637	102.5568504	100.946	99.36802919	97.82199264	96.3069814	94.82212105
230531A00091	5/31/2023	4.26	6/1/2027		112.17716	109.3804714	106.6688672	104.0392137	101.4885112	99.01389177	96.61261219	94.28204776	92.01968608
230531A00099	5/31/2023	4.41	5/29/2026		107.55566	105.8488026	104.1775969	102.5409892	100.9379683	99.36756298	97.82883916	96.32089862	94.84287701
230601A00006	6/1/2023	4.77	6/2/2025		102.96932	102.2850736	101.6099344	100.9437256	100.2862707	99.63739791	98.99693974	98.36473313	97.7406192
230601A00007	6/1/2023	5.04	12/2/2024		100.7332	100.5581196	100.383654	100.2097956	100.036541	99.86388724	99.69183111	99.52036952	99.34949939
230601A00012	6/1/2023	4.72	6/2/2025		102.93537	102.2512465	101.5762348	100.9101523	100.2528225	99.60407364	98.96373826	98.33165332	97.70765995
230601A00022	6/1/2023	5.04	12/2/2024		100.7332	100.5581196	100.383654	100.2097956	100.036541	99.86388724	99.69183111	99.52036952	99.34949939
230601A00025	6/1/2023	4.12	6/1/2028		116.39714	112.4871801	108.7323445	105.125578	101.660188	98.32982558	95.128466	92.05038956	89.09016441
230601A00040	6/1/2023	4.35	6/1/2026		107.49535	105.7806823	104.1019518	102.4580922	100.8480803	99.27093311	97.7257058	96.2114898	94.72741105
230602A00012	6/2/2023	4.39	6/2/2026		107.57676	105.8585555	104.1763997	102.5292266	100.9160082	99.33575696	97.78752382	96.27039616	94.78349608
230602A00020	6/2/2023	3.94	6/2/2028		116.05799	112.1430228	108.3837436	104.7730589	101.3042388	97.97089978	94.76698488	91.68674449	88.72471889
230602A00027	6/2/2023	4.2	6/2/2026		107.39455	105.6755223	103.9926064	102.3447308	100.7308648	99.15001853	97.60124046	96.08361578	94.59626449
230602A00030	6/2/2023	4.2	6/2/2026		107.39455	105.6755223	103.9926064	102.3447308	100.7308648	99.15001853	97.60124046	96.08361578	94.59626449
230602A00051	6/2/2023	4.33	6/2/2038		129.63034	121.7265368	114.5141332	107.9222596	101.8880636	96.35573716	91.27566689	86.60369313	82.30046292
230605A00022	6/5/2023	4.39	6/4/2027		112.57	109.7592981	107.0342942	104.3918161	101.8288351	99.34245616	96.92991062	94.58854962	92.31583809
230606A00008	6/6/2023	3.98	6/6/2028		116.25788	112.3274964	108.5537824	104.9295773	101.4480925	98.10288995	94.88786188	91.79721136	88.82543455
230606A00014	6/6/2023	4.35	6/7/2027		112.50188	109.6834576	106.9511955	104.3018932	101.7324977	99.24009097	96.8218827	94.47520391	92.19750054

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230606A00015	6/6/2023	4.24	6/6/2028		116.91021	112.9761241	109.1985268	105.5702766	102.0846026	98.73508314	95.51562544	92.42044642	89.44405502
230606A00029	6/6/2023	4.45	6/5/2026		107.72031	105.9923489	104.3007727	102.6445	101.0224889	99.43373871	97.87728785	96.35221193	94.85762188
230607A00001	6/7/2023	4.9	6/6/2025		103.11286	102.4169853	101.7305258	101.0532959	100.3851099	99.72578719	99.07515202	98.43303317	97.79926394
230607A00007	6/7/2023	4.24	6/7/2028		116.92324	112.9859838	109.2054441	105.5744606	102.0862485	98.73437321	95.51272983	92.41552411	89.43725458
230607A00012	6/7/2023	4.24	6/7/2028		116.92324	112.9859838	109.2054441	105.5744606	102.0862485	98.73437321	95.51272983	92.41552411	89.43725458
230607A00020	6/7/2023	4.28	6/7/2028		116.6203	112.7795583	109.092375	105.5516792	102.150772	98.88330241	95.74324768	92.72489367	89.8228172
230607A00037	6/7/2023	4.96	6/6/2025		103.15428	102.458238	101.7716211	101.0942351	100.4258946	99.76641886	99.11563205	98.47336297	97.8394449
230607A00038	6/7/2023	4.58	6/5/2026		107.94139	106.2114807	104.5179974	102.8598521	101.2360018	99.64544499	98.08721913	96.560399	95.06409471
230608A00003	6/8/2023	4.23	6/8/2028		116.89874	112.959017	109.1762127	105.543154	102.0530429	98.69943257	95.47620671	92.37756054	89.39798276
230608A00015	6/8/2023	4.81	6/9/2025		103.09144	102.3873279	101.692863	101.0078488	100.332093	99.6654084	99.00761288	98.35852916	97.71798465
230608A00049	6/8/2023	4.47	6/8/2026		107.79651	106.0593714	104.3589459	102.6941359	101.0638858	99.46718171	97.90304997	96.3705545	94.86879526
230609A00016	6/9/2023	4.91	6/9/2025		103.16129	102.4569078	101.7621745	101.0768946	100.4008756	99.73393029	99.07587655	98.42653702	97.7857391
230609A00026	6/9/2023	4.11	6/9/2027		112.10392	109.2801579	106.5430023	103.8892307	101.3157649	98.81966332	96.39811348	94.04842569	91.76802645
230609A00027	6/9/2023	3.99	6/9/2028		116.33317	112.3926018	108.6093989	104.9763533	101.4866337	98.13376242	94.91159469	91.81429923	88.83634022
230609A00034	6/9/2023	3.99	6/9/2028		116.33317	112.3926018	108.6093989	104.9763533	101.4866337	98.13376242	94.91159469	91.81429923	88.83634022
230609A00036	6/9/2023	4.91	6/6/2025		103.11977	102.4238607	101.737375	101.0601191	100.3919073	99.73255913	99.08189869	98.4397548	97.80596077
230609A00038	6/9/2023	4.91	6/10/2025		103.17513	102.4679222	101.7704387	101.0824834	100.4038616	99.73438377	99.07386569	98.42212797	97.77899599
230609A00039	6/9/2023	4.73	12/10/2025		105.62415	104.3927643	103.1902311	102.0155453	100.8677459	99.74591564	98.64917852	97.57669768	96.5276731
230609A00040	6/9/2023	4.38	5/12/2027		112.23498	109.4935667	106.8342655	104.2541017	101.7502278	99.31991837	96.96056457	94.66966772	92.44483404
230609A00041	6/9/2023	4.53	7/13/2026		108.39222	106.5514286	104.7512134	102.9903653	101.2677239	99.58217332	97.93264011	96.31809124	94.73753216
230609A00042	6/9/2023	4.46	11/25/2026		110.12448	107.8878212	105.708359	103.5842233	101.5136201	99.49482814	97.52619567	95.60613664	93.7331277
230609A00043	6/9/2023	4.32	9/29/2027		113.91428	110.7514217	107.6948981	104.7405359	101.8843477	99.1225255	96.4514312	93.86758806	91.36767256
230609A00076	7/10/2023	4.19	7/10/2028		117.15683	113.1195285	109.2462711	105.5294501	101.9618579	98.53666252	95.2473854	92.08788102	89.05231759
230612A00023	6/12/2023	4.32	6/12/2026		107.73664	105.9862105	104.2729976	102.5958819	100.9537865	99.34567745	97.77056187	96.22748574	94.71553199
230612A00024	6/12/2023	4.69	6/12/2025		103.10405	102.390836	101.6875172	100.9938928	100.3097631	99.63493351	98.96921502	98.31242356	97.66438005
230612A00058	6/12/2023	5.16	12/12/2024		100.88166	100.6787681	100.4767099	100.2754768	100.0750638	99.87546582	99.67667779	99.47869472	99.28151164
230613A00010	6/13/2023	4.9	6/13/2025		103.20956	102.4938938	101.7881843	101.092228	100.4058234	99.72877439	99.06089021	98.40198526	97.75187892
230613A00015	6/13/2023	4.73	6/13/2033	6/13/2028	121.51108	116.595514	111.9713593	107.6180325	103.5165843	99.64955575	96.00084947	92.55561393	89.3001377
230613A00019	6/13/2023	4.49	6/15/2026		107.92953	106.1713449	104.4506347	102.7662668	101.1171533	99.50225006	97.92055445	96.37110329	94.85297083
230613A00021	6/13/2023	4.35	6/14/2027		112.59642	109.7565084	107.0039089	104.3353666	101.7477682	99.23813943	96.80363695	94.4415421	92.14925413
230613A00034	6/13/2023	4.56	6/12/2026		108.00757	106.2572108	104.5440209	102.8668821	101.2247198	99.61650242	98.04123913	96.49797793	94.98580362
230613A00055	6/13/2023	5.14	2/13/2025		101.70329	101.3246607	100.9488643	100.5758677	100.2056397	99.83814936	99.47336633	99.11126063	98.75180276
230613A00061	6/13/2023	4.56	6/15/2026		108.05052	106.2912537	104.5694843	102.8840763	101.2339415	99.61803502	98.0353539	96.48493441	94.96585037

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230613A00062	6/13/2023	4.97	6/13/2025		103.25924	102.5433698	101.8374668	101.141319	100.4547248	99.77748798	99.10941778	98.45032858	97.80003973
230613A00091	6/13/2023	4.58	6/15/2026		108.08509	106.3255133	104.6034413	102.9177362	101.2673095	99.65111644	98.06815374	96.51745759	94.99810166
230614A00001	6/14/2023	4.55	6/12/2026		107.99037	106.2401631	104.5271231	102.8501315	101.2081137	99.60003833	98.02491454	96.48179041	94.96975081
230614A00029	6/14/2023	4.55	6/15/2026		108.03324	106.2741238	104.5525057	102.8672464	101.2172574	99.60149431	98.01895397	96.46867283	94.94972472
230614A00031	6/14/2023	4.94	6/16/2025		103.27972	102.5554474	101.841367	101.1372679	100.4429415	99.75818465	99.08280023	98.4165963	97.75938616
230614A00038	6/14/2023	4.3	6/15/2026		107.74372	105.9847	104.2632152	102.5781329	100.9283626	99.31285724	97.7306119	96.18066096	94.66207645
230614A00047	6/14/2023	4.94	6/16/2025		103.27972	102.5554474	101.841367	101.1372679	100.4429415	99.75818465	99.08280023	98.4165963	97.75938616
230614A00048	6/14/2023	4.55	6/15/2026		108.03324	106.2741238	104.5525057	102.8672464	101.2172574	99.60149431	98.01895397	96.46867283	94.94972472
230615A00023	6/15/2023	4.58	6/15/2026		108.08509	106.3255133	104.6034413	102.9177362	101.2673095	99.65111644	98.06815374	96.51745759	94.99810166
230615A00026	6/15/2023	4.84	6/15/2038		159.74419	143.2497122	128.7638499	116.025005	104.8072196	94.91514048	86.17971594	78.45451876	71.61260032
230615A00033	6/15/2023	4.58	6/15/2026		108.08509	106.3255133	104.6034413	102.9177362	101.2673095	99.65111644	98.06815374	96.51745759	94.99810166
230615A00039	6/15/2023	4.16	6/15/2027		112.31995	109.4758703	106.7194407	104.0473821	101.4565629	98.94399156	96.50680891	94.14228115	91.84779338
230615A00044	6/15/2023	4.33	6/15/2026		107.79561	106.0361258	104.3141862	102.6286575	100.9784487	99.36251274	97.77984434	96.22947774	94.71048475
230615A00103	6/15/2023	4.99	6/16/2025		103.31562	102.5911998	101.8769782	101.1727394	100.4782744	99.79338055	99.11786038	98.451522	97.79417869
230616A00012	6/16/2023	4.41	6/16/2026		107.94813	106.1844318	104.458416	102.7689371	101.1148989	99.4952493	97.90897842	96.35511601	94.83272966
230616A00037	6/16/2023	4.48	6/16/2027		112.98088	110.1298694	107.3666274	104.6878706	102.0904648	99.57141593	97.12786221	94.75706749	92.45641456
230616A00038	6/16/2023	4.32	6/16/2028		117.34248	113.3710438	109.5585149	105.8975932	102.3813616	99.00326231	95.75707607	92.63690197	89.63713915
230616A00039	6/16/2023	5.07	6/16/2025		103.37305	102.6484037	101.9339562	101.2294936	100.5348072	99.84969399	99.17395661	98.50740311	97.84984673
230616A00040	6/16/2023	4.66	6/16/2026		108.23795	106.4741725	104.7480243	103.0583689	101.4041125	99.78420531	98.19763949	96.64344675	95.12069654
230616A00106	6/16/2023	4.61	6/16/2026		108.15139	106.3883866	104.6629973	102.9740871	101.3205625	99.70137413	98.11551441	96.56201545	95.03994701
230620A00035	6/20/2023	4.36	6/20/2030		126.31687	119.9876914	114.0252525	108.4061893	103.10876	98.11271968	93.39920846	88.95064927	84.75065339
230620A00042	6/20/2023	5.15	12/20/2024		100.98137	100.7562084	100.532067	100.3089362	100.0868092	99.8656791	99.6455392	99.42638275	99.20820312
230620A00065	6/20/2023	4.56	6/18/2026		108.09347	106.325294	104.5949403	102.9012599	101.2431505	99.61955438	98.02945599	96.47187997	94.94588902
230620A00089	6/20/2023	4.98	6/20/2025		103.36459	102.6288559	101.9036383	101.1887078	100.4838462	99.78884143	99.10348736	98.42758357	97.76093514
230620A00091	6/20/2023	4.56	6/22/2026		108.15074	106.3706774	104.6288704	102.9241548	101.2554097	99.6215596	98.02157243	96.45445706	94.91926134
230621A00016	6/21/2023	4.55	6/22/2026		108.13327	106.3533561	104.6117037	102.90714	101.238544	99.60484033	98.004997	96.43802295	94.90296609
230621A00022	6/21/2023	4.24	6/21/2028		117.10563	113.1239815	109.3022028	105.6329256	102.109168	98.72431244	95.47208396	92.34653022	89.34200261
230621A00031	6/21/2023	5.19	12/20/2024		100.99036	100.7651833	100.5410284	100.3178842	100.0957437	99.87460032	99.6544471	99.4352774	99.21708456
230621A00041	6/21/2023	4.24	6/21/2028		117.10563	113.1239815	109.3022028	105.6329256	102.109168	98.72431244	95.47208396	92.34653022	89.34200261
230621A00045	6/21/2023	4.95	6/23/2025		103.38458	102.6404256	101.9070233	101.1841375	100.4715427	99.76901976	99.076356	98.39334451	97.71978417
230621A00047	6/21/2023	4.44	6/21/2028		109.09651	107.0824334	105.1280197	103.2310016	101.3892173	99.6006031	97.86318801	96.17508897	94.53450625
230621A00048	6/21/2023	4.55	6/22/2026		108.13327	106.3533561	104.6117037	102.90714	101.238544	99.60484033	98.004997	96.43802295	94.90296609
230622A00004	6/22/2023	4.23	6/22/2027		112.60644	109.7381175	106.9586854	104.2647952	101.6532525	99.12100631	96.66514197	94.28287343	91.97153673



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230622A00005	6/22/2023	4.05	6/22/2028		116.7247	112.738677	108.9130866	105.2405182	101.7139518	98.32673472	95.07255921	91.94544247	88.93970762
230622A00019	6/22/2023	4.33	6/22/2028		116.40787	112.6514282	109.0450484	105.581852	102.2553158	99.0592508	95.98778365	93.03533845	90.19662003
230622A00027	6/22/2023	4.49	6/22/2026		108.02839	106.2494285	104.508704	102.8050513	101.1373498	99.50452471	97.90554442	96.33941828	94.8051946
230622A00028	6/22/2023	4.35	6/22/2027		112.7045	109.8399759	107.0641049	104.3735553	101.7651443	99.23583212	96.7827144	94.40301497	92.09407914
230622A00030	6/22/2023	4.17	6/22/2028		116.85324	112.8734034	109.0535198	105.3862062	101.8644722	98.48169193	95.23158327	92.1081871	89.10584871
230622A00039	6/26/2023	4.49	6/26/2026		108.0849	106.2940418	104.541869	102.8271884	101.1488606	99.50579314	97.89693749	96.32128724	94.77787572
230622A00045	6/22/2023	4.91	6/23/2025		103.35508	102.6110539	101.8777705	101.1550024	100.442524	99.74011645	99.04756687	98.36466842	97.69122003
230622A00047	6/22/2023	4.49	6/22/2026		108.02839	106.2494285	104.508704	102.8050513	101.1373498	99.50452471	97.90554442	96.33941828	94.8051946
230622A00049	6/22/2023	4.71	12/17/2025		105.7009	104.4493179	103.227525	102.0344657	100.869133	99.73056637	98.61784944	97.53010718	96.46650374
230622A00056	6/26/2023	4.49	6/26/2026		108.0849	106.2940418	104.541869	102.8271884	101.1488606	99.50579314	97.89693749	96.32128724	94.77787572
230622A00083	6/22/2023	4.55	6/22/2026		108.13327	106.3533561	104.6117037	102.90714	101.238544	99.60484033	98.004997	96.43802295	94.90296609
230622A00093	6/22/2023	4.55	6/22/2026		108.13327	106.3533561	104.6117037	102.90714	101.238544	99.60484033	98.004997	96.43802295	94.90296609
230622A00095	6/22/2023	4.38	6/22/2027		112.78749	109.92181	107.1448117	104.4531613	101.8436751	99.31331255	96.85916851	94.47846606	92.16854979
230622A00096	6/22/2023	4.21	6/22/2028		117.00491	113.0222219	109.1995703	105.5295705	102.0052288	98.61991661	95.36734885	92.24156377	89.2369041
230623A00002	6/23/2023	4.45	6/23/2026		107.97249	106.1911878	104.4482225	102.7424226	101.072663	99.43786495	97.83699282	96.26905234	94.73308837
230623A00003	6/23/2023	4.29	6/23/2027		112.55187	109.6865764	106.9100534	104.2189575	101.6100987	99.08043081	96.62704326	94.24715414	91.93810339
230623A00004	6/23/2023	4.13	6/23/2028		116.71429	112.7341415	108.9140874	105.2467331	101.7250768	98.34248264	95.09265889	91.96963775	88.96775651
230623A00025	6/23/2023	4.45	6/23/2026		107.97249	106.1911878	104.4482225	102.7424226	101.072663	99.43786495	97.83699282	96.26905234	94.73308837
230623A00026	6/23/2023	4.29	6/23/2027		112.55187	109.6865764	106.9100534	104.2189575	101.6100987	99.08043081	96.62704326	94.24715414	91.93810339
230623A00027	6/23/2023	4.13	6/23/2028		116.71429	112.7341415	108.9140874	105.2467331	101.7250768	98.34248264	95.09265889	91.96963775	88.96775651
230623A00031	6/23/2023	4.87	6/23/2025		103.32559	102.5816822	101.8485178	101.1258673	100.4135054	99.71121314	99.01877774	98.33599234	97.66265589
230623A00036	6/23/2023	4.45	6/23/2026		107.97249	106.1911878	104.4482225	102.7424226	101.072663	99.43786495	97.83699282	96.26905234	94.73308837
230623A00037	6/23/2023	4.13	6/23/2028		116.71429	112.7341415	108.9140874	105.2467331	101.7250768	98.34248264	95.09265889	91.96963775	88.96775651
230623A00051	6/23/2023	4.18	6/23/2028		116.90402	112.9202998	109.0967808	105.4260639	101.9011434	98.51537992	95.26247807	92.13646676	89.13168002
230623A00053	6/23/2023	4.4	6/23/2026		108.02962	106.2452585	104.4993379	102.7906842	101.1181684	99.48070774	97.87726314	96.30683683	94.76847042
230623A00056	6/23/2023	4.18	6/23/2028		116.90402	112.9202998	109.0967808	105.4260639	101.9011434	98.51537992	95.26247807	92.13646676	89.13168002
230623A00057	6/23/2023	4.52	6/23/2026		108.09504	106.3126281	104.5685769	102.8617108	101.1909044	99.55507822	97.95319613	96.38426341	94.84732443
230623A00058	6/23/2023	4.38	6/23/2027		112.80109	109.9323236	107.1524121	104.4580072	101.8459166	99.3130915	96.85661909	94.47371521	92.16171764
230626A00019	6/26/2023	4.91	6/20/2025		103.31356	102.5780327	101.8530187	101.1382896	100.4336275	99.73882029	99.05366179	98.37795166	97.71149503
230626A00020	6/26/2023	4.49	6/26/2026		108.0849	106.2940418	104.541869	102.8271884	101.1488606	99.50579314	97.89693749	96.32128724	94.77787572
230626A00021	6/26/2023	4.49	6/26/2026		108.0849	106.2940418	104.541869	102.8271884	101.1488606	99.50579314	97.89693749	96.32128724	94.77787572
230626A00022	6/26/2023	4.34	6/25/2027		112.71729	109.8439113	107.0596836	104.3612453	101.7453874	99.20904582	96.7492933	94.3633322	92.04848765
230626A00023	6/26/2023	4.18	6/26/2028		116.9426	112.9493731	109.1170213	105.4381074	101.9055829	98.51276863	95.25333244	92.12126889	89.11088015

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230626A00026	6/26/2023	4.84	6/26/2025		103.34442	102.5920919	101.8507473	101.1201472	100.400059	99.69025658	98.99052052	98.30063743	97.62039997
230627A00004	6/27/2023	4.47	6/29/2026		108.09193	106.2924736	104.5320252	102.8093802	101.1233852	99.47293444	97.85696696	96.27446448	94.72444917
230627A00005	6/27/2023	4.3	6/28/2027		112.64642	109.7653568	106.9739134	104.2687016	101.6464875	99.10418298	96.63883877	94.24763635	91.92788134
230627A00006	6/27/2023	4.12	6/27/2028		116.72712	112.7350247	108.9039098	105.2263211	101.6952008	98.30386073	95.04596072	91.91548795	88.90673784
230627A00030	6/27/2023	4.17	6/27/2028		116.91741	112.9217237	109.0871238	105.4061533	101.8717505	98.47722343	95.21622841	92.08274923	89.07107806
230627A00035	6/27/2023	4.21	6/27/2028		117.06964	113.0710829	109.233695	105.5500191	102.0129902	98.61591358	95.35244256	92.21655825	89.20255023
230627A00036	6/27/2023	4.38	6/28/2027		112.86907	109.9848869	107.1904016	104.4822196	101.8571047	99.31196676	96.8438542	94.44994655	92.12754749
230627A00037	6/27/2023	4.56	6/26/2026		108.20803	106.4160563	104.6627875	102.9470308	101.2676465	99.62354131	98.0136664	96.43701479	94.89261934
230627A00042	6/27/2023	5.16	1/27/2025		101.48159	101.1504368	100.8214474	100.4946034	100.1698836	99.84726753	99.52673464	99.20826481	98.89183814
230627A00043	6/27/2023	5.12	2/27/2025		101.88396	101.4661425	101.051755	100.6407535	100.2330964	99.82874306	99.42765349	99.02978826	98.63510861
230627A00044	6/27/2023	5.08	3/27/2025		102.24837	101.7521115	101.2606781	100.7740018	100.2920138	99.81464646	99.34183346	98.87350975	98.40961154
230627A00046	6/27/2023	5.03	4/28/2025		102.65967	102.0735178	101.4940726	100.9212183	100.3548427	99.79483636	99.24109212	98.6935053	98.15197351
230627A00048	6/27/2023	4.99	5/27/2025		103.03549	102.3676381	101.7084694	101.0578129	100.4155042	99.78138323	99.15529395	98.53708422	97.92660576
230627A00049	6/27/2023	4.95	6/27/2025		103.44039	102.6848848	101.9404462	101.206833	100.4838101	99.77114903	99.06862794	98.37603124	97.69314941
230627A00060	6/27/2023	4.89	6/27/2025		103.39549	102.6401678	101.8959127	101.1624812	100.4396381	99.72715506	99.02481019	98.33238794	97.64967882
230627A00065	6/27/2023	4.95	6/27/2025		103.44039	102.6848848	101.9404462	101.206833	100.4838101	99.77114903	99.06862794	98.37603124	97.69314941
230627A00078	6/27/2023	4.95	6/27/2025		103.44039	102.6848848	101.9404462	101.206833	100.4838101	99.77114903	99.06862794	98.37603124	97.69314941
230627A00087	6/27/2023	4.95	6/30/2025		103.48225	102.7182228	101.9655013	101.2238388	100.4929925	99.772727	99.06281343	98.36302962	97.67315967
230627A00089	6/27/2023	4.56	6/30/2026		108.26532	106.461431	104.6966917	102.969888	101.279861	99.62549953	98.00573792	96.41955319	94.86596308
230627A00090	6/27/2023	4.21	6/27/2028		117.06964	113.0710829	109.233695	105.5500191	102.0129902	98.61591358	95.35244256	92.21655825	89.20255023
230627A00102	6/27/2023	4.95	6/27/2025		103.44039	102.6848848	101.9404462	101.206833	100.4838101	99.77114903	99.06862794	98.37603124	97.69314941
230628A00015	6/28/2023	4.98	6/27/2025		103.46284	102.7072434	101.9627129	101.2290089	100.5058961	99.79314601	99.09053682	98.39785289	97.71488471
230628A00016	6/28/2023	4.58	6/26/2026		108.24321	106.4509176	104.6973356	102.9812715	101.3015853	99.65718364	98.04701751	96.47007981	94.92540324
230628A00017	6/28/2023	4.41	6/28/2027		112.95256	110.0672107	107.2715846	104.5622889	101.9360862	99.38988568	96.92073498	94.52581287	92.20242229
230628A00018	6/28/2023	4.23	6/28/2028		117.15876	113.1555877	109.3138552	105.6260887	102.0852072	98.68450115	95.41761021	92.27850261	89.26145595
230628A00028	6/28/2023	4.58	6/24/2026		108.21445	106.4281193	104.6802712	102.9697303	101.295366	99.65609385	98.05087324	96.478705	94.93862936
230628A00038	6/28/2023	4.58	6/24/2026		108.21445	106.4281193	104.6802712	102.9697303	101.295366	99.65609385	98.05087324	96.478705	94.93862936
230628A00045	6/28/2023	4.18	6/28/2028		116.96833	112.9687535	109.1305111	105.4461312	101.9085368	98.51102217	95.24723048	92.11113336	89.09701168
230628A00055	6/28/2023	5.19	12/27/2024		101.08013	100.8354321	100.5919251	100.3495992	100.1084457	99.86845623	99.62962225	99.39193545	99.15538757
230628A00059	6/28/2023	4.87	6/27/2025		103.38052	102.6252621	101.8810682	101.1476973	100.4249141	99.71249041	99.01020427	98.31784017	97.63518863
230628A00061	6/28/2023	4.47	6/26/2026		108.04971	106.2591805	104.5073209	102.7929477	101.1149218	99.4721508	97.86358637	96.28822222	94.74509182
230628A00063	6/28/2023	4.47	6/29/2026		108.09193	106.2924736	104.5320252	102.8093802	101.1233852	99.47293444	97.85696696	96.27446448	94.72444917
230628A00068	6/28/2023	4.29	6/28/2027		112.61859	109.7379155	106.9468523	104.2420119	101.6201603	99.07821001	96.61321184	94.22234757	91.90292308

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230629A00008	6/29/2023	4.34	6/29/2028		117.59102	113.5767449	109.7243724	106.0264066	102.4757435	99.06565198	95.78975158	92.64199149	89.61663144
230629A00019	6/29/2023	4.51	6/24/2027		113.17503	110.2981587	107.5104291	104.8084806	102.1891081	99.64925138	97.18598632	94.79651834	92.47817529
230629A00025	6/29/2023	4.7	6/24/2026		108.42487	106.6366308	104.8869154	103.1745412	101.4983767	99.85733661	98.25037935	96.67650493	95.13475276
230629A00037	6/29/2023	4.69	6/29/2026		108.48075	106.6777525	104.9138271	103.1877687	101.4984222	99.84468002	98.22547963	96.63980117	95.08666526
230629A00041	6/29/2023	5.09	6/30/2025		103.58819	102.8237167	102.0705575	101.3284617	100.5971867	99.87649682	99.16616323	98.46596366	97.77568213
230629A00042	6/29/2023	4.69	6/29/2026		108.48075	106.6777525	104.9138271	103.1877687	101.4984222	99.84468002	98.22547963	96.63980117	95.08666526
230629A00045	6/29/2023	4.69	6/29/2026		108.48075	106.6777525	104.9138271	103.1877687	101.4984222	99.84468002	98.22547963	96.63980117	95.08666526
230629A00046	6/29/2023	4.51	6/29/2027		113.24483	110.3524886	107.5501342	104.83436	102.2019168	99.64970297	97.17475555	94.77424352	92.44546053
230629A00068	6/29/2023	5.34	12/30/2024		101.15646	100.9033234	100.6514524	100.4008379	100.1514707	99.90334148	99.65644105	99.41076032	99.16629029
230629A00070	6/29/2023	5.09	6/30/2025		103.58819	102.8237167	102.0705575	101.3284617	100.5971867	99.87649682	99.16616323	98.46596366	97.77568213
230629A00071	6/29/2023	4.41	6/29/2028		117.61312	113.644069	109.836359	106.1825495	102.6755789	99.30874715	96.07569551	92.97038702	89.9870887
230629A00072	6/29/2023	4.69	6/29/2026		108.48075	106.6777525	104.9138271	103.1877687	101.4984222	99.84468002	98.22547963	96.63980117	95.08666526
230629A00076	6/29/2023	4.51	6/29/2027		113.24483	110.3524886	107.5501342	104.83436	102.2019168	99.64970297	97.17475555	94.77424352	92.44546053
230629A00094	6/29/2023	4.41	6/29/2028		117.61312	113.644069	109.836359	106.1825495	102.6755789	99.30874715	96.07569551	92.97038702	89.9870887
230629A00097	6/29/2023	4.41	6/29/2028		117.61312	113.644069	109.836359	106.1825495	102.6755789	99.30874715	96.07569551	92.97038702	89.9870887
230629A00109	6/29/2023	5.3	12/27/2024		101.10698	100.8622409	100.6186905	100.3763213	100.1351248	99.89509232	99.65621556	99.41848615	99.18189581
230629A00120	6/29/2023	5.03	6/27/2025		103.50026	102.7445076	101.9998242	101.2659688	100.5427061	99.82980765	99.12705162	98.43422231	97.7511102
230630A00003	6/30/2023	4.54	6/30/2027		113.34245	110.4458406	107.6394145	104.9197559	102.2836061	99.72785409	97.24952839	94.8457899	92.51392464
230630A00011	6/30/2023	5.37	12/27/2024		101.12407	100.8793011	100.635723	100.3933263	100.1521023	99.91204256	99.67313858	99.43538204	99.19876468
230630A00028	6/30/2023	4.42	6/30/2027		113.24434	110.3438759	107.5338287	104.8107742	102.1714416	99.61270851	97.1315928	94.72524526	92.39094244
230630A00030	6/30/2023	4.23	6/30/2028		117.51442	113.4899436	109.6281121	105.9213809	102.3626014	98.94500047	95.66215853	92.5079884	89.47671583
230630A00043	6/30/2023	4.6	6/30/2026		108.48276	106.6742983	104.9051189	103.1740053	101.4797938	99.82136868	98.19765968	96.60763969	95.05032249
230630A00046	6/30/2023	4.6	6/30/2026		108.48276	106.6742983	104.9051189	103.1740053	101.4797938	99.82136868	98.19765968	96.60763969	95.05032249
230630A00055	6/30/2023	4.35	6/30/2028		117.64248	113.6242876	109.7682526	106.0668584	102.512986	99.09989015	95.82117721	92.67078419	89.64295945
230630A00061	6/30/2023	5	7/11/2025		103.67902	102.8835869	102.1004082	101.3292014	100.569693	99.82161766	99.08471806	98.35874455	97.6434549
230630A00062	6/30/2023	4.6	6/30/2026		108.48276	106.6742983	104.9051189	103.1740053	101.4797938	99.82136868	98.19765968	96.60763969	95.05032249
230630A00079	6/30/2023	4.65	6/30/2026		108.42463	106.6192912	104.8531251	103.1249206	101.4335183	99.77780623	98.15671803	96.56923007	95.01435948
230630A00080	6/30/2023	5.02	6/30/2025		103.53522	102.7709698	102.0180294	101.2761503	100.5450896	99.82461191	99.11448833	98.41449664	97.7244209
230630A00086	6/30/2023	4.72	6/30/2026		108.54854	106.7420713	104.9747954	103.2455016	101.5530295	99.896267	98.274147	96.68564542	95.1297789
230630A00088	6/30/2023	4.54	6/30/2027		113.34245	110.4458406	107.6394145	104.9197559	102.2836061	99.72785409	97.24952839	94.8457899	92.51392464
230630A00094	6/30/2023	4.42	6/30/2027		113.24434	110.3438759	107.5338287	104.8107742	102.1714416	99.61270851	97.1315928	94.72524526	92.39094244
230703A00013	7/3/2023	4.34	7/3/2028		117.64299	113.6162803	109.7523782	106.0437347	102.4832013	99.06400387	95.77972076	92.62426168	89.59184856
230703A00015	7/3/2023	4.34	7/3/2028		117.64299	113.6162803	109.7523782	106.0437347	102.4832013	99.06400387	95.77972076	92.62426168	89.59184856

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230703A00018	7/3/2023	4.61	7/3/2026		108.54339	106.7261045	104.948437	103.2091697	101.5071386	99.84122674	98.21036223	96.61351558	95.04969772
230703A00019	7/3/2023	4.61	7/3/2026		108.54339	106.7261045	104.948437	103.2091697	101.5071386	99.84122674	98.21036223	96.61351558	95.04969772
230703A00021	7/3/2023	4.99	7/3/2025		103.61741	102.8436678	102.0815149	101.3306947	100.5909554	99.8620528	99.14374956	98.43581537	97.73802653
230703A00025	7/3/2023	4.73	7/3/2026		108.60945	106.7941691	105.0184174	103.2809812	101.5807	99.91646052	98.28719389	96.69187375	95.1295139
230703A00027	7/3/2023	5.45	11/4/2024		100.4385	100.3412358	100.244165	100.1472883	100.0506052	99.95411496	99.85781707	99.76171092	99.66579593
230703A00028	7/3/2023	5.11	7/3/2025		103.64758	102.8745251	102.1130392	101.3628642	100.623749	99.89545013	99.17773094	98.47036179	97.77311962
230703A00029	7/3/2023	4.89	2/3/2026		106.62536	105.2511141	103.9013253	102.5753975	101.272751	99.99282423	98.73507357	97.49897217	96.28400951
230703A00043	7/3/2023	4.53	7/6/2027		113.39601	110.4818546	107.6588743	104.9236256	102.2728234	99.70332955	97.21214521	94.79640348	92.45336253
230705A00006	7/5/2023	4.26	7/5/2028		117.69361	113.6515025	109.7732325	106.0511951	102.4781885	99.04738759	95.75232241	92.58685672	89.54516882
230705A00008	7/5/2023	4.63	7/6/2026		108.62207	106.7957894	105.0094645	103.2618787	101.5518675	99.87831249	98.24013993	96.63631779	95.06585402
230705A00019	7/5/2023	4.44	7/6/2027		113.3816	110.4623656	107.6345728	104.8947675	102.2396512	99.66607366	97.17102432	94.75162529	92.40512435
230705A00033	7/5/2023	5.12	7/7/2025		103.71435	102.9298954	102.15735	101.3964471	100.6469244	99.90852756	99.1810096	98.46413093	97.75765891
230705A00034	7/5/2023	4.75	7/6/2026		108.68839	106.864132	105.0797353	103.3339923	101.6257417	99.95386899	98.31730341	96.71501608	95.14601786
230705A00035	7/5/2023	5.03	8/8/2025		104.1118	103.2363828	102.3757484	101.5295248	100.6973515	99.87887981	99.07377281	98.28170438	97.50235897
230705A00040	7/5/2023	4.38	7/5/2028		117.82189	113.7861115	109.9136761	106.1970096	102.6289401	99.20267058	95.91175727	92.7500884	89.71186509
230705A00042	7/5/2023	4.42	7/5/2028		117.97502	113.9363357	110.0610806	106.3416781	102.7709532	99.34210604	96.04868978	92.88458991	89.84400493
230705A00103	7/5/2023	4.56	7/6/2027		113.48017	110.5648314	107.7406926	105.0043129	102.3524063	99.78183373	97.28959564	94.8728243	92.52877716
230705A00111	7/5/2023	4.9	1/6/2026		106.23025	104.9225599	103.6451208	102.3968832	101.1768446	99.98404863	98.81758176	97.67657128	96.56018293
230706A00006	7/6/2023	4.59	7/6/2028		118.63941	114.5852676	110.6951459	106.9614478	103.3769744	99.93490298	96.6287647	93.45242386	90.40005856
230706A00014	7/6/2023	4.99	7/6/2038		162.02152	145.3154122	130.6465272	117.7489462	106.3930698	96.38047475	87.53951896	79.72158787	72.79788411
230706A00029	7/6/2023	5.53	1/6/2025		101.30388	101.0311524	100.7599056	100.4901234	100.221794	99.95490564	99.68944661	99.4254054	99.16277063
230706A00032	7/6/2023	5.53	1/6/2025		101.30388	101.0311524	100.7599056	100.4901234	100.221794	99.95490564	99.68944661	99.4254054	99.16277063
230706A00034	7/6/2023	5.18	7/7/2025		103.76092	102.9762618	102.20352	101.4424227	100.6927077	99.95412055	99.22641428	98.50934924	97.80269278
230707A00021	9/1/2023	4.61	8/30/2030		128.53413	121.9341557	115.7271489	109.8875085	104.3914352	99.21679271	94.34298343	89.75083378	85.42248885
230707A00022	9/1/2023	4.61	8/30/2030		128.53413	121.9341557	115.7271489	109.8875085	104.3914352	99.21679271	94.34298343	89.75083378	85.42248885
230707A00023	9/1/2023	4.61	8/30/2030		128.53413	121.9341557	115.7271489	109.8875085	104.3914352	99.21679271	94.34298343	89.75083378	85.42248885
230707A00031	7/7/2023	4.84	7/7/2026		108.86392	107.0352873	105.2466578	103.4968197	101.7846111	100.1089161	98.46866265	96.86282052	95.29039891
230707A00038	7/7/2023	5.35	1/7/2025		101.26873	100.9933046	100.7193888	100.4469682	100.1760306	99.90656379	99.63855575	99.37199458	99.10686852
230707A00041	7/7/2023	4.44	7/7/2028		118.41061	114.3491655	110.4523989	106.7126742	103.1227546	99.67578136	96.36525185	93.18499838	90.1291689
230710A00013	7/10/2023	4.55	7/10/2029		123.39143	118.1546625	113.1773003	108.4450246	103.9443886	99.66275823	95.58825907	91.70972572	88.01665564
230710A00053	7/10/2023	4.98	7/10/2025		103.71208	102.9184454	102.137003	101.3674754	100.6095911	99.86308652	99.12770631	98.40320257	97.68933475
230710A00066	7/10/2023	5	7/10/2025		103.66457	102.8719817	102.0915603	101.3230273	100.5661118	99.8205514	99.08609133	98.3624845	97.6494911
230711A00012	7/11/2023	5.07	7/11/2025		103.73412	102.9384506	102.1550366	101.3835971	100.6238584	99.87555524	99.13843021	98.41223364	97.69672323

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230711A00013	7/11/2023	4.78	7/13/2026		108.8438	106.9988165	105.194482	103.4295907	101.70298	100.0135319	98.36017106	96.74186251	95.15760989
230711A00027	7/11/2023	5.07	7/11/2025		103.73412	102.9384506	102.1550366	101.3835971	100.6238584	99.87555524	99.13843021	98.41223364	97.69672323
230711A00038	7/11/2023	4.89	10/10/2025		104.90818	103.8524897	102.8181453	101.8045047	100.8109495	99.83688578	98.88174282	97.94497205	97.0260459
230711A00087	7/11/2023	5.04	6/16/2025		103.35151	102.6269522	101.9125895	101.2082108	100.5136074	99.82857645	99.15292052	98.48644769	97.82897122
230711A00089	7/11/2023	5.32	12/16/2024		100.96682	100.7527486	100.5396016	100.3273715	100.1160522	99.90563791	99.69612266	99.48750066	99.27976611
230712A00002	7/12/2023	4.31	7/12/2028		117.64351	113.5912621	109.703772	105.9734008	102.3929108	98.95544068	95.6544836	92.48386672	89.43773189
230712A00005	7/12/2023	5.2	12/16/2024		100.94118	100.727151	100.5140409	100.3018476	100.090565	99.88018728	99.67070848	99.4621228	99.25442445
230712A00009	7/12/2023	4.89	6/16/2025		103.24383	102.519695	101.8057558	101.1017965	100.4076085	99.72298875	99.04774009	98.3816706	97.72459363
230712A00014	7/12/2023	4.62	7/13/2026		108.55479	106.7124882	104.9107901	103.1484865	101.4244161	99.73746241	98.08655125	96.47064889	94.88876014
230712A00015	7/12/2023	4.62	7/13/2026		108.55479	106.7124882	104.9107901	103.1484865	101.4244161	99.73746241	98.08655125	96.47064889	94.88876014
230712A00016	7/12/2023	4.45	7/12/2027		113.25168	110.3227726	107.4859644	104.7377923	102.0749462	99.49426257	96.99271654	94.56741481	92.21558898
230712A00017	7/12/2023	4.45	7/12/2027		113.25168	110.3227726	107.4859644	104.7377923	102.0749462	99.49426257	96.99271654	94.56741481	92.21558898
230712A00018	7/12/2023	4.31	7/12/2028		117.64351	113.5912621	109.703772	105.9734008	102.3929108	98.95544068	95.6544836	92.48386672	89.43773189
230712A00019	7/12/2023	4.31	7/12/2028		117.64351	113.5912621	109.703772	105.9734008	102.3929108	98.95544068	95.6544836	92.48386672	89.43773189
230712A00020	7/12/2023	4.31	7/12/2028		117.64351	113.5912621	109.703772	105.9734008	102.3929108	98.95544068	95.6544836	92.48386672	89.43773189
230712A00021	7/12/2023	4.31	7/12/2028		117.64351	113.5912621	109.703772	105.9734008	102.3929108	98.95544068	95.6544836	92.48386672	89.43773189
230712A00027	7/12/2023	4.29	1/12/2028		115.18616	111.7043321	108.3481595	105.1123739	101.9919587	98.98213813	96.07836395	93.27630297	90.57182544
230712A00032	10/12/2023	5.23	10/11/2024		100.13487	100.1042774	100.0737203	100.0431981	100.012711	99.98225878	99.9518414	99.9214588	99.89111091
230712A00034	1/12/2024	4.88	1/13/2025		101.21453	100.922631	100.632428	100.3439079	100.0570559	99.77185761	99.48829854	99.20636452	98.92604149
230712A00035	1/12/2024	4.36	1/12/2026		105.61483	104.2982416	103.0103547	101.7502314	100.5169731	99.30972012	98.12764956	96.96997339	95.83593652
230712A00039	7/12/2023	4.62	7/13/2026		108.55479	106.7124882	104.9107901	103.1484865	101.4244161	99.73746241	98.08655125	96.47064889	94.88876014
230712A00040	7/12/2023	4.45	7/12/2027		113.25168	110.3227726	107.4859644	104.7377923	102.0749462	99.49426257	96.99271654	94.56741481	92.21558898
230712A00041	7/12/2023	4.31	7/12/2028		117.64351	113.5912621	109.703772	105.9734008	102.3929108	98.95544068	95.6544836	92.48386672	89.43773189
230712A00046	7/12/2023	4.52	7/13/2026		108.37415	106.5335331	104.7334826	102.9727963	101.2503137	99.56491898	97.91553887	96.30114038	94.72072905
230712A00048	7/12/2023	4.95	7/14/2025		103.68259	102.8787987	102.087516	101.3084553	100.5413343	99.78587943	99.04182553	98.30891527	97.58689909
230712A00051	7/12/2023	4.62	7/13/2026		108.55479	106.7124882	104.9107901	103.1484865	101.4244161	99.73746241	98.08655125	96.47064889	94.88876014
230712A00056	7/12/2023	4.22	7/12/2028		117.29719	113.2515545	109.3704719	105.6463169	102.0718592	98.64024424	95.34497196	92.17987581	89.13910368
230713A00014	7/13/2023	4.2	7/13/2028		117.23273	113.1854853	109.3029804	105.5775746	102.0020288	98.56948028	95.27342053	92.10767496	89.06638364
230713A00017	7/13/2023	5.11	1/14/2025		101.29463	100.9998172	100.7067351	100.4153684	100.1257019	99.8377208	99.55141017	99.26675542	98.98374213
230713A00019	7/13/2023	4.51	7/13/2026		108.35609	106.5156376	104.7157519	102.9552273	101.2329034	99.54766463	97.89843763	96.28418953	94.70392594
230713A00021	7/13/2023	4.44	7/13/2026		108.22965	106.390369	104.5916367	102.8322442	101.1110317	99.42688422	97.77872896	96.16553358	94.58630418
230713A00023	7/13/2023	4.2	7/13/2028		117.23273	113.1854853	109.3029804	105.5775746	102.0020288	98.56948028	95.27342053	92.10767496	89.06638364
230713A00025	7/13/2023	4.82	7/14/2025		103.57918	102.7758372	101.9850001	101.2063802	100.4396953	99.68467184	98.94104474	98.20855679	97.48695849



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230713A00026	7/13/2023	4.49	7/13/2026		108.31996	106.4798465	104.6802904	102.9200892	101.1980829	99.51315594	97.86423515	96.25028783	94.67031972
230713A00031	7/13/2023	4.49	7/13/2026		108.31996	106.4798465	104.6802904	102.9200892	101.1980829	99.51315594	97.86423515	96.25028783	94.67031972
230713A00058	7/13/2023	4.08	7/13/2028		117.10274	113.0491408	109.1607856	105.4299983	101.8495093	98.41242743	95.1122177	91.94268077	88.89793355
230714A00018	7/14/2023	4.24	7/14/2027		112.92396	109.988764	107.1461646	104.3926761	101.7249697	99.13986338	96.63431413	94.20541114	91.85036889
230714A00019	7/14/2023	4.85	7/14/2025		103.60305	102.7995975	102.0086576	101.229936	100.4631504	99.70802744	98.96430185	98.23171644	97.51002171
230714A00020	7/14/2023	4.52	7/14/2026		108.38798	106.544474	104.741655	102.978312	101.2532844	99.5654559	97.91375249	96.29714035	94.71462396
230714A00022	7/14/2023	4.36	7/14/2027		113.02388	110.0926104	107.2536885	104.5036457	101.8391657	99.25707786	96.75435042	94.32808286	91.97549947
230714A00023	7/14/2023	4.18	7/14/2028		117.16815	113.1193077	109.235384	105.5087309	101.9321007	98.49862217	95.20177846	92.03538695	88.99357986
230714A00026	7/14/2023	4.18	7/14/2028		117.16815	113.1193077	109.235384	105.5087309	101.9321007	98.49862217	95.20177846	92.03538695	88.99357986
230714A00030	7/14/2023	4.52	7/17/2026		108.42944	106.5772946	104.7661672	102.9948522	101.2621884	99.56705804	97.90838506	96.28513295	94.69630302
230714A00034	7/14/2023	4.37	7/16/2027		113.07842	110.1407767	107.2958302	104.5400996	101.8702589	99.28312794	96.77566509	94.34495992	91.98822682
230714A00036	7/14/2023	4.37	7/12/2030		126.59911	120.1975609	114.170272	108.4932425	103.1441392	98.10217232	93.3479805	88.86352504	84.63199256
230714A00042	7/14/2023	4.58	7/14/2026		108.49652	106.6520111	104.8482006	103.0838844	101.3579013	99.66913465	98.01650992	96.39899283	94.81558743
230717A00022	7/17/2023	4.59	7/17/2026		108.55667	106.7033287	104.8910341	103.1185736	101.3847852	99.68855073	98.02879344	96.40447633	94.81460018
230717A00061	7/17/2023	4.93	7/17/2025		103.70945	102.8971889	102.0976992	101.310684	100.5358522	99.7729219	99.02161987	98.28168108	97.55284858
230717A00088	7/17/2023	4.43	7/19/2027		113.28832	110.3392836	107.4835097	104.7175007	102.0379149	99.44155628	96.92536697	94.48642042	92.12191487
230718A00012	7/18/2023	5.2	12/16/2024		100.94118	100.727151	100.5140409	100.3018476	100.090565	99.88018728	99.67070848	99.4621228	99.25442445
230718A00013	7/18/2023	4.54	7/17/2026		108.46579	106.6133044	104.8018435	103.0302012	101.2972161	99.60177024	97.94278745	96.31923106	94.73010221
230718A00014	7/18/2023	4.37	7/19/2027		113.11781	110.1712085	107.3178099	104.5541194	101.8767972	99.28264897	96.76861848	94.33178083	91.96933582
230718A00015	7/18/2023	4.19	7/18/2028		117.25654	113.194679	109.2986546	105.5607804	101.9737665	98.53070045	95.22502557	92.0505204	89.00127961
230718A00016	7/18/2023	4.54	7/17/2026		108.46579	106.6133044	104.8018435	103.0302012	101.2972161	99.60177024	97.94278745	96.31923106	94.73010221
230718A00023	7/18/2023	4.54	7/20/2026		108.50743	106.6462861	104.8265092	103.0468889	101.3062629	99.60351192	97.93755737	96.30735987	94.71191732
230718A00038	7/18/2023	4.46	11/13/2026		109.95651	107.7561005	105.6113431	103.5204424	101.4816747	99.49338516	97.5539844	95.66194553	93.81580102
230718A00065	7/18/2023	4.3	7/18/2033		120.14654	115.2118821	110.573244	106.2094987	102.1012136	98.23049847	94.58087168	91.13713902	87.88528362
230718A00070	7/18/2023	4.06	7/18/2028		117.08738	113.019871	109.1186867	105.3761036	101.7848018	98.33784124	95.0286391	91.85094967	88.79884495
230718A00093	7/18/2023	4.06	7/18/2028		117.08738	113.019871	109.1186867	105.3761036	101.7848018	98.33784124	95.0286391	91.85094967	88.79884495
230719A00006	7/19/2023	4.54	7/20/2026		108.50743	106.6462861	104.8265092	103.0468889	101.3062629	99.60351192	97.93755737	96.30735987	94.71191732
230719A00013	7/19/2023	4.54	7/17/2026		108.46579	106.6133044	104.8018435	103.0302012	101.2972161	99.60177024	97.94278745	96.31923106	94.73010221
230719A00015	7/19/2023	4.37	7/19/2027		113.11781	110.1712085	107.3178099	104.5541194	101.8767972	99.28264897	96.76861848	94.33178083	91.96933582
230719A00027	7/19/2023	4.92	7/18/2025		103.71564	102.900568	102.0983539	101.3086985	100.5313081	99.76589773	99.01219152	98.26992187	97.53882932
230719A00034	7/19/2023	4.19	7/19/2028		117.26901	113.2040709	109.3051989	105.564692	101.9752499	98.52995012	95.22222611	92.04584684	88.99489772
230719A00035	7/19/2023	4.92	7/18/2025		103.71564	102.900568	102.0983539	101.3086985	100.5313081	99.76589773	99.01219152	98.26992187	97.53882932
230719A00061	7/19/2023	5.18	1/21/2025		101.40836	101.0939678	100.7815366	100.4710492	100.1624873	99.8558331	99.55106872	99.24817668	98.94713967

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230719A00085	6/10/2024	3.95	6/12/2026		106.95834	105.2172968	103.5132518	101.8450924	100.2117484	98.61219287	97.0454391	95.51053922	94.00658195
230719A00091	11/13/2023	4.56	11/14/2025		105.0538	103.8990603	102.7698114	101.6652163	100.5844726	99.52681222	98.49150004	97.47783176	96.48513244
230719A00096	12/18/2023	4.46	12/19/2025		105.42133	104.1659351	102.9405706	101.7441625	100.5756912	99.43418479	98.3187159	97.22839932	96.16238961
230719A00100	2/12/2024	4.29	2/13/2026		105.94918	104.5496614	103.175522	101.8261333	100.500883	99.1991785	97.92044623	96.66413084	95.42969449
230719A00101	10/16/2023	4.65	10/17/2025		104.75776	103.6832942	102.6309632	101.6000867	100.5900119	99.6001128	98.62978793	97.67845971	96.7455731
230720A00025	7/20/2023	5.18	1/21/2025		101.43293	101.1182107	100.8054599	100.494658	100.1857869	99.87882829	99.57376449	99.27057783	98.96925093
230720A00037	7/20/2023	4.55	7/20/2026		108.677	106.8115552	104.9876103	103.2039521	101.4594135	99.75287038	98.08323998	96.44947863	94.85058022
230720A00038	7/20/2023	4.55	7/20/2026		108.677	106.8115552	104.9876103	103.2039521	101.4594135	99.75287038	98.08323998	96.44947863	94.85058022
230720A00039	7/20/2023	4.68	7/20/2026		108.76304	106.8995024	105.0773704	103.2954386	101.5525436	99.84756484	98.17942264	96.54707653	94.94952335
230721A00003	7/21/2023	4.67	7/21/2026		108.75903	106.8927641	105.0680208	103.2835878	101.5383013	99.83104041	98.16072474	96.52631295	94.92680084
230721A00006	7/21/2023	4.32	7/21/2028		117.79746	113.7167041	109.8027622	106.047897	102.4447767	98.98644815	95.66631531	92.47811863	89.41591605
230721A00028	7/21/2023	5.03	7/21/2025		103.84797	103.0239465	102.2130562	101.4149842	100.6294276	99.85609306	99.09469633	98.34496196	97.60662291
230721A00029	7/21/2023	4.67	7/21/2026		108.75903	106.8927641	105.0680208	103.2835878	101.5383013	99.83104041	98.16072474	96.52631295	94.92680084
230721A00031	7/21/2023	5.03	7/21/2025		103.84797	103.0239465	102.2130562	101.4149842	100.6294276	99.85609306	99.09469633	98.34496196	97.60662291
230721A00032	7/21/2023	5.03	7/21/2025		103.84797	103.0239465	102.2130562	101.4149842	100.6294276	99.85609306	99.09469633	98.34496196	97.60662291
230721A00038	7/21/2023	4.67	7/21/2026		108.75903	106.8927641	105.0680208	103.2835878	101.5383013	99.83104041	98.16072474	96.52631295	94.92680084
230721A00043	7/21/2023	4.98	7/21/2025		103.80722	102.9833843	102.1726735	101.3747789	100.5893978	99.81623688	99.05501187	98.30544735	97.56727633
230724A00037	7/24/2023	4.29	7/24/2028		117.7195	113.63172	109.711363	105.9506656	102.3422674	98.87918683	95.55480039	92.36282173	89.29728285
230724A00063	7/24/2023	5.08	7/24/2025		103.93273	103.0999641	102.2805968	101.4743064	100.6807812	99.89971901	99.13082746	98.37382309	97.62843122
230724A00064	7/24/2023	4.53	7/19/2027		113.5725	110.6194088	107.7596759	104.9898027	102.3064443	99.7064018	97.18661446	94.74415307	92.37621329
230724A00065	7/24/2023	4.37	7/18/2028		117.9522	113.8770128	109.9680648	106.2176539	102.6184757	99.16360348	95.84646723	92.6608326	89.60078197
230724A00066	7/24/2023	4.71	8/18/2026		109.23359	107.2854523	105.382169	103.5224352	101.7049963	99.92864173	98.19220346	96.49455421	94.8346057
230725A00004	7/25/2023	5.06	7/25/2025		103.93088	103.0953367	102.2732762	101.4643776	100.6683262	99.88481705	99.11355496	98.35425383	97.60663647
230725A00014	7/25/2023	5.32	1/27/2025		101.5344	101.2031333	100.8740359	100.5470844	100.2222577	99.89953514	99.57889632	99.26032107	98.94378948
230725A00016	7/25/2023	4.75	7/31/2026		109.04997	107.1533308	105.299374	103.486893	101.7147201	99.98172743	98.28682599	96.62896367	95.0071239
230725A00018	7/25/2023	4.4	7/25/2028		118.15953	114.0604418	110.1292485	106.358171	102.7398291	99.26722245	95.933709	92.73298484	89.65906496
230725A00023	7/25/2023	4.57	4/9/2027		112.27228	109.6247244	107.0544865	104.5588458	102.1351942	99.78103173	97.49396161	95.27168475	93.1119954
230725A00028	7/25/2023	4.46	7/25/2030		127.26255	120.8043838	114.7255278	109.0015927	103.6098843	98.5292759	93.74009176	89.2240003	84.96391562
230725A00071	7/25/2023	4.4	7/25/2028		118.15953	114.0604418	110.1292485	106.358171	102.7398291	99.26722245	95.933709	92.73298484	89.65906496
230726A00011	7/26/2023	4.24	7/26/2028		117.88704	113.7813627	109.8442365	106.0678361	102.4447429	98.96792027	95.6306921	92.4267222	89.34999519
230726A00012	7/26/2023	4.24	7/26/2028		117.88704	113.7813627	109.8442365	106.0678361	102.4447429	98.96792027	95.6306921	92.4267222	89.34999519
230726A00023	7/26/2023	4.24	7/26/2028		117.88704	113.7813627	109.8442365	106.0678361	102.4447429	98.96792027	95.6306921	92.4267222	89.34999519
230726A00058	7/26/2023	4.99	7/28/2025		103.9836	103.138522	102.3072329	101.4893923	100.6846751	99.89276694	99.11336319	98.34616894	97.59089847

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230726A00060	7/26/2023	4.99	7/28/2025		103.9836	103.138522	102.3072329	101.4893923	100.6846751	99.89276694	99.11336319	98.34616894	97.59089847
230727A00016	7/27/2023	4.51	7/27/2033		138.75478	128.6509114	119.3971845	110.9167175	103.1399787	96.0040507	89.45196955	83.43213282	77.89776933
230727A00020	7/27/2023	4.39	7/27/2028		118.14675	114.0422035	110.1059931	106.3303108	102.7077559	99.23130834	95.89430694	92.69042899	89.61367141
230727A00033	7/27/2023	4.82	7/27/2026		109.42502	107.478349	105.5768517	103.7192022	101.9041238	100.1303853	98.39679938	96.70222063	95.04554369
230727A00037	7/27/2023	4.82	7/27/2026		109.42502	107.478349	105.5768517	103.7192022	101.9041238	100.1303853	98.39679938	96.70222063	95.04554369
230727A00063	7/27/2023	4.38	7/27/2028		118.44537	114.3260593	110.3758498	106.5868915	102.9517434	99.46334736	96.11500635	92.90036418	89.81338622
230727A00070	7/27/2023	4.75	7/27/2026		108.99211	107.1070739	105.2642689	103.4624817	101.7005459	99.97733636	98.29176736	96.64279097	95.02939548
230727A00073	7/27/2023	4.81	7/27/2026		109.10283	107.2167431	105.3729076	103.5701092	101.8071808	100.0829967	98.39647088	96.74655483	95.13223637
230727A00075	7/27/2023	4.5	7/27/2028		118.57465	114.46186	110.5176511	106.734211	103.10413	99.62037909	96.27628869	93.0655281	89.98208655
230728A00004	7/28/2023	4.77	7/28/2026		109.04353	107.1552497	105.309313	103.5045149	101.7396883	100.0137073	98.3254853	96.67397309	95.05815762
230728A00005	7/28/2023	4.59	7/28/2027		113.86673	110.8841416	107.9965017	105.2002685	102.4920528	99.86861001	97.32683374	94.86374857	92.47650401
230728A00006	7/28/2023	4.46	7/28/2028		118.43227	114.3193752	110.3751959	106.5919155	102.9621169	99.47876395	96.13518016	92.92502796	89.84228996
230728A00017	7/28/2023	5.15	7/22/2025		103.96062	103.1333072	102.3192193	101.5180398	100.7294628	99.9531922	99.18894077	98.43643038	97.69539138
230731A00012	7/31/2023	4.5	7/31/2029		123.40547	118.1077494	113.0752026	108.2931346	103.7477408	99.42604712	95.31585569	91.40569468	87.68477146
230731A00036	7/31/2023	5.1	7/31/2025		104.0523	103.1994478	102.3606234	101.5354812	100.7236883	99.92492206	99.1388705	98.36523138	97.60371203
230731A00037	7/31/2023	4.74	7/31/2026		109.03141	107.1349433	105.2811603	103.4688499	101.6968443	99.96401595	98.26927584	96.61157196	94.9898878
230801A00001	8/1/2023	5.14	8/1/2025		104.10112	103.2452558	102.4035178	101.5755547	100.7610301	99.95961826	99.17100393	98.39488194	97.63095673
230801A00021	8/1/2023	4.49	8/1/2028		118.60228	114.4746774	110.5167862	106.7207319	103.0790483	99.58465225	96.23082162	93.01117548	89.9196548
230801A00022	8/1/2023	4.65	8/2/2027		114.10824	111.1080983	108.2038346	105.3918698	102.6687802	100.0312875	97.47625232	95.00066731	92.60165086
230801A00024	8/1/2023	4.82	8/3/2026		109.22382	107.3172322	105.4537173	103.6320457	101.8510345	100.1095418	98.40646495	96.74073882	95.1113345
230801A00028	8/1/2023	5.14	8/1/2025		104.10112	103.2452558	102.4035178	101.5755547	100.7610301	99.95961826	99.17100393	98.39488194	97.63095673
230802A00017	8/2/2023	4.79	8/3/2026		109.16787	107.2618236	105.3988346	103.5776789	101.7971741	100.0561786	98.35358975	96.68834289	95.05940927
230802A00022	9/8/2023	4.41	9/8/2028		118.78805	114.5475008	110.485582	106.5938079	102.8641375	99.28895249	95.86103333	92.57353563	89.41996892
230802A00023	10/16/2023	4.37	10/16/2028		119.12426	114.766422	110.5963809	106.6049965	102.7836289	99.12410392	95.61868576	92.26005056	89.04126235
230803A00029	8/3/2023	5.24	2/3/2025		101.63069	101.2795419	100.9308232	100.5845108	100.2405799	99.89900577	99.55976432	99.22283165	98.88818418
230804A00030	8/4/2023	4.88	8/4/2027		107.53445	105.9743951	104.4526584	102.967984	101.5191656	100.1050458	98.72451392	97.37650335	96.05998975
230807A00010	8/7/2023	4.4	8/7/2028		118.32913	114.189696	110.2211667	106.4155864	102.7654078	99.26347244	95.90298817	92.67750892	89.58091511
230807A00018	8/7/2023	4.65	8/7/2026		108.96343	107.0483047	105.1766738	103.3472914	101.558957	99.81051182	98.10083715	96.42885271	94.79351503
230807A00023	8/7/2023	5.26	2/7/2025		101.66554	101.3035836	100.9442098	100.5873945	100.2331103	99.88133021	99.53202775	99.1851767	98.84075124
230807A00024	8/7/2023	5.03	8/7/2025		104.09699	103.2244289	102.3665563	101.5230024	100.6934103	99.87743467	99.07474163	98.28500812	97.50792149
230807A00025	8/7/2023	4.69	8/7/2026		109.03847	107.1226202	105.2502802	103.4202021	101.6311848	99.88206932	98.17173661	96.49910603	94.86313378
230807A00033	8/7/2023	4.57	8/7/2026		108.96898	107.0509789	105.176586	103.3445498	101.5536655	99.80277026	98.09074148	96.41649514	94.77898423
230807A00087	11/7/2023	4.75	11/7/2025		105.16769	104.0319127	102.9207819	101.8334972	100.7692955	99.727446	98.70724852	97.70803186	96.72915233

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230807A00093	2/7/2024	4.49	2/6/2026		106.12467	104.7449612	103.3899553	102.0590399	100.7516268	99.46714602	98.20504605	96.96479243	95.74586736
230808A00008	8/8/2023	4.67	4/24/2026		107.49017	105.8806784	104.3035741	102.7579515	101.2429357	99.75768325	98.30138192	96.87324848	95.4725277
230808A00010	8/8/2023	4.95	8/8/2025		104.04262	103.1675275	102.3072147	101.4613089	100.6294496	99.81128835	99.0064882	98.21472311	97.43567762
230808A00014	8/8/2023	4.6	8/7/2026		108.86963	106.9554103	105.0846658	103.2561532	101.4686723	99.72106494	98.01221282	96.34103606	94.70649158
230808A00029	8/8/2023	4.6	8/7/2026		108.86963	106.9554103	105.0846658	103.2561532	101.4686723	99.72106494	98.01221282	96.34103606	94.70649158
230808A00054	8/8/2023	4.19	8/8/2028		117.85764	113.7153897	109.7446021	105.9372715	102.2858116	98.78302742	95.42209319	92.19653146	89.1001935
230808A00057	8/8/2023	4.19	8/8/2028		117.85764	113.7153897	109.7446021	105.9372715	102.2858116	98.78302742	95.42209319	92.19653146	89.1001935
230808A00060	8/8/2023	4.19	8/8/2028		117.85764	113.7153897	109.7446021	105.9372715	102.2858116	98.78302742	95.42209319	92.19653146	89.1001935
230809A00020	8/9/2023	4.51	11/9/2026		110.00743	107.8179156	105.6835692	103.6026178	101.57336	99.59416225	97.66345506	95.77973037	93.94153844
230809A00026	8/9/2023	4.59	8/7/2026		108.85087	106.9368315	105.0662642	103.2379255	101.4506154	99.70317556	97.99448795	96.32347272	94.68908689
230809A00034	8/9/2023	4.59	8/10/2026		108.89285	106.9701266	105.0912414	103.2549318	101.4599834	99.70522409	97.9895226	96.31178654	94.67096092
230810A00001	8/10/2023	4.22	8/10/2028		118.00112	113.8503558	109.8715959	106.0568004	102.3983502	98.88902032	95.52195654	92.29065503	89.1889424
230810A00010	8/10/2023	4.62	8/10/2026		108.94938	107.0261092	105.1466876	103.3098518	101.5143869	99.75912067	98.04292152	96.36469681	94.72339131
230810A00013	8/10/2023	4.34	8/10/2028		118.13249	113.9883119	110.015611	106.2063818	102.5530377	99.04838359	95.68559339	92.45818945	89.3600229
230810A00024	8/10/2023	4.34	8/7/2028		118.09388	113.9590094	109.99491	106.1936255	102.5476137	99.04972098	95.69315999	92.47148912	89.37859309
230810A00025	8/10/2023	4.37	5/8/2028		117.01492	113.161864	109.4593695	105.9006915	102.4794272	99.18949699	96.0251263	92.98082831	90.05138777
230810A00026	8/10/2023	4.4	1/10/2028		115.52699	112.0451284	108.6886945	105.4524289	102.3313242	99.32061365	96.41575815	93.61243366	90.90651961
230810A00046	8/10/2023	4.88	11/18/2025		105.47725	104.3086945	103.1661637	102.0487964	100.9557661	99.88628235	98.83958849	97.8149601	96.81170319
230810A00053	8/10/2023	4.82	1/20/2026		106.32685	104.9878686	103.6757103	102.3895801	101.1287151	99.8923825	98.67987797	97.49052448	96.32367078
230810A00057	8/10/2023	4.62	8/10/2026		108.94938	107.0261092	105.1466876	103.3098518	101.5143869	99.75912067	98.04292152	96.36469681	94.72339131
230811A00017	8/11/2023	4.78	8/11/2026		109.26539	107.3363001	105.4512346	103.6089249	101.8081499	100.0477311	98.32653107	96.64345169	94.99743243
230811A00018	8/11/2023	5.1	8/11/2025		104.21735	103.3330667	102.4638573	101.6093389	100.7691406	99.94290375	99.1302817	98.33093916	97.54455181
230814A00028	8/14/2023	4.86	8/14/2026		109.46059	107.5213103	105.6264451	103.7747127	101.9648764	100.1957432	98.4661615	96.77501987	95.12124499
230814A00029	8/14/2023	4.71	2/12/2027		111.81356	109.3335865	106.9220655	104.5767238	102.2953788	100.0759328	97.91636914	95.81474856	93.76920569
230815A00031	8/15/2023	5.14	8/13/2025		104.28251	103.3923316	102.5174245	101.6573959	100.8118678	99.98047472	99.16286365	98.3586931	97.56763285
230815A00037	8/15/2023	4.53	8/15/2028		118.94608	114.7717542	110.7705253	106.9342979	103.2553939	99.7265327	96.34080834	93.09166835	89.9728938
230815A00038	8/15/2023	4.57	8/16/2027		114.31756	111.2692944	108.3197078	105.4650673	102.7018051	100.0265078	97.43590817	94.92687827	92.49642283
230815A00084	8/15/2023	5.14	8/15/2025		104.31274	103.4168372	102.5363938	101.6710151	100.8203158	99.98392399	99.16147998	98.35263619	97.55705646
230816A00025	8/16/2023	4.62	4/16/2027		112.71943	110.0411718	107.4415983	104.9179203	102.4674657	100.0876741	97.77609149	95.53036494	93.3482378
230817A00036	8/17/2023	4.91	8/17/2026		109.60002	107.6510724	105.7469252	103.8862793	102.0678829	100.2905283	98.55305022	96.85432391	95.19326348
230817A00054	5/17/2024	4.5	5/15/2026		107.51334	105.8453634	104.211705	102.6113717	101.0434081	99.50689548	98.00094946	96.52471887	95.07738401
230817A00055	11/17/2023	5.28	11/15/2024		100.56038	100.4325764	100.305116	100.1779942	100.0512095	99.92476056	99.79864604	99.67286456	99.54741474
230818A00005	8/18/2023	5.01	8/18/2025		104.31408	103.4087901	102.5192811	101.6451459	100.7859875	99.94142262	99.11108083	98.29460423	97.49164683

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230818A00007	8/18/2023	4.73	8/18/2026		109.43021	107.4772558	105.5693096	103.7050598	101.8832462	100.102653	98.36210733	96.66047704	94.9966693
230818A00024	8/18/2023	4.81	8/18/2026		109.42425	107.4742472	105.569135	103.7076071	101.8884076	100.1103251	98.37219061	96.6728761	95.01129238
230818A00025	8/18/2023	4.68	8/18/2027		114.41796	111.3682198	108.4172362	105.5612774	102.7967711	100.1202991	97.5285899	95.01851165	92.58706527
230818A00064	8/18/2023	5.09	8/18/2025		104.31348	103.4091842	102.5206453	101.6474488	100.789199	99.94551368	99.11602347	98.30037149	97.49821274
230818A00065	8/18/2023	4.82	8/18/2026		109.44331	107.4931266	105.5878316	103.7261243	101.9067487	100.1284934	98.39018932	96.69070828	95.02896105
230821A00004	8/21/2023	5.38	2/21/2025		101.90712	101.5058745	101.1077985	100.7128549	100.3210067	99.93221764	99.54645181	99.16367399	98.78384948
230821A00006	8/21/2023	4.66	8/21/2028		119.54135	115.3381496	111.3097912	107.448061	103.7451789	100.1937692	96.78683687	93.51774631	90.38020088
230821A00035	8/21/2023	5.36	2/21/2025		101.89913	101.4979074	101.0998504	100.7049257	100.3130963	99.92432593	99.53857867	99.15581931	98.77601316
230821A00074	8/21/2023	5.18	8/21/2025		104.43949	103.526198	102.628958	101.747347	100.8809583	100.0293993	99.19229082	98.36926637	97.55997189
230821A00085	8/21/2023	5.04	2/23/2026		107.1526	105.7140107	104.301983	102.9158442	101.5549418	100.2186452	98.90634404	97.61744799	96.35138557
230821A00087	8/21/2023	5.37	3/3/2025		102.04535	101.6160706	101.1904112	100.7683245	100.3497654	99.9346899	99.52305449	99.1148165	98.70993393
230823A00036	8/23/2023	4.87	8/24/2026		109.6273	107.6586784	105.7357075	103.8570496	102.0214182	100.227573	98.47431733	96.76049675	95.08499692
230823A00066	8/23/2023	4.68	8/23/2027		114.48775	111.4228665	108.4576385	105.5882865	102.8111912	100.1228901	97.52007006	94.99956005	92.55832393
230824A00008	8/24/2023	4.69	8/24/2028		116.2701	112.7858451	109.4399509	106.2260039	103.1379273	100.1699609	97.31664258	94.57279115	91.93349019
230824A00018	2/20/2024	4.78	2/20/2026		106.73789	105.3114559	103.9112197	102.5365217	101.1867218	99.86120109	98.55936059	97.28062067	96.02442022
230824A00019	2/20/2024	4.6	2/19/2027		111.65441	109.1548123	106.7247609	104.3619285	102.0640808	99.82907105	97.65483613	95.53939278	93.48083394
230824A00031	8/24/2023	4.49	8/24/2028		119.25347	115.0379878	110.9984808	107.126661	103.4146741	99.85507491	96.44080399	93.16516575	90.02180764
230824A00043	8/24/2023	4.89	8/24/2026		109.66576	107.6967653	105.7734224	103.8943994	102.05841	100.2642133	98.51061277	96.79645357	95.12062127
230824A00061	8/24/2023	4.61	8/24/2028		119.38422	115.1754915	111.1421933	107.2760758	103.5693179	100.0145056	96.60460836	93.33295783	90.19322673
230825A00005	8/25/2023	5.14	11/21/2025		105.82263	104.6435001	103.4908083	102.3636673	101.2612325	100.1826961	99.12728537	98.09426048	97.08291295
230825A00009	8/25/2023	4.91	8/25/2026		109.71912	107.7468191	105.8203066	103.9382397	102.0993268	100.3023221	98.54602415	96.8292738	95.15095223
230825A00010	8/25/2023	4.62	8/25/2028		119.43757	115.2249149	111.1879579	107.3184275	103.6084866	100.0507059	96.63804122	93.3638109	90.22167554
230825A00019	8/25/2023	5.41	2/25/2025		101.97609	101.563587	101.1544308	100.7485766	100.3459844	99.94661515	99.5504301	99.15739127	98.76746125
230825A00037	8/25/2023	4.91	8/25/2026		109.71912	107.7468191	105.8203066	103.9382397	102.0993268	100.3023221	98.54602415	96.8292738	95.15095223
230825A00043	8/25/2023	4.89	8/25/2026		109.6806	107.7086777	105.7825382	103.9008373	102.0622834	100.2656311	98.5096791	96.79326829	95.11528011
230825A00044	8/25/2023	5.2	8/25/2025		104.51865	103.5937782	102.6853515	101.792933	100.9161014	100.0544503	99.20758704	98.37513254	97.55672058
230825A00062	8/25/2023	5.21	8/25/2025		104.52777	103.602852	102.6943807	101.8019183	100.9250434	100.0633494	99.21644381	98.38394748	97.56549419
230828A00036	8/28/2023	4.8	8/28/2026		109.71199	107.7284774	105.7912355	103.8989012	102.0501632	100.2437572	98.47846402	96.75310756	95.06655298
230828A00047	8/28/2023	4.92	8/28/2026		109.78313	107.8018707	105.866774	103.9764832	102.1296914	100.3251385	98.56160899	96.83793063	95.15297206
230828A00055	8/28/2023	5.24	8/28/2025		104.60132	103.6676366	102.7506977	101.8500545	100.9652749	100.0959415	99.24165171	98.40201683	97.5766614
230828A00056	8/28/2023	4.92	8/28/2026		109.78313	107.8018707	105.866774	103.9764832	102.1296914	100.3251385	98.56160899	96.83793063	95.15297206
230829A00006	8/29/2023	5.21	8/29/2025		104.58903	103.6526061	102.7330245	101.8298324	100.9425939	100.0708882	99.21430929	98.37246533	97.5449778
230830A00028	8/30/2023	4.45	8/30/2027		114.15663	111.0711267	108.0867056	105.1995004	102.4058151	99.70211529	97.08502003	94.55129429	92.09784181



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230830A00029	8/30/2023	4.45	8/30/2027		114.15663	111.0711267	108.0867056	105.1995004	102.4058151	99.70211529	97.08502003	94.55129429	92.09784181
230830A00030	8/30/2023	5.03	8/29/2025		104.4229	103.4873022	102.5685404	101.6661578	100.7797187	99.90880253	99.05300356	98.21193004	97.38520368
230830A00034	8/30/2023	4.44	8/30/2028		118.78847	114.5742512	110.5364894	106.6668501	102.957436	99.4007624	95.98973368	92.71762077	89.5780404
230830A00051	8/30/2023	4.45	8/30/2027		114.15663	111.0711267	108.0867056	105.1995004	102.4058151	99.70211529	97.08502003	94.55129429	92.09784181
230830A00055	8/30/2023	4.47	8/30/2028		117.94402	113.9364038	110.0963386	106.4158346	102.8873246	99.50364288	96.25800187	93.14396985	90.15545041
230830A00101	8/30/2023	5.06	8/31/2026		105.03613	104.0065668	102.9967263	102.0060466	101.0339904	100.0800406	99.1436991	98.22448641	97.32194038
230831A00001	8/31/2023	4.77	8/31/2026		109.53646	107.5493287	105.6086752	103.7131316	101.8613771	100.0521384	98.28418805	96.55634165	94.86745671
230831A00006	8/31/2023	4.61	8/31/2027		114.39208	111.3060089	108.3209683	105.4330999	102.6387109	99.93426973	97.31639821	94.78186387	92.32757287
230831A00007	8/31/2023	4.48	8/31/2028		118.96116	114.7406625	110.6969613	106.8216994	103.1069604	99.54524198	96.12943188	92.85278556	89.7089052
230831A00016	8/31/2023	4.65	8/31/2026		109.4648	107.4754122	105.5326068	103.6350135	101.7813075	99.97021121	98.20049312	96.47096524	94.78048147
230831A00041	8/31/2023	4.48	8/31/2028		118.96116	114.7406625	110.6969613	106.8216994	103.1069604	99.54524198	96.12943188	92.85278556	89.7089052
230831A00066	8/31/2023	4.77	8/31/2026		109.53646	107.5493287	105.6086752	103.7131316	101.8613771	100.0521384	98.28418805	96.55634165	94.86745671
230831A00069	8/31/2023	4.61	8/31/2027		114.39208	111.3060089	108.3209683	105.4330999	102.6387109	99.93426973	97.31639821	94.78186387	92.32757287
230831A00070	8/31/2023	4.48	8/31/2028		118.96116	114.7406625	110.6969613	106.8216994	103.1069604	99.54524198	96.12943188	92.85278556	89.7089052
230831A00079	8/30/2024	4.28	8/29/2031		130.03191	122.3133497	115.1220824	108.4190674	102.1683538	96.3368196	90.89393601	85.81155134	81.06369473
230901A00007	9/1/2023	4.55	9/1/2027		114.22814	111.1416086	108.1562371	105.2681551	102.4736619	99.76921803	97.15143826	94.61708337	92.16305317
230901A00016	9/1/2023	4.6	8/3/2026		108.96827	107.0613405	105.1975407	103.3756451	101.594468	99.85286449	98.14972938	96.48399506	94.85463022
230901A00029	9/1/2023	5.04	3/3/2025		101.9386	101.5091949	101.0834157	100.6612155	100.2425493	99.82737285	99.41564249	99.00731539	98.6023494
230901A00037	9/1/2023	4.3	9/1/2028		118.60257	114.3768378	110.3285502	106.4493059	102.731144	99.16652069	95.74828505	92.46965669	89.32420447
230901A00044	9/1/2023	4.55	9/1/2027		114.22814	111.1416086	108.1562371	105.2681551	102.4736619	99.76921803	97.15143826	94.61708337	92.16305317
230905A00030	9/5/2023	4.55	9/5/2028		119.30861	115.0665451	111.0027086	107.1086455	103.3763512	99.79824108	96.36712629	93.07619091	89.91897063
230905A00033	9/5/2023	4.71	9/4/2026		109.64067	107.6381043	105.6826877	103.773019	101.9077502	100.0855816	98.30526087	96.56557992	94.86537365
230905A00037	9/5/2023	5.16	3/5/2025		102.01797	101.5828361	101.1514218	100.723683	100.2995729	99.87904522	99.46205463	99.0485565	98.63850697
230905A00038	9/5/2023	5.16	3/5/2025		102.01797	101.5828361	101.1514218	100.723683	100.2995729	99.87904522	99.46205463	99.0485565	98.63850697
230906A00020	9/6/2023	5.19	9/8/2025		104.72439	103.7593228	102.8121269	101.8823123	100.9694027	100.0729391	99.19247906	98.32759588	97.4778779
230907A00012	9/7/2023	5.17	9/8/2025		104.70538	103.7404066	102.793307	101.8635874	100.9507716	100.0544006	99.17403206	98.30923921	97.45961045
230907A00047	9/7/2023	5.08	9/5/2025		104.57449	103.6185733	102.6802082	101.7589159	100.8542327	99.96571159	99.0929214	98.23544627	97.39288488
230907A00050	9/7/2023	5.05	9/5/2025		104.62236	103.6651263	102.7254821	101.8029486	100.8970607	100.0073701	99.1334442	98.27486601	97.43123301
230907A00051	9/7/2023	4.79	9/8/2026		109.85721	107.8410431	105.8725929	103.9504372	102.0732041	100.2395719	98.44826641	96.69805946	94.98776654
230908A00009	9/8/2023	4.55	9/8/2028		118.78888	114.6546834	110.6952251	106.9020999	103.267359	99.78347856	96.44333403	93.24017711	90.16761353
230908A00010	9/8/2023	4.73	9/9/2030		115.96576	112.5085702	109.2033854	106.0421247	103.0171967	100.1214677	97.34823118	94.69117943	92.14437681
230911A00001	9/11/2023	4.49	9/11/2028		119.49965	115.2266175	111.1340307	107.2132932	103.456261	99.85521975	96.40285983	93.09225269	89.91682908
230911A00010	9/11/2023	4.9	9/11/2026		109.95495	107.9322634	105.9575867	104.0294839	102.1465707	100.3075133	98.51102626	96.75587068	95.04085174

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230911A00014	9/11/2023	4.61	9/11/2028		119.63168	115.3655421	111.2792911	107.3643668	103.6126601	100.016489	96.56857409	93.26201498	90.09026877
230911A00026	9/11/2023	5.08	9/11/2025		104.66515	103.6919898	102.7370169	101.7997215	100.879615	99.97622667	99.08910285	98.21780619	97.36191491
230911A00030	9/11/2023	5.09	9/11/2025		104.67474	103.7015303	102.7465085	101.8091648	100.8890106	99.98557518	99.09840489	98.22706234	97.37112575
230912A00026	9/12/2023	4.84	9/14/2026		109.8813	107.8507947	105.8686821	103.9335105	102.043879	100.198438	98.39588726	96.63497335	94.91448795
230912A00036	9/12/2023	4.57	9/12/2028		119.48462	115.2184631	111.1323451	107.217694	103.4663876	99.87073213	96.42343724	93.11759252	89.94664578
230912A00053	9/12/2023	4.74	9/7/2027		114.87739	111.7637901	108.7527192	105.8402307	103.022555	100.2960879	97.65738305	95.10314366	92.63021521
230913A00013	9/13/2023	4.87	9/14/2026		109.94076	107.9096461	105.9269423	103.9911909	102.1009907	100.2549917	98.45189346	96.69044222	94.96942939
230913A00014	9/13/2023	5.34	3/13/2025		102.17594	101.7186696	101.2655095	100.8164058	100.3713038	99.93014999	99.4928919	99.05947784	98.6298571
230913A00020	9/13/2023	5.37	3/17/2025		102.24727	101.7787328	101.3145065	100.8545346	100.3987586	99.94712098	99.49956546	99.05603663	98.61648012
230913A00030	9/13/2023	5.16	9/15/2025		104.8032	103.8181273	102.8516708	101.9033035	100.9725197	100.0588325	99.16177298	98.28088915	97.4157453
230913A00031	9/13/2023	4.91	9/15/2026		110.03515	108.0002193	106.0138527	104.0745842	102.1810061	100.3317627	98.52554769	96.76110215	95.03721234
230913A00032	9/13/2023	4.74	9/15/2027		114.99195	111.8533917	108.8189159	105.8844878	103.0462535	100.3005304	97.64379764	95.07268884	92.58398378
230913A00046	9/13/2023	4.91	9/14/2026		110.02003	107.9881146	106.0046225	104.0680981	102.1771396	100.3303967	98.5265684	96.76440072	95.04268463
230913A00049	9/13/2023	4.74	9/13/2027		114.96331	111.8309938	108.8023723	105.8734311	103.0403376	100.2994288	97.64720258	95.08031003	92.59554744
230913A00050	9/13/2023	4.6	9/13/2028		119.61908	115.3472957	111.2558825	107.336244	103.5802387	99.98015467	96.52868465	93.21890248	90.04424123
230914A00027	9/14/2023	4.76	1/8/2027		111.41683	109.0426336	106.7316967	104.4818878	102.2911673	100.1575803	98.07925228	96.05438488	94.0812524
230914A00031	9/14/2023	5.08	9/15/2025		104.72559	103.7409251	102.7748687	101.8268962	100.896502	99.98319949	99.0865197	98.20601079	97.34123715
230914A00050	9/14/2023	4.67	9/14/2027		114.76754	111.63526	108.6067921	105.6781115	102.8453776	100.10492	97.4532296	94.88695091	92.40287414
230914A00051	9/14/2023	4.84	9/14/2026		109.8813	107.8507947	105.8686821	103.9335105	102.043879	100.198438	98.39588726	96.63497335	94.91448795
230914A00059	7/26/2024	4.39	7/24/2026		108.2874	106.4173137	104.5889953	102.8012388	101.0528821	99.34280481	97.66992668	96.03320563	94.43163618
230914A00060	9/14/2023	5.28	3/14/2025		102.16283	101.7028266	101.2469831	100.7952447	100.3475559	99.90386212	99.46410988	99.02824663	98.59622075
230914A00069	7/26/2024	4.34	7/26/2027		113.12388	110.1575938	107.2856616	104.5045629	101.8109256	99.20152261	96.67326454	94.22319284	91.84847362
230914A00070	7/26/2024	4.3	7/26/2028		117.78387	113.6891624	109.7623584	105.9956686	102.3817108	98.91348213	95.58433835	92.38797305	89.31839879
230915A00026	9/15/2023	4.57	9/15/2028		119.52576	115.2499379	111.1549222	107.2320815	103.4732437	99.87066878	96.4170232	93.10535659	89.92907954
230915A00028	9/15/2023	4.57	9/15/2028		119.52576	115.2499379	111.1549222	107.2320815	103.4732437	99.87066878	96.4170232	93.10535659	89.92907954
230915A00030	9/15/2023	4.7	9/8/2027		114.77233	111.6573965	108.645143	105.7316115	102.9130231	100.1857655	97.5463841	94.99157487	92.5181763
230915A00054	9/15/2023	4.88	9/15/2026		109.97561	107.941286	105.9555122	104.016825	102.1238171	100.2751332	98.46946718	96.7055604	94.98219941
230915A00055	9/15/2023	4.7	9/15/2027		114.87178	111.7350356	108.7023233	105.7696147	102.9330577	100.1889707	97.53383455	94.9642839	92.47709983
230915A00057	9/15/2023	4.75	6/15/2027		113.70862	110.8504458	108.0801147	105.3943447	102.7900029	100.2640962	97.81376369	95.43626987	93.12899793
230918A00008	9/18/2023	4.91	9/18/2026		110.08049	108.0365313	106.0415379	104.0940346	102.1925962	100.3358506	98.52247567	96.75119745	95.02078797
230918A00010	9/18/2023	4.72	9/18/2029		125.11707	119.6336658	114.4312013	109.4937319	104.8062981	100.3548632	96.1262515	92.10809103	88.28876038
230918A00011	9/18/2023	4.91	9/18/2026		110.08049	108.0365313	106.0415379	104.0940346	102.1925962	100.3358506	98.52247567	96.75119745	95.02078797
230918A00013	9/18/2023	4.74	9/18/2030		129.52895	122.8429207	116.5578481	110.6474113	105.0871518	99.85433444	94.92781692	90.28793061	85.9163703

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230918A00018	9/18/2023	5.01	3/18/2026		107.45996	105.9546089	104.4782041	103.0299806	101.6092	100.2151491	98.84713931	97.504505	96.18660288
230918A00023	9/18/2023	4.91	9/18/2026		110.08049	108.0365313	106.0415379	104.0940346	102.1925962	100.3358506	98.52247567	96.75119745	95.02078797
230918A00027	9/18/2023	5.11	9/30/2025		104.98264	103.9545535	102.9466888	101.9584567	100.9892868	100.0386306	99.10596041	98.19076855	97.2925662
230918A00030	9/18/2023	5.01	9/17/2027		107.96838	106.3596325	104.7912297	103.2618297	101.7701433	100.3149342	98.89501639	97.50925145	96.15654658
230919A00010	9/19/2023	4.76	9/20/2027		115.12392	111.9688289	108.9188188	105.9697997	103.1178643	100.3592791	97.69047615	95.10804412	92.60872081
230919A00029	9/19/2023	4.63	9/19/2028		119.82311	115.529551	111.4179678	107.4796518	103.7063585	100.0902802	96.62402062	93.30057083	90.11328683
230919A00043	9/19/2023	4.62	9/19/2028		119.78269	115.4899422	111.3791419	107.4415845	103.6690265	100.0536611	96.58809284	93.26531364	90.0786803
230919A00044	9/19/2023	4.93	9/21/2026		110.16587	108.1124569	106.1084299	104.1522942	102.2426071	100.3779793	98.55707275	96.77859823	95.04131324
230919A00047	9/19/2023	4.98	8/19/2026		109.76345	107.8073589	105.89634	104.0290817	102.2043218	100.4208424	98.67746861	96.97306658	95.30654163
230919A00055	9/19/2023	4.65	9/19/2028		119.90394	115.6087686	111.4956196	107.5557863	103.7810224	100.1635184	96.69587619	93.3710852	90.18249989
230919A00082	9/19/2023	5.17	9/19/2025		104.87434	103.8776936	102.9000845	101.9409743	100.9998402	100.0761793	99.16950702	98.27935678	97.40527887
230920A00002	9/20/2023	4.47	10/2/2028		119.70647	115.3672655	111.2137896	107.2370701	103.428615	99.78038685	96.28477588	92.9345748	89.72295534
230920A00025	9/20/2023	5.14	9/16/2025		104.79907	103.8112241	102.8420937	101.8911531	100.9578926	100.0418211	99.14246601	98.25937162	97.39209881
230920A00026	9/20/2023	4.9	9/16/2026		110.03039	107.9926519	106.0036084	104.0617896	102.1657823	100.3142253	98.50580707	96.73926388	95.01337734
230921A00021	9/21/2023	4.62	9/21/2028		120.16424	115.8482909	111.7156836	107.7576194	103.9657741	100.3322656	96.84962819	93.51078791	90.30904013
230921A00028	9/21/2023	5.07	9/21/2026		110.44606	108.3897734	106.3829347	104.4240418	102.5116503	100.6443696	98.82086009	97.03983126	95.30003927
230921A00032	5/31/2024	5.03	5/30/2025		103.10366	102.4272169	101.7596716	101.1008466	100.4505716	99.80868082	99.17501275	98.54940998	97.93171909
230921A00033	6/7/2024	5.01	6/6/2025		103.18879	102.4926153	101.8058671	101.1283512	100.4598819	99.80027858	99.14936541	98.50697114	97.87292904
230921A00034	6/14/2024	4.98	6/13/2025		103.26633	102.5504378	101.8445072	101.148332	100.4617107	99.78444706	99.11635029	98.45723477	97.80691985
230921A00035	6/21/2024	4.96	6/20/2025		103.35001	102.614335	101.8891755	101.1743026	100.469498	99.77454968	99.08925149	98.41340302	97.74680939
230921A00036	6/28/2024	4.94	6/27/2025		103.43291	102.677432	101.9330239	101.199441	100.4764481	99.7638167	99.06132498	98.36875736	97.68590432
230922A00020	9/22/2023	5.35	3/24/2025		102.33852	101.850325	101.3668017	100.8878849	100.4135088	99.94360898	99.47812211	99.01698611	98.56014001
230922A00022	9/22/2023	4.99	9/22/2026		110.30129	108.2436276	106.2355128	104.2754442	102.3619726	100.4937025	98.66928996	96.88744005	95.14690492
230922A00025	9/22/2023	5.18	9/22/2025		104.93033	103.9249683	102.938974	101.9717878	101.022874	100.0917174	99.17782166	98.28070913	97.39991951
230922A00032	9/22/2023	5.18	9/22/2025		104.93033	103.9249683	102.938974	101.9717878	101.022874	100.0917174	99.17782166	98.28070913	97.39991951
230925A00003	9/25/2023	4.99	9/25/2026		110.34732	108.2805879	106.2638212	104.2954965	102.374147	100.4983602	98.66677625	96.87808506	95.13102428
230925A00004	9/25/2023	4.74	9/25/2028		120.35284	116.0309276	111.8928054	107.9296473	104.1330972	100.4952435	97.00859315	93.66604713	90.46087743
230925A00028	12/22/2023	5.5	12/23/2024		101.10107	100.8674221	100.6348644	100.4033899	100.1729909	99.94366	99.71538968	99.48817255	99.26200128
230925A00056	9/25/2023	5.19	9/25/2025		104.98648	103.9724034	102.9780169	102.0027492	101.0460515	100.1073962	99.18627532	98.28219983	97.3946988
230925A00057	9/25/2023	5.19	9/30/2025		105.06358	104.0350486	103.0267498	102.0380896	101.0684974	100.1174246	99.18434338	98.26874587	97.37014317
230925A00080	9/25/2023	5.07	9/30/2025		105.02421	103.9947066	102.9854776	101.9959244	101.0254751	100.0735793	99.13970787	98.22335163	97.32402036
230925A00114	9/25/2023	5.09	3/25/2026		107.68481	106.158507	104.6619009	103.1941998	101.7546376	100.3424751	98.95699821	97.59751741	96.26336641
230925A00121	9/25/2023	5.2	9/25/2025		104.99646	103.9823281	102.9878888	102.012569	101.0558199	100.1171139	99.19594298	98.29181809	97.4042683

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230926A00010	9/26/2023	4.74	9/26/2028		120.36703	116.0418727	111.9007609	107.9348522	104.1357734	100.4955973	97.00681628	93.66231765	90.45536084
230926A00020	9/26/2023	5.2	9/26/2025		105.0119	103.9948855	102.9976646	102.0196669	101.0603393	100.1191498	99.19558654	98.28915681	97.39938603
230926A00021	9/26/2023	4.73	9/26/2028		120.32642	116.002075	111.8617535	107.8966105	104.0982738	100.4588171	96.97073358	93.62691148	90.42061102
230926A00048	9/26/2023	5.2	9/26/2025		105.0119	103.9948855	102.9976646	102.0196669	101.0603393	100.1191498	99.19558654	98.28915681	97.39938603
230926A00076	9/26/2023	4.73	9/26/2028		120.32642	116.002075	111.8617535	107.8966105	104.0982738	100.4588171	96.97073358	93.62691149	90.42061102
230927A00006	9/27/2023	5.36	3/27/2025		102.38655	101.8898974	101.3980709	100.9110042	100.4286285	99.9508762	99.47768085	99.00897743	98.54470209
230927A00007	9/27/2023	5.19	9/29/2025		105.04816	104.0225205	103.0170053	102.0310245	101.0640118	100.1154228	99.18473366	98.27144037	97.3750576
230927A00008	9/27/2023	4.98	9/28/2026		110.37314	108.2975456	106.2723264	104.2959426	102.3669096	100.4837982	98.64523242	96.84988702	95.09648519
230927A00020	9/27/2023	5.01	10/16/2026		110.70818	108.5787702	106.5018588	104.4758082	102.4990401	100.5700371	98.68733945	96.84954276	95.05529515
230927A00021	9/27/2023	4.96	1/29/2027		112.19208	109.7501001	107.374466	105.0629982	102.8136051	100.6242758	98.49307665	96.41814731	94.39769797
230927A00031	9/27/2023	5.4	3/28/2025		102.4208	101.9212676	101.42662	100.9367841	100.4516898	99.97126862	99.49545304	99.02417702	98.55737574
230927A00032	9/27/2023	5.02	9/23/2026		110.37684	108.3155369	106.3039329	104.3405187	102.4238387	100.5524917	98.72512789	96.94044717	95.19719654
230927A00033	9/27/2023	4.78	9/25/2028		120.51518	116.1900104	112.0487312	108.0825143	104.2829998	100.6422724	97.1528355	93.80758675	90.59979495
230927A00034	9/27/2023	4.82	9/27/2028		120.70636	116.3714146	112.2209817	108.2461882	104.4386362	100.7903754	97.29387646	93.94200636	90.7280055
230928A00001	9/28/2023	4.91	9/28/2026		110.40053	108.3214887	106.2929594	104.313398	102.3813142	100.4952736	98.65389538	96.85584941	95.09985444
230928A00014	9/28/2023	4.9	9/28/2027		115.66463	112.4780116	109.3982121	106.4210455	103.5425132	100.7587965	98.0662467	95.46137678	92.9408531
230928A00016	9/28/2023	4.83	9/28/2028		120.76145	116.4224262	112.2682019	108.2898812	104.4790484	100.8277365	97.32840057	93.9738932	90.7574413
230928A00017	9/28/2023	4.83	9/28/2028		120.76145	116.4224262	112.2682019	108.2898812	104.4790484	100.8277365	97.32840057	93.9738932	90.7574413
230928A00033	9/28/2023	5.03	9/28/2026		110.47418	108.397543	106.3713004	104.3939132	102.463896	100.5798193	98.74030648	96.94403186	95.18971812
230928A00047	9/28/2023	5.21	9/29/2025		105.06834	104.0425894	103.0369663	102.050879	101.0837613	100.1350687	99.20427735	98.29088317	97.39440084
230928A00051	9/28/2023	5.04	9/28/2026		110.70251	108.5850677	106.5200928	104.505923	102.5409645	100.6236856	98.75261399	96.9263339	95.14348335
230928A00058	9/28/2023	5.04	9/28/2026		110.70251	108.5850677	106.5200928	104.505923	102.5409645	100.6236856	98.75261399	96.9263339	95.14348335
230928A00059	9/28/2023	4.84	9/28/2028		120.21532	115.9931365	111.9510384	108.0802817	104.3725987	100.8201684	97.41558998	94.15185729	91.02233586
230928A00060	9/28/2023	4.84	9/28/2028		120.21532	115.9931365	111.9510384	108.0802817	104.3725987	100.8201684	97.41558998	94.15185729	91.02233586
230928A00061	9/28/2023	4.84	9/28/2028		120.21532	115.9931365	111.9510384	108.0802817	104.3725987	100.8201684	97.41558998	94.15185729	91.02233586
230928A00064	9/28/2023	4.78	9/30/2027		115.58969	112.392323	109.3024708	106.315902	103.4285812	100.6366546	97.93644084	95.32442197	92.79723534
230929A00018	9/29/2023	5.14	9/29/2025		104.99771	103.9723482	102.9671029	101.9813882	101.014638	100.066308	99.13587444	98.22283335	97.32669951
230929A00031	9/29/2023	5.14	9/29/2025		104.99771	103.9723482	102.9671029	101.9813882	101.014638	100.066308	99.13587444	98.22283335	97.32669951
230929A00033	9/29/2023	4.92	9/29/2026		110.26704	108.189676	106.1628019	104.184872	102.2543963	100.3699407	98.53012449	96.73361783	94.97913966
230929A00046	9/29/2023	4.66	9/29/2027		115.20934	112.0207075	108.9392477	105.9607474	103.0811865	100.2967259	97.60369787	94.99859752	92.47807453
230929A00049	9/29/2023	4.87	9/30/2030		115.66821	112.3637662	109.2018036	106.1748351	103.275823	100.4981511	97.83559594	95.28230126	92.83275356
230929A00059	9/29/2023	5.14	9/29/2025		104.99771	103.9723482	102.9671029	101.9813882	101.014638	100.066308	99.13587444	98.22283335	97.32669951
230929A00061	9/29/2023	4.92	9/29/2026		110.26704	108.189676	106.1628019	104.184872	102.2543963	100.3699407	98.53012449	96.73361783	94.97913966

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230929A00062	9/29/2023	4.78	9/29/2027		115.31421	112.1300079	109.0526864	106.0780481	103.2020884	100.4209826	97.73107666	95.12887858	92.61105013
231002A00018	10/2/2023	4.87	10/1/2027		115.61732	112.4227475	109.3355251	106.351436	103.4664521	100.6767268	97.97858537	95.36851628	92.84316289
231002A00042	10/2/2023	4.73	10/2/2028		120.76856	116.4078976	112.2336473	108.2368032	104.4088474	100.741718	97.22778208	93.85980999	90.63095223
231003A00005	10/3/2023	4.84	10/3/2028		120.87389	116.5180087	112.3481544	108.3553519	104.5311062	100.867377	97.35655092	93.9914173	90.76514409
231003A00011	10/3/2023	4.89	10/15/2027		115.8825	112.6440989	109.515487	106.4923067	103.5704001	100.7457984	98.01471241	95.37352318	92.81877323
231003A00036	10/3/2023	4.84	10/3/2028		120.87389	116.5180087	112.3481544	108.3553519	104.5311062	100.867377	97.35655092	93.9914173	90.76514409
231003A00064	10/3/2023	5.56	10/3/2024		100.04513	100.0367832	100.0284426	100.0201097	100.0117846	100.0034671	99.99515728	99.98685516	99.97856069
231004A00006	10/4/2023	4.88	10/4/2028		121.05152	116.6891633	112.5131684	108.5145399	104.6847643	101.0157837	97.49996868	94.13009317	90.89931095
231004A00011	10/5/2023	5.51	10/4/2024		100.05703	100.0458992	100.0347796	100.0236706	100.0125722	100.0014844	99.99040706	99.97934031	99.96828406
231004A00012	10/5/2023	5.51	10/4/2024		100.05703	100.0458992	100.0347796	100.0236706	100.0125722	100.0014844	99.99040706	99.97934031	99.96828406
231004A00016	10/4/2023	5.36	4/4/2025		102.50237	101.9832073	101.4693201	100.9606247	100.4570427	99.95849698	99.46491225	98.97621459	98.49233155
231005A00003	10/5/2023	5.14	10/6/2025		105.10602	104.0604392	103.035773	102.0313931	101.0467001	100.0811181	99.13409347	98.20509386	97.29360705
231005A00007	10/5/2023	5.51	10/4/2024		100.05703	100.0458992	100.0347796	100.0236706	100.0125722	100.0014844	99.99040706	99.97934031	99.96828406
231005A00035	10/5/2023	4.98	10/5/2026		110.47948	108.383128	106.3380026	104.3425199	102.395158	100.4944529	98.63899535	96.82742848	95.05844568
231005A00037	10/5/2023	4.88	10/5/2027		115.70604	112.4987583	109.3995294	106.404092	103.508381	100.7085149	98.00078651	95.38165352	92.8477306
231005A00039	10/5/2023	5.16	10/6/2025		105.12658	104.0808923	103.0561143	102.0516241	101.0668223	100.101133	99.15400261	98.22489858	97.31330873
231005A00040	10/5/2023	4.98	10/5/2026		110.47948	108.383128	106.3380026	104.3425199	102.395158	100.4944529	98.63899535	96.82742848	95.05844568
231005A00054	10/5/2023	4.98	10/5/2026		110.47948	108.383128	106.3380026	104.3425199	102.395158	100.4944529	98.63899535	96.82742848	95.05844568
231006A00009	10/6/2023	4.98	10/15/2027		116.16043	112.9177333	109.7849361	106.7576766	103.8317933	101.0033141	98.26844652	95.62356841	93.06521933
231006A00010	10/6/2023	4.93	10/16/2028		121.43008	117.0253123	112.8098248	108.7744242	104.9104138	101.2095654	97.66409146	94.26661897	91.01016505
231006A00015	10/6/2023	5.38	4/7/2025		102.55653	102.0289041	101.5067296	100.9899178	100.4783862	99.97205389	99.47084182	98.97467237	98.48346955
231006A00032	10/6/2023	5.08	10/6/2026		110.69893	108.5975068	106.5474627	104.547211	102.5952238	100.6900309	98.83021748	97.01442152	95.24133129
231006A00033	10/6/2023	4.98	10/6/2027		116.02689	112.811848	109.7051523	106.7025254	103.7998894	100.9933505	98.27918969	95.65385381	93.1139471
231010A00007	10/10/2023	4.83	10/12/2027		115.65396	112.4276069	109.3104538	106.2981718	103.3866332	100.5718976	97.85020266	95.21795446	92.67171917
231010A00025	10/10/2023	4.66	10/10/2028		120.59489	116.2145741	112.0223377	108.0090584	104.166107	100.4853181	96.95896252	93.57972193	90.34066431
231010A00026	10/10/2023	4.66	10/10/2028		120.59489	116.2145741	112.0223377	108.0090584	104.166107	100.4853181	96.95896252	93.57972193	90.34066431
231010A00030	10/10/2023	4.88	10/15/2026		110.42409	108.3004644	106.2291705	104.2085721	102.2370978	100.3132363	98.43553419	96.60259259	94.81306515
231010A00031	10/10/2023	5.08	10/10/2025		105.10567	104.0488798	103.0134515	101.9987421	101.004133	100.0290298	99.07286153	98.13507927	97.21515516
231010A00057	10/10/2023	4.66	10/10/2028		120.59489	116.2145741	112.0223377	108.0090584	104.166107	100.4853181	96.95896252	93.57972193	90.34066431
231010A00068	10/10/2023	4.83	10/8/2027		115.59628	112.3821754	109.2765733	106.2751915	103.3739393	100.5689111	97.85637696	95.2327737	92.6946961
231010A00075	10/10/2023	4.78	10/10/2028		120.72779	116.3546487	112.1689967	108.1617518	104.3243219	100.6485762	97.12681767	93.75175808	90.5164934
231010A00076	10/10/2023	4.66	10/10/2028		120.59489	116.2145741	112.0223377	108.0090584	104.166107	100.4853181	96.95896252	93.57972193	90.34066431
231010A00101	10/10/2023	4.78	10/10/2028		120.72779	116.3546487	112.1689967	108.1617518	104.3243219	100.6485762	97.12681767	93.75175808	90.5164934



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231010A00129	10/10/2023	4.93	10/13/2026		110.49749	108.3786643	106.3119611	104.2957543	102.3284822	100.4086428	98.53479086	96.70553595	94.91953932
231010A00131	10/10/2023	5.44	10/4/2024		100.05617	100.0450398	100.0339208	100.0228125	100.0117147	100.0006275	99.9895509	99.97848478	99.96742918
231010A00135	10/10/2023	5.44	10/10/2024		100.12928	100.1014608	100.0736748	100.0459199	100.0181961	99.99050324	99.96284132	99.93521026	99.90761001
231011A00004	10/11/2023	4.81	10/8/2027		115.53491	112.3217479	109.2170645	106.2165783	103.3161991	100.5120224	97.80031876	95.1775257	92.64023868
231011A00016	10/11/2023	4.75	10/11/2028		120.6188	116.2449766	112.0588006	108.0511716	104.2134855	100.5376006	97.01580999	93.64081599	90.4057061
231011A00028	10/11/2023	4.92	10/9/2026		110.41696	108.3101225	106.2549446	104.2498206	102.2932093	100.383628	98.51964998	96.69990206	94.92306191
231011A00029	10/11/2023	4.81	10/8/2027		115.53491	112.3217479	109.2170645	106.2165783	103.3161991	100.5120224	97.80031876	95.1775257	92.64023868
231011A00030	10/11/2023	4.75	10/11/2028		120.6188	116.2449766	112.0588006	108.0511716	104.2134855	100.5376006	97.01580999	93.64081599	90.4057061
231012A00013	10/12/2023	5.07	3/16/2026		107.51853	106.0182109	104.5466403	103.1030616	101.6867439	100.2969812	98.93309122	97.59441498	96.28031524
231012A00014	10/12/2023	5.55	10/11/2024		100.14492	100.1143161	100.0837508	100.0532206	100.0227254	99.99226508	99.96183962	99.93144896	99.90109302
231012A00015	10/12/2023	5.33	4/11/2025		102.58823	102.0494404	101.5163303	100.9888119	100.4667975	99.95020076	99.43893759	98.9329254	98.43208337
231012A00016	10/12/2023	5.14	10/14/2025		105.23006	104.1613499	103.1144652	102.0887444	101.0835488	100.0982655	99.13230555	98.18510317	97.25611449
231012A00017	10/12/2023	5.24	7/15/2025		103.9284	103.1207448	102.3257029	101.5429781	100.7722852	100.0133475	99.26589691	98.52967347	97.80442495
231012A00019	10/12/2023	5.39	2/18/2025		101.86854	101.4756923	101.0858891	100.699093	100.3152691	99.93438304	99.55640121	99.18129033	98.80901766
231012A00020	10/12/2023	5.08	2/9/2026		106.98157	105.586639	104.2168108	102.8714679	101.5500084	100.25185	98.9764288	97.72319868	96.49163064
231012A00021	10/12/2023	4.85	12/30/2027		116.86784	113.3948948	110.0458949	106.8156359	103.6991708	100.6917933	97.78902406	94.98659833	92.28045371
231012A00027	10/12/2023	4.78	10/16/2028		120.81245	116.4202524	112.216938	108.1933275	104.3407393	100.6509597	97.11621493	93.72914529	90.4827804
231012A00039	10/12/2023	5.33	4/11/2025		102.58823	102.0494404	101.5163303	100.9888119	100.4667975	99.95020076	99.43893759	98.9329254	98.43208337
231013A00017	10/13/2023	5.13	10/14/2025		105.21956	104.1509038	103.1040774	102.0784139	101.0732749	100.0880474	99.12214248	98.17499438	97.24605925
231013A00020	10/13/2023	4.98	10/13/2026		110.60062	108.4807099	106.4129423	104.3956921	102.4273969	100.5065541	98.63171808	96.80149774	95.01455385
231016A00004	10/16/2023	5.55	10/16/2024		100.20734	100.1628435	100.1184001	100.0740138	100.0296845	99.98541204	99.94119636	99.89703733	99.85293484
231016A00016	10/16/2023	5.01	10/16/2026		110.70818	108.5787702	106.5018588	104.4758082	102.4990401	100.5700371	98.68733945	96.84954276	95.05529515
231016A00047	10/16/2023	4.98	2/10/2027		112.4302	109.9488991	107.5358921	105.188914	102.9057925	100.6844396	98.52284772	96.41908625	94.37129791
231016A00049	10/16/2023	4.95	7/19/2027		114.76606	111.7959344	108.9195743	106.1334713	103.434268	100.818753	98.28385391	95.8266302	93.44426664
231017A00008	10/17/2023	5.26	10/17/2025		105.40365	104.3255254	103.2695897	102.2351598	101.2215819	100.2282285	99.25449717	98.29980922	97.36360852
231017A00009	10/17/2023	5.42	4/17/2025		102.72474	102.1688963	101.6190936	101.075233	100.5372183	100.0049553	99.47835175	98.9573176	98.44176453
231017A00017	10/17/2023	5.11	10/16/2026		110.91528	108.7836805	106.7046237	104.6764699	102.6976397	100.7666146	98.88193361	97.04219133	95.24603483
231017A00029	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264
231017A00032	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264
231017A00033	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264
231017A00034	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264
231017A00035	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264
231017A00036	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231017A00037	10/17/2023	4.99	10/17/2028		121.10421	116.805328	112.691666	108.7541352	104.9841472	101.3735829	97.91476459	94.60042907	91.42370264
231017A00039	10/17/2023	5.12	10/16/2026		111.15776	108.9826545	106.8623582	104.7951048	102.7791955	100.8129997	98.89495137	97.02354619	95.19733851
231017A00040	10/17/2023	5.12	10/16/2026		111.15776	108.9826545	106.8623582	104.7951048	102.7791955	100.8129997	98.89495137	97.02354619	95.19733851
231017A00041	10/17/2023	5.12	10/16/2026		111.15776	108.9826545	106.8623582	104.7951048	102.7791955	100.8129997	98.89495137	97.02354619	95.19733851
231017A00046	10/17/2023	5.26	10/17/2025		105.40365	104.3255254	103.2695897	102.2351598	101.2215819	100.2282285	99.25449717	98.29980922	97.36360852
231018A00026	10/18/2023	5.28	1/7/2026		106.73354	105.4202472	104.1370186	102.8828208	101.6566667	100.4576139	99.28476204	98.13725075	97.01425713
231019A00006	10/19/2023	5.29	10/20/2025		105.48319	104.3961762	103.3317026	102.2890708	101.2676118	100.266684	99.28567134	98.3239822	97.38104829
231019A00007	10/19/2023	5.19	10/19/2026		111.12816	108.9859127	106.8965989	104.858555	102.8701851	100.9299549	99.0363889	97.18806762	95.38362494
231019A00009	10/19/2023	5.14	10/19/2027		116.71568	113.4529804	110.3010757	107.2555564	104.312217	101.467044	98.7162063	96.05604513	93.48306562
231019A00031	1/22/2024	5.12	1/30/2026		106.87431	105.5095397	104.1692065	102.8527016	101.5594367	100.2888429	99.04036911	97.81348209	96.60766535
231019A00035	10/19/2023	5.54	10/18/2024		100.23181	100.1817519	100.1317603	100.0818357	100.0319779	99.98218691	99.93246247	99.88280447	99.83321277
231019A00036	10/19/2023	5.27	10/20/2025		105.46185	104.3749549	103.3106012	102.2680877	101.2467453	100.2459324	99.26503308	98.30345571	97.36063204
231019A00041	10/19/2023	5.08	10/19/2028		122.09257	117.6655951	113.4290003	109.3735304	105.4904283	101.7714095	98.2086338	94.794679	91.5225161
231019A00043	10/19/2023	5.19	10/19/2026		111.12816	108.9859127	106.8965989	104.858555	102.8701851	100.9299549	99.0363889	97.18806762	95.38362494
231019A00044	10/19/2023	5.14	10/19/2027		116.71568	113.4529804	110.3010757	107.2555564	104.312217	101.467044	98.7162063	96.05604513	93.48306562
231020A00041	10/20/2023	5.19	10/20/2025		105.37647	104.2900694	103.2261957	102.1841552	101.1632792	100.162926	99.18248003	98.22134973	97.27896702
231020A00048	10/20/2023	5.08	10/20/2026		110.91485	108.7720772	106.6823001	104.643857	102.6551483	100.7146359	98.82084116	96.97234122	95.16776701
231020A00049	10/20/2023	5.03	10/20/2027		116.38974	113.1292404	109.9795781	106.936335	103.9953007	101.1524572	98.4039689	95.74617331	93.17557196
231020A00051	10/20/2023	5.02	10/20/2028		121.8598	117.4346637	113.1999849	109.1464951	105.2654285	101.5484924	97.98783926	94.57604003	91.30605966
231020A00060	10/20/2023	5.5	10/21/2024		100.26684	100.2084459	100.1501363	100.0919096	100.0337657	99.9757044	99.91772557	99.85982901	99.80201453
231020A00061	10/20/2023	5.32	4/21/2025		102.72736	102.1604156	101.5997497	101.0452604	100.4968459	99.95440635	99.41784435	98.8870645	98.36197347
231020A00067	10/20/2023	5.32	4/15/2025		102.64067	102.0906395	101.5465235	101.0082313	100.4756694	99.94874635	99.42737279	98.91146107	98.40092542
231020A00069	10/20/2023	5.08	10/15/2026		110.83773	108.709739	106.6341654	104.6093715	102.6337836	100.7058882	98.82422951	96.98740658	95.19407097
231020A00070	10/20/2023	5.19	10/15/2025		105.29824	104.2263295	103.1763723	102.1476935	101.1396495	100.1516225	99.18301896	98.23326888	97.30182429
231023A00028	10/23/2023	5.33	4/23/2025		102.76194	102.1893325	101.6231274	101.0632179	100.5094992	99.96186882	99.42022659	98.88447443	98.35451645
231023A00029	10/23/2023	5.19	10/23/2025		105.42342	104.3283085	103.2560777	102.2060147	101.1774359	100.1696853	99.18213333	98.21417587	97.2652325
231023A00034	4/23/2024	4.95	4/23/2026		107.9182	106.3080366	104.7302401	103.1839011	101.6681462	100.1821343	98.72505472	97.29612594	95.89459427
231023A00048	10/23/2023	5.04	10/25/2027		116.4958	113.2193922	110.0547032	106.9972723	104.0428413	101.1873473	98.42691304	95.75783664	93.17658275
231024A00007	10/30/2023	5.5	10/30/2024		100.37799	100.2945998	100.2113514	100.1282422	100.0452718	99.96243983	99.87974607	99.79719012	99.71477167
231024A00008	10/30/2023	5.5	10/30/2024		100.37799	100.2945998	100.2113514	100.1282422	100.0452718	99.96243983	99.87974607	99.79719012	99.71477167
231024A00010	12/18/2023	5.43	12/18/2024		101.0173	100.7976251	100.5789177	100.3611741	100.1443877	99.9285521	99.71366108	99.49970833	99.28668765
231024A00011	12/18/2023	5.43	12/18/2024		101.0173	100.7976251	100.5789177	100.3611741	100.1443877	99.9285521	99.71366108	99.49970833	99.28668765
231024A00017	10/24/2023	4.97	10/25/2027		116.27768	113.0046651	109.843289	106.7890864	103.837802	100.9853757	98.22793274	95.56177382	92.98336595

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231024A00029	10/24/2023	4.97	10/25/2027		116.27768	113.0046651	109.843289	106.7890864	103.837802	100.9853757	98.22793274	95.56177382	92.98336595
231024A00030	10/24/2023	4.96	10/24/2028		121.67054	117.2376526	112.9959989	108.936254	105.0495976	101.3276869	97.762628	94.34694898	91.07357505
231024A00039	10/24/2023	5.06	10/26/2026		110.96544	108.8053425	106.6989427	104.6445384	102.6404989	100.685257	98.77730604	96.91519719	95.09753654
231024A00046	10/24/2023	4.96	10/24/2028		121.67054	117.2376526	112.9959989	108.936254	105.0495976	101.3276869	97.762628	94.34694898	91.07357505
231024A00076	10/24/2023	5.31	4/24/2025		102.76499	102.1896006	101.6206707	101.0580958	100.5017697	99.95158846	99.40745046	98.86925635	98.33690894
231024A00079	10/24/2023	5.18	10/24/2025		105.42829	104.3303337	103.2553771	102.2026995	101.1716119	100.1614537	99.17159086	98.20141481	97.25034112
231024A00082	10/24/2023	5.05	10/23/2026		110.89842	108.7474291	106.6497786	104.6037834	102.6078288	100.6603624	98.75989174	96.9049813	95.09424983
231025A00003	10/25/2023	5.07	10/24/2025		105.39721	104.2981419	103.2221184	102.1684171	101.1363473	100.1252463	99.13447856	98.16343381	97.21152607
231025A00004	10/25/2023	5.07	10/24/2025		105.39721	104.2981419	103.2221184	102.1684171	101.1363473	100.1252463	99.13447856	98.16343381	97.21152607
231025A00009	10/25/2023	5.49	10/21/2024		100.26625	100.2078594	100.1495503	100.0913241	100.0331806	99.97511985	99.9171415	99.85924542	99.80143142
231025A00013	10/25/2023	5.08	10/26/2026		111.00741	108.8468705	106.7400304	104.6851944	102.6807317	100.7250749	98.81671707	96.95420913	95.13615697
231025A00018	10/25/2023	5.19	10/27/2025		105.48602	104.3792883	103.295906	102.2351404	101.1962871	100.1786708	99.18164388	98.20458465	97.24689634
231025A00024	10/25/2023	5	10/25/2028		121.85087	117.4113866	113.1634793	109.0978036	105.2055198	101.4782673	97.90813538	94.4876364	91.20968094
231025A00036	10/25/2023	5.08	10/21/2026		110.93028	108.7845437	106.6919242	104.65075	102.6594163	100.7163802	98.82015821	96.96932326	95.1625021
231025A00068	10/25/2023	5.33	4/25/2025		102.79089	102.2126366	101.6409079	101.0755943	100.5165881	99.96378395	99.41707891	98.87637228	98.34156554
231027A00015	10/27/2023	5.08	2/23/2026		107.20928	105.7702683	104.3578277	102.9712829	101.6099814	100.2732924	98.9606054	97.67132982	96.40489403
231027A00019	10/27/2023	4.99	10/27/2026		110.83369	108.6722129	106.5645138	104.5088917	102.5037116	100.5474021	98.63845281	96.77541112	94.95687972
231027A00021	10/27/2023	5.13	10/30/2025		105.46728	104.3522091	103.2608354	102.192411	101.1462162	100.1215612	99.11778464	98.13425186	97.17035375
231027A00024	10/27/2023	5.46	10/28/2024		100.35018	100.2723427	100.1946362	100.1170553	100.0395997	99.96226907	99.88506319	99.80798173	99.7310244
231027A00028	10/27/2023	4.92	10/23/2028		121.49044	117.0641338	112.8287247	108.774902	104.8938648	101.1772883	97.61729527	94.20642949	90.93763078
231027A00035	10/27/2023	4.99	10/30/2026		110.87922	108.7088664	106.5926418	104.5288316	102.5157849	100.5519155	98.63569879	96.76566901	94.94041617
231027A00036	10/27/2023	5.13	11/3/2025		105.52966	104.402972	103.3004741	102.2213895	101.1649764	100.1305247	99.11735309	98.12480864	97.15226473
231027A00043	10/27/2023	4.99	10/27/2026		110.83369	108.6722129	106.5645138	104.5088917	102.5037116	100.5474021	98.63845281	96.77541112	94.95687972
231030A00007	10/30/2023	5.32	4/30/2025		102.85739	102.2650256	101.6794977	101.1006862	100.5284759	99.96275443	99.40341174	98.85034033	98.30343511
231030A00035	10/30/2023	4.85	10/30/2028		121.66679	117.2064313	112.9393599	108.8561082	104.9477253	101.2057469	97.62216611	94.18940629	90.900295
231030A00057	10/30/2023	5.52	10/30/2024		100.37965	100.2962637	100.213014	100.1299034	100.0469316	99.96409827	99.88140313	99.79884582	99.716426
231030A00061	10/30/2023	5.32	4/30/2025		102.85739	102.2650256	101.6794977	101.1006862	100.5284759	99.96275443	99.40341174	98.85034033	98.30343511
231031A00021	10/31/2023	5.18	10/30/2025		105.52203	104.4066338	103.3149448	102.2462096	101.1997086	100.1747518	99.17067779	98.18685174	97.2226645
231031A00022	10/31/2023	5.04	10/30/2026		110.98473	108.8132325	106.6958953	104.6309947	102.6168791	100.6519618	98.73471754	96.86367991	95.03743843
231031A00033	10/31/2023	5.05	10/30/2026		111.00583	108.8341057	106.716546	104.6514273	102.637098	100.6719711	98.75452129	96.88328209	95.05684288
231031A00035	4/30/2024	5.25	4/30/2025		102.81625	102.2240242	101.6386326	101.0599562	100.48788	99.92229139	99.36308055	98.81013993	98.26336445
231031A00040	4/30/2024	5.1	10/31/2025		105.44984	104.3320501	103.2380774	102.167164	101.1185854	100.091647	99.08568254	98.10005327	97.13414593
231101A00016	11/1/2023	4.99	11/3/2025		105.46463	104.3369883	103.2335824	102.1536323	101.0963946	100.0611568	99.04723634	98.05397831	97.08075457

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231101A00017	11/1/2023	5.25	5/1/2025		102.83075	102.2357087	101.6475683	101.066208	100.4915108	99.92336269	99.361652	98.80626971	98.25710921
231102A00022	11/2/2023	4.91	11/10/2026		110.87784	108.6759712	106.5295854	104.4368991	102.3962001	100.405844	98.46425143	96.56990481	94.72134524
231102A00024	11/2/2023	4.78	11/2/2028		121.05277	116.6062965	112.3527127	108.2825582	104.3868931	100.6572644	97.08567617	93.66456233	90.38676107
231102A00025	11/2/2023	4.9	12/8/2026		111.2797	108.9934979	106.7664255	104.5965186	102.481898	100.420762	98.41138305	96.45210329	94.54133159
231102A00026	11/2/2023	4.9	1/12/2027		111.79873	109.4089198	107.083003	104.8188433	102.6143901	100.4676764	98.37681549	96.33999616	94.35547946
231102A00027	11/2/2023	4.89	2/9/2027		112.1986	109.7231984	107.3158657	104.9743495	102.6964868	100.4801983	98.32348492	96.22442383	94.18116535
231102A00028	11/2/2023	4.88	3/9/2027		112.6069	110.0426246	107.5510198	105.129608	102.7760109	100.4879452	98.26321858	96.09972524	93.995442
231102A00029	11/2/2023	4.88	4/13/2027		113.12631	110.4561014	107.8640375	105.3473572	102.9034169	100.5296827	98.22372578	95.98321676	93.80592122
231102A00030	11/2/2023	4.87	5/11/2027		113.51958	110.7638136	108.0904085	105.4963835	102.9788865	100.5351879	98.16267436	95.85884292	93.6212955
231102A00031	11/2/2023	5.1	11/3/2025		105.49648	104.369988	103.267683	102.1887883	101.1325625	100.0982952	99.08530539	98.09294015	97.1205729
231102A00032	11/2/2023	4.91	11/2/2026		110.75587	108.5783004	106.4552016	104.3848345	102.3655328	100.3956956	98.47378422	96.59831983	94.76788004
231102A00033	11/2/2023	4.83	11/2/2027		115.95743	112.6664709	109.4884025	106.4186818	103.4529818	100.5871754	97.81732519	95.13967307	92.55063118
231102A00039	11/2/2023	4.91	10/28/2026		110.68051	108.5178822	106.4091126	104.3524972	102.3463965	100.3892353	98.47949932	96.61573256	94.79653431
231102A00041	11/2/2023	5.46	11/1/2024		100.40022	100.3112734	100.2224856	100.1338556	100.0453832	99.9570679	99.86890929	99.78090696	99.69306051
231102A00064	1/22/2024	5.01	1/22/2026		106.60765	105.2623313	103.9433745	102.6500252	101.3815545	100.1372615	98.91647162	97.71853572	96.54282866
231102A00070	2/15/2024	4.86	2/16/2027		112.23701	109.7395349	107.3112734	104.9499165	102.6532482	100.4191391	98.24554242	96.13049026	94.07209012
231103A00002	11/3/2023	4.67	11/29/2027		115.84111	112.4729798	109.2226004	106.0851437	103.0560087	100.1308127	97.30537868	94.57572467	91.93805294
231103A00005	11/3/2023	5.12	5/5/2025		102.81055	102.204504	101.6056269	101.0137882	100.428864	99.85073356	99.2792787	98.7143841	98.15593707
231103A00007	11/3/2023	5.05	8/4/2025		104.06963	103.2055583	102.3558891	101.5202645	100.6983378	99.88977367	99.09424756	98.31144542	97.54106323
231103A00008	11/3/2023	4.97	11/3/2025		105.3527	104.2270572	103.1255879	102.0475165	100.9921019	99.95863393	98.946432	97.95484333	96.98324167
231103A00029	11/3/2023	4.75	11/3/2026		110.43172	108.254792	106.1323805	104.0627494	102.0442285	100.0752136	98.15416303	96.27959476	94.45008373
231103A00034	11/3/2023	4.49	11/3/2028		120.22269	115.7802281	111.5310375	107.4656248	103.5750133	99.85071577	96.28470532	92.86938722	89.59757338
231106A00007	11/6/2023	4.78	11/5/2027		115.84428	112.546339	109.3617737	106.2860196	103.314721	100.4437241	97.66906665	94.98696719	92.39381601
231106A00016	11/6/2023	5.39	11/6/2024		100.45845	100.3556401	100.2530499	100.1506787	100.0485257	99.94659026	99.84487166	99.74336917	99.64208207
231106A00020	11/6/2023	5.02	11/6/2025		105.45397	104.3193068	103.2091857	102.1228194	101.0594499	100.018351	98.99882707	98.00021096	97.02186294
231107A00005	11/7/2023	5.39	11/15/2024		100.57442	100.4466049	100.3191306	100.1919949	100.0651964	99.93873362	99.81260529	99.68681003	99.56134646
231107A00008	11/7/2023	5.17	5/7/2025		102.86918	102.2573995	101.6529202	101.0556113	100.4653454	99.88199826	99.30544844	98.73557738	98.17226927
231107A00009	11/7/2023	5.03	11/7/2025		105.48047	104.3428359	103.2298713	102.1407802	101.074799	100.0311961	99.00927068	98.00835102	97.02779279
231107A00011	11/7/2023	4.84	11/9/2026		110.71294	108.5157401	106.3738643	104.2855345	102.249045	100.2627579	98.32509984	96.43455882	94.58968137
231107A00028	11/7/2023	5.4	11/7/2024		100.47239	100.3668059	100.2614517	100.1563293	100.0514376	99.94677612	99.8423439	99.73814019	99.63416423
231108A00011	11/8/2023	5.06	5/8/2025		102.86531	102.2501646	101.6423988	101.0418838	100.4484902	99.8620914	99.28256402	98.70978748	98.14364403
231108A00015	11/8/2023	4.83	11/9/2026		110.69156	108.4945939	106.3529463	104.2648401	102.2285697	100.2424974	98.30505	96.41471553	94.57004068
231108A00026	11/8/2023	5.04	11/7/2025		105.49164	104.3539403	103.2409102	102.1517546	101.0857098	100.0420443	99.02005719	98.0190767	97.03845852

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231108A00028	11/8/2023	4.83	11/9/2026		110.69156	108.4945939	106.3529463	104.2648401	102.2285697	100.2424974	98.30505	96.41471553	94.57004068
231109A00014	5/17/2024	5.03	5/16/2025		102.9092	102.2723364	101.6433877	101.0222045	100.4086433	99.80256401	99.20383013	98.6123083	98.02786844
231109A00025	11/9/2023	4.75	11/9/2028		119.91729	115.6815965	111.629371	107.7515279	104.039491	100.4851587	97.08087431	93.81939911	90.69388679
231109A00026	11/9/2023	5.19	5/9/2025		102.90999	102.2925273	101.6825031	101.0797815	100.4842314	99.89572519	99.31413809	98.73934828	98.17123684
231113A00007	11/13/2023	4.86	11/13/2028		121.54601	117.0566124	112.7630479	108.6556558	104.7253094	100.9633821	97.36171707	93.91259897	90.60872716
231113A00034	11/13/2023	5.16	11/13/2025		105.71999	104.5640378	103.4335154	102.3275897	101.2454624	100.1863695	99.14957933	98.13439117	97.14013323
231113A00036	11/13/2023	5.3	5/15/2025		103.06521	102.430566	101.8037755	101.1846887	100.5731638	99.96906257	99.37224994	98.78259425	98.19996696
231113A00038	11/13/2023	4.97	11/13/2026		111.05253	108.8401249	106.6836141	104.5811965	102.5311413	100.5317871	98.58153843	96.6788622	94.82228505
231114A00025	11/14/2023	5.13	5/14/2025		102.94407	102.3126271	101.6889654	101.0729372	100.4644026	99.86322521	99.26927174	98.68241222	98.10251976
231114A00026	11/14/2023	4.97	11/14/2025		105.51977	104.3622125	103.2301892	102.122862	101.0394274	99.9791163	98.94119254	97.92495088	96.92971545
231114A00027	11/14/2023	4.76	11/13/2026		110.60123	108.3937619	106.2420908	104.1444154	102.099008	100.1042098	98.15842795	96.26013181	94.40785045
231114A00028	11/14/2023	4.68	11/15/2027		115.67276	112.348295	109.1389476	106.0400456	103.0471344	100.1559681	97.3624977	94.66286119	92.05337315
231114A00032	11/14/2023	5.35	11/14/2024		100.55654	100.4315121	100.3068094	100.1824315	100.0583769	99.93464436	99.81123257	99.68814025	99.56536611
231114A00046	11/14/2023	4.62	11/14/2028		120.55279	116.0810129	111.8046433	107.7140308	103.8000584	100.0541092	96.46803603	93.03413289	89.74510858
231114A00072	11/14/2023	4.67	11/15/2027		115.64101	112.3170497	109.108193	106.009769	103.0173235	100.126611	97.33358314	94.63437802	92.02531065
231114A00074	11/14/2023	4.6	11/14/2028		120.46881	115.9987742	111.7240903	107.6351096	103.7227174	99.97829876	96.39370843	92.96124234	89.67361106
231115A00039	11/15/2023	4.85	11/16/2026		110.83989	108.6211876	106.4587054	104.3506276	102.2952077	100.2907693	98.33570288	96.42846203	94.5675609
231117A00001	11/17/2023	4.99	11/12/2025		105.51201	104.3601251	103.2335282	102.131392	101.0529243	99.99736687	98.96399369	97.95210912	96.96104635
231117A00002	11/17/2023	4.76	11/12/2026		110.5864	108.3819645	106.2331994	104.1383081	102.0955689	100.1033283	98.15999852	96.264054	94.41402834
231117A00003	11/17/2023	4.59	11/17/2028		120.46819	115.9892645	111.7064065	107.6099159	103.6906297	99.9398889	96.3495072	92.91174253	89.61927025
231120A00027	11/20/2023	5.4	10/16/2024		100.20059	100.1560921	100.1116542	100.0672734	100.0229496	99.97868269	99.93447251	99.89031898	99.84622197
231120A00028	11/20/2023	5.38	11/13/2024		100.54743	100.4251791	100.3032391	100.1816101	100.0602907	99.93927979	99.81857615	99.69817854	99.57808577
231121A00015	11/21/2023	4.75	11/30/2026		110.83146	108.5725523	106.3716342	104.2268041	102.1362339	100.0981706	98.11093199	96.17290339	94.28253436
231122A00029	11/22/2023	5.05	11/24/2025		105.76484	104.5776087	103.4171809	102.2826553	101.1731697	100.0879001	99.02605822	97.98688973	96.9696724
231122A00032	11/22/2023	5.2	5/22/2025		103.10281	102.4485994	101.802725	101.1650252	100.5353451	99.91353369	99.29944393	98.69293227	98.09385872
231122A00035	11/22/2023	5.2	5/22/2025		103.10281	102.4485994	101.802725	101.1650252	100.5353451	99.91353369	99.29944393	98.69293227	98.09385872
231122A00044	11/22/2023	5.38	11/22/2024		100.66311	100.5158185	100.3689647	100.2225511	100.0765756	99.93103639	99.78593133	99.64125851	99.49701598
231127A00024	11/27/2023	4.78	11/27/2026		110.85268	108.6021687	106.4092776	104.2721154	102.1888717	100.1578098	98.17726317	96.24563177	94.36137902
231127A00025	11/27/2023	4.68	11/29/2027		115.87325	112.504605	109.2537231	106.1157769	103.0861651	100.1605045	97.33461779	94.60452248	91.9664205
231127A00026	11/27/2023	4.61	11/27/2028		120.69082	116.1775416	111.8628823	107.73696	103.7904452	100.0145243	96.400868	92.94160148	89.62927711
231127A00065	11/27/2023	5.03	11/26/2025		105.77228	104.5793585	103.4134941	102.2737711	101.1593157	100.0692926	99.00290324	97.95938332	96.93800134
231128A00002	11/28/2023	4.41	11/30/2028		120.25469	115.7311942	111.4074768	107.2735652	103.3200481	99.53803635	95.91913056	92.45539129	89.13931091
231128A00003	11/28/2023	4.41	11/30/2028		120.25469	115.7311942	111.4074768	107.2735652	103.3200481	99.53803635	95.91913056	92.45539129	89.13931091



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231128A00009	11/28/2023	4.73	12/14/2026		110.98874	108.6891268	106.4493494	104.2674104	102.1413958	100.0694713	98.04987829	96.08093007	94.16100819
231129A00006	11/29/2023	4.25	11/29/2028		119.56137	115.0554029	110.7484899	106.6307045	102.6926702	98.92553036	95.32091626	91.87091726	88.56805287
231129A00039	11/29/2023	4.97	5/30/2025		103.06341	102.3871196	101.7197238	101.061047	100.4109187	99.76917338	99.13564941	98.51018942	97.89264003
231129A00073	11/29/2023	4.81	5/29/2025		102.99636	102.3224153	101.6573085	101.0008675	100.3529235	99.71331205	99.08187312	98.45845057	97.84289227
231130A00057	11/30/2023	5.27	12/2/2024		100.7734	100.5982721	100.4237552	100.2498455	100.0765399	99.90383522	99.73172831	99.56021608	99.38929546
231130A00065	11/30/2023	5.33	10/30/2024		100.36383	100.2804562	100.1972196	100.114122	100.0311633	99.94834309	99.86566099	99.78311669	99.70070986
231130A00072	11/30/2023	4.83	12/1/2025		105.61229	104.4062783	103.227938	102.0763259	100.9505386	99.84971294	98.77302404	97.71968295	96.68893482
231130A00073	11/30/2023	4.61	11/30/2026		110.52396	108.2684822	106.0709307	103.9293987	101.8420601	99.80716373	97.82302927	95.88804385	94.00065868
231130A00074	11/30/2023	4.45	11/30/2028		120.05333	115.5444864	111.2345528	107.1136106	103.1722985	99.40177392	95.79368119	92.34012161	89.03362568
231201A00009	12/1/2023	5.27	11/25/2024		100.68457	100.5289368	100.3737897	100.2191286	100.0649512	99.91125516	99.75803828	99.6052983	99.45303297
231201A00024	12/1/2023	4.36	12/1/2028		119.68406	115.1801032	110.8750344	106.758935	102.8224372	99.0566929	95.45334152	92.00448001	88.70263509
231201A00026	12/1/2023	4.51	12/1/2026		110.31807	108.0621207	105.8641801	103.7223344	101.6347528	99.59967992	97.61543124	95.68039006	93.79300404
231201A00027	12/1/2023	5.19	12/2/2024		100.75942	100.584306	100.409807	100.2359151	100.0626273	99.88994027	99.71785102	99.54635641	99.37545335
231201A00034	12/1/2023	4.62	3/2/2026		106.66022	105.2046896	103.7763841	102.3745995	100.9986596	99.64791078	98.32172097	97.01947887	95.74059307
231204A00006	12/4/2023	4.86	8/4/2025		103.90743	103.044115	102.1951915	101.360304	100.5391058	99.7312618	98.93644765	98.15434945	97.38466331
231205A00025	12/5/2023	4.61	12/15/2025		105.64926	104.4021109	103.1845395	101.9955041	100.8340081	99.69910095	98.58987532	97.50546491	96.44504201
231205A00026	12/5/2023	5.02	12/16/2024		100.91948	100.7052996	100.4920433	100.2797064	100.0682829	99.85776684	99.64815233	99.43943347	99.23160443
231206A00003	12/6/2023	5.18	12/6/2024		100.80889	100.622674	100.4371561	100.2523307	100.0681939	99.8847419	99.70197077	99.5198767	99.33845588
231206A00012	12/6/2023	4.31	12/6/2028		119.53451	115.019396	110.7042584	106.5790905	102.6344475	98.86141001	95.25155187	91.79690938	88.48995333
231206A00016	12/6/2023	4.74	6/6/2025		103.0578	102.3614195	101.6744741	100.9967753	100.3281369	99.66837775	99.01732158	98.37479669	97.74063586
231206A00044	12/8/2023	4.71	12/8/2025		105.57115	104.345722	103.1488824	101.9796355	100.8370331	99.72017025	98.62818259	97.56024407	96.51556491
231206A00046	12/6/2023	4.39	12/6/2027		115.03359	111.6585998	108.4022978	105.2597899	102.2264132	99.29772739	96.46950187	93.73770476	91.09849196
231206A00047	12/6/2023	4.31	12/6/2028		119.53451	115.019396	110.7042584	106.5790905	102.6344475	98.86141001	95.25155187	91.79690938	88.48995333
231206A00070	12/6/2023	4.58	12/8/2025		105.51257	104.2860138	103.0881013	101.9178331	100.7742584	99.65646992	98.56360099	97.49482345	96.44934553
231207A00010	12/7/2023	4.38	12/7/2027		115.01438	111.6368812	108.3782454	105.2335677	102.198175	99.26761722	96.43765487	93.70424775	91.06354395
231207A00011	12/7/2023	4.28	12/7/2028		119.41916	114.9036129	110.5882031	106.4629072	102.5182671	98.74535142	95.13572273	91.68140724	88.37486639
231207A00014	12/7/2023	4.7	12/8/2025		105.55912	104.3337676	103.1370035	101.9678307	100.8253014	99.70851055	98.61659371	97.54872491	96.50411441
231207A00016	12/7/2023	4.47	12/7/2026		110.31197	108.0394607	105.8257249	103.6688135	101.5668597	99.51807377	97.5207393	95.5732093	93.67390288
231207A00027	12/7/2023	4.15	12/7/2028		119.23593	114.7137585	110.3923353	106.2615938	102.3120357	98.53469197	94.92109064	91.46322549	88.15352793
231207A00034	12/7/2023	4.7	12/5/2025		105.51596	104.2993116	103.1108546	101.9496116	100.8146539	99.70509492	98.62008727	97.5588211	96.52052183
231207A00035	12/7/2023	4.47	12/7/2026		110.31197	108.0394607	105.8257249	103.6688135	101.5668597	99.51807377	97.5207393	95.5732093	93.67390288
231208A00019	3/15/2024	4.95	3/14/2025		102.04824	101.5719912	101.1000725	100.6324208	100.1689781	99.70968784	99.25449416	98.80334237	98.35617868
231208A00020	3/15/2024	4.85	6/16/2025		103.21511	102.491093	101.7772668	101.0734194	100.3793421	99.69483202	99.01969197	98.35373005	97.69675961

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231208A00021	3/15/2024	4.75	9/15/2025		104.40546	103.4224662	102.45806	101.511716	100.5829292	99.67121331	98.7760999	97.89713754	97.03389103
231208A00022	3/15/2024	4.69	12/15/2025		105.64761	104.4020063	103.185918	101.998306	100.8381767	99.7045821	98.59661741	97.5134187	96.45416047
231208A00023	3/15/2024	4.61	3/16/2026		106.83989	105.3447912	103.8783514	102.4398151	101.0284535	99.64356303	98.28446382	96.95049888	95.64103308
231211A00057	12/11/2023	4.58	12/11/2029		125.42879	119.6893071	114.2553996	109.1090439	104.2333828	99.61264182	95.2320534	91.07778682	87.13688346
231211A00071	12/11/2023	5.22	12/16/2024		100.94546	100.7314173	100.5183011	100.3061016	100.0948129	99.88442905	99.67494418	99.46635244	99.25864806
231212A00007	12/12/2023	5.16	2/5/2025		101.60238	101.2460797	100.892287	100.540973	100.1921115	99.84567694	99.50164397	99.15998762	98.82068326
231212A00008	12/12/2023	5.26	12/12/2024		100.90191	100.6989931	100.4969068	100.2956458	100.0952049	99.89557916	99.69676342	99.49875273	99.30154211
231212A00009	12/12/2023	5.01	6/12/2025		103.2735	102.5603541	101.8570944	101.1635157	100.4794185	99.80460907	99.13889865	98.48210371	97.83404561
231212A00016	12/12/2023	4.59	12/7/2026		110.57789	108.3023847	106.085714	103.9259279	101.8211575	99.7696117	97.76957226	95.8193907	93.91748461
231212A00018	12/12/2023	4.5	12/6/2027		115.38931	112.0085665	108.7466712	105.5987165	102.5600347	99.62618043	96.79291855	94.05621273	91.41221465
231212A00067	12/12/2023	4.82	12/12/2025		105.76238	104.5244735	103.3157041	102.1350465	100.9815262	99.85421343	98.75222038	97.67469903	96.62083894
231213A00018	12/13/2023	4.99	6/16/2025		103.31562	102.5911998	101.8769782	101.1727394	100.4782744	99.79338055	99.11786038	98.451522	97.79417869
231213A00019	12/13/2023	4.97	6/13/2025		103.25924	102.5433698	101.8374668	101.141319	100.4547248	99.77748798	99.10941778	98.45032858	97.80003973
231213A00044	12/13/2023	5.07	12/13/2024		100.87593	100.6702808	100.4654892	100.2615454	100.058444	99.85617972	99.65474736	99.45414169	99.25435756
231213A00049	12/13/2023	4.14	12/13/2028		118.89472	114.3731124	110.0527018	105.9233803	101.9756059	98.20037016	94.58916498	91.13395142	87.82713107
231214A00003	12/14/2023	4.7	6/16/2025		103.10743	102.3838358	101.6704332	100.9670051	100.2733431	99.58924432	98.91451153	98.24895296	97.59238202
231214A00029	12/14/2023	4.49	12/15/2025		105.4031	104.1590789	102.9445469	101.7584658	100.5998427	99.46773019	98.36122421	97.27946141	96.2216169
231214A00036	12/14/2023	4.19	12/14/2026		109.78155	107.4956556	105.2693094	103.1005256	100.9873984	98.92810109	96.92088264	94.96406351	93.05603217
231214A00058	12/14/2023	4.69	6/13/2025		103.06055	102.345466	101.6403366	100.9449549	100.2591192	99.58263364	98.91530751	98.2569553	97.60739648
231214A00074	12/14/2023	4.69	6/13/2025		103.06055	102.345466	101.6403366	100.9449549	100.2591192	99.58263364	98.91530751	98.2569553	97.60739648
231214A00075	12/14/2023	4.49	12/15/2025		105.4031	104.1590789	102.9445469	101.7584658	100.5998427	99.46773019	98.36122421	97.27946141	96.2216169
231215A00004	12/15/2023	4.07	12/15/2028		118.61885	114.0973746	109.7773817	105.6487358	101.7018697	97.9277519	94.317853	90.86411472	87.5589209
231215A00018	12/15/2023	4.19	12/15/2027		114.50021	111.1085117	107.8369296	104.6804709	101.6343853	98.69415058	95.85546009	93.11421106	90.46649328
231218A00023	12/18/2023	4.76	6/18/2025		103.17736	102.4479335	101.7288595	101.0199137	100.3208827	99.63155912	98.95174142	98.28123352	97.6198447
231218A00027	12/18/2023	4.96	2/19/2025		101.71341	101.3181626	100.925997	100.5368778	100.1507695	99.76763725	99.38744653	99.01016349	98.63575477
231218A00046	12/18/2023	4.76	6/18/2025		103.17736	102.4479335	101.7288595	101.0199137	100.3208827	99.63155912	98.95174142	98.28123352	97.6198447
231218A00052	12/18/2023	4.54	12/18/2025		105.50607	104.2529406	103.0297126	101.8353239	100.6687611	99.52905845	98.41529401	97.32658789	96.26209955
231218A00070	12/18/2023	4.6	6/18/2025		103.1197	102.3897512	101.6701678	100.9607311	100.2612271	99.57144792	98.89119131	98.22026065	97.55846471
231219A00007	12/19/2023	5.05	12/19/2024		100.94646	100.7241184	100.5027724	100.2824131	100.063034	99.84462844	99.62718993	99.41071196	99.19518811
231219A00008	12/19/2023	5.05	12/19/2024		100.94646	100.7241184	100.5027724	100.2824131	100.063034	99.84462844	99.62718993	99.41071196	99.19518811
231219A00009	12/19/2023	4.75	6/19/2025		103.18352	102.4512971	101.7295002	101.0179074	100.316303	99.62447724	98.9422264	98.26935226	97.60566207
231219A00011	12/19/2023	4.75	6/19/2025		103.18352	102.4512971	101.7295002	101.0179074	100.316303	99.62447724	98.9422264	98.26935226	97.60566207
231219A00012	12/19/2023	4.54	12/19/2025		105.52002	104.2639832	103.0379853	101.8409541	100.67187	99.52976056	98.41369828	97.32279766	96.25621301

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231219A00013	12/19/2023	4.27	12/18/2026		110.01276	107.7131515	105.4736674	103.2922924	101.1670943	99.09622177	97.07790052	95.11042906	93.19217511
231219A00015	12/19/2023	4.17	12/20/2027		114.49774	111.0920056	107.8073111	104.6386048	101.5810827	98.63017289	95.78152227	93.0309846	90.37460906
231219A00016	12/19/2023	4.27	12/18/2026		110.01276	107.7131515	105.4736674	103.2922924	101.1670943	99.09622177	97.07790052	95.11042906	93.19217511
231219A00017	12/19/2023	4.26	1/15/2027		110.35522	107.9740641	105.6568494	103.4014465	101.2058087	99.06797235	96.9860524	94.95823905	92.98279392
231219A00018	12/19/2023	4.25	2/16/2027		110.76438	108.2848983	105.8742415	103.5301109	101.2503019	99.03269593	96.87525668	94.77602633	92.73312209
231219A00019	12/19/2023	4.17	12/15/2027		114.43503	111.0443931	107.7738433	104.6183897	101.573283	98.6340017	95.79624019	93.05589647	90.40906109
231219A00020	12/19/2023	4.16	2/1/2028		115.00244	111.4671788	108.061346	104.7795224	101.6165454	98.56749426	95.62767791	92.79262261	90.05806096
231219A00021	12/19/2023	4.14	3/15/2028		115.48759	111.8175704	108.286327	104.887859	101.6164557	98.46668362	95.4333715	92.51159604	89.69666862
231219A00022	12/19/2023	4.13	4/14/2028		115.82986	112.067795	108.4508391	104.9725847	101.6269431	98.40812762	95.31063748	92.32924136	89.4589629
231219A00023	12/19/2023	4.12	6/15/2028		116.5748	112.6206636	108.82479	105.1799098	101.6791351	98.31593595	95.08411883	91.97780742	88.99142402
231219A00025	12/19/2023	4.06	12/15/2028		118.57599	114.0554198	109.7363038	105.6085064	101.6624615	97.8891387	94.2800096	90.82701697	87.52254559
231219A00060	12/19/2023	4.22	6/21/2027		112.33174	109.4752828	106.7071977	104.024161	101.4230023	98.90069341	96.45434113	94.08117968	91.77856423
231220A00008	12/20/2023	4.99	12/18/2024		100.92087	100.7013341	100.4827685	100.2651661	100.0485205	99.83282522	99.61807405	99.4042607	99.19137896
231220A00014	12/20/2023	4.99	12/20/2024		100.94541	100.7203089	100.4962214	100.2731444	100.0510709	99.82999425	99.60990756	99.39080416	99.17267739
231220A00015	12/20/2023	4.48	12/19/2025		105.446	104.1904471	102.9649243	101.7683604	100.5997359	99.45807873	98.34246149	97.25199891	96.18584546
231220A00027	12/20/2023	4.99	12/16/2024		100.89632	100.6823553	100.4693098	100.2571809	100.0459625	99.83564869	99.62623366	99.41771155	99.21007656
231220A00028	12/20/2023	4.13	12/20/2027		114.36682	110.9632259	107.6806133	104.5139338	101.4583854	98.50939803	95.66262027	92.91390757	90.25931072
231220A00030	12/20/2023	4.48	12/22/2025		105.48734	104.2230796	102.98925	101.7847629	100.6085788	99.45970685	98.33720196	97.24016228	96.16772671
231220A00031	12/20/2023	4.23	12/21/2026		109.96184	107.6544929	105.4076549	103.2192859	101.0874356	99.01023539	96.98589489	95.01269737	93.08899625
231220A00032	12/20/2023	4.57	12/19/2025		105.55703	104.3007512	103.0745158	101.877251	100.707937	99.56560148	98.44931668	97.35819704	96.29139679
231220A00034	12/20/2023	4.99	12/20/2024		100.94541	100.7203089	100.4962214	100.2731444	100.0510709	99.82999425	99.60990756	99.39080416	99.17267739
231221A00003	12/21/2023	4.39	12/22/2025		105.37556	104.1120355	102.8789279	101.6751508	100.4996651	99.35148015	98.22965129	97.13327694	96.06149626
231221A00006	12/21/2023	4.14	12/21/2026		109.75888	107.4538625	105.2093011	103.0231617	100.8934953	98.81843477	96.79619091	94.82504823	92.90336134
231221A00008	12/21/2023	3.99	12/21/2028		118.34592	113.8131393	109.4830897	105.3455306	101.3908037	97.6097934	93.99389289	90.53497259	87.22535056
231221A00014	12/21/2023	4.14	6/21/2027		112.11066	109.2572761	106.4921913	103.8120843	101.2137872	98.69427397	96.25065333	93.88016155	91.58015569
231221A00022	12/21/2023	4.01	12/21/2028		116.55667	112.4774596	108.5767402	104.8456043	101.2756394	97.85889845	94.58787187	91.45546047	88.45495095
231221A00039	12/21/2023	3.99	12/21/2028		118.34592	113.8131393	109.4830897	105.3455306	101.3908037	97.6097934	93.99389289	90.53497259	87.22535056
231221A00086	12/21/2023	4.48	6/23/2025		103.09727	102.3535094	101.62051	100.8980368	100.1858639	99.48377176	98.79154717	98.10898279	97.43587708
231221A00103	12/21/2023	4.3	12/30/2025		105.47276	104.1844678	102.927746	101.7014465	100.5044729	99.33578119	98.19437629	97.07930938	95.98967519
231221A00104	12/21/2023	4.3	12/30/2025		105.47276	104.1844678	102.927746	101.7014465	100.5044729	99.33578119	98.19437629	97.07930938	95.98967519
231222A00004	12/22/2023	4	12/22/2028		118.40064	113.8638484	109.5300674	105.3890348	101.4310743	97.64705377	94.02835089	90.56682181	87.25477133
231222A00014	12/22/2023	4.92	12/20/2024		100.92968	100.7046028	100.4805389	100.2574854	100.0354354	99.81438213	99.59431873	99.37523853	99.15713489
231222A00019	12/22/2023	4.92	12/23/2024		100.96592	100.732477	100.5001286	100.2688627	100.0386716	99.80954782	99.58148391	99.35447245	99.12850614

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231222A00027	12/22/2023	4.84	2/21/2025		101.69149	101.2907645	100.8932014	100.4987677	100.1074266	99.7191416	99.33387705	98.95159767	98.57226879
231222A00032	12/22/2023	4.94	12/16/2024		100.88564	100.6716896	100.4586595	100.2465459	100.0353428	99.82504426	99.61564442	99.40713744	99.19951754
231222A00039	12/22/2023	4.44	12/22/2025		105.43766	104.1737267	102.9402179	101.7360464	100.5601727	99.41160609	98.28940166	97.19265768	96.12051318
231226A00016	12/26/2023	3.92	12/26/2028		117.77245	113.3789457	109.1826859	105.1737003	101.3425738	97.68041534	94.17882573	90.8298681	87.62603983
231226A00024	12/26/2023	4.03	12/26/2028		118.5769	114.0249682	109.6771245	105.5230347	101.5529515	97.75767669	94.12852744	90.65730348	87.33625745
231226A00027	12/26/2023	4.22	12/28/2026		110.02997	107.7024259	105.4363262	103.2295839	101.0802044	98.9862775	96.94597357	94.95753899	93.01929237
231226A00043	12/26/2023	4.46	12/26/2025		105.51741	104.2416892	102.9969401	101.7820445	100.595936	99.4375986	98.30606359	97.20040693	96.11974662
231226A00095	12/26/2023	4.22	12/28/2026		110.02997	107.7024259	105.4363262	103.2295839	101.0802044	98.9862775	96.94597357	94.95753899	93.01929237
231226A00098	12/26/2023	4.67	6/26/2025		103.21767	102.4658607	101.7250324	100.9949434	100.2753611	99.56605945	98.86681913	98.17742683	97.49767529
231227A00005	12/27/2023	4.17	12/28/2026		109.91624	107.5900099	105.3251965	103.1197139	100.971568	98.8788496	96.83972977	94.85245555	92.91534624
231227A00013	12/27/2023	4.44	6/27/2025		103.11885	102.3638799	101.6199864	100.886927	100.164466	99.45237457	98.7504303	98.05841719	97.37612532
231227A00014	12/27/2023	4.29	12/26/2025		105.40617	104.1295965	102.8840516	101.6684105	100.4816042	99.32261415	98.19046935	97.08424347	96.00305247
231227A00023	12/27/2023	3.98	12/27/2028		118.37268	113.8222491	109.4760046	105.3235985	101.3552727	97.561819	93.93454553	90.46524381	87.14615902
231227A00026	12/27/2023	4.6	6/27/2025		103.17846	102.4240352	101.6806674	100.9481141	100.2261402	99.51451755	98.81302438	98.1214453	97.43957097
231227A00027	12/27/2023	4.42	12/26/2025		105.46729	104.1918978	102.9474752	101.7329006	100.5471079	99.38908103	98.25785157	97.15249557	96.07213117
231227A00028	12/27/2023	4.85	2/4/2025		101.47964	101.1263669	100.7755599	100.4271908	100.0812342	99.73766518	99.39645894	99.05759115	98.72103779
231227A00030	12/27/2023	4.44	6/27/2025		103.11885	102.3638799	101.6199864	100.886927	100.164466	99.45237457	98.7504303	98.05841719	97.37612532
231227A00039	12/27/2023	4.6	6/27/2025		103.17846	102.4240352	101.6806674	100.9481141	100.2261402	99.51451755	98.81302438	98.1214453	97.43957097
231228A00020	12/28/2023	4.93	12/27/2024		101.01666	100.7720659	100.5286615	100.2864378	100.0453862	99.8054982	99.56676533	99.32917926	99.09273175
231228A00022	12/28/2023	4.61	6/27/2025		103.18594	102.431488	101.6880897	100.9555061	100.2335022	99.52184988	98.82032734	98.12871918	97.44681606
231228A00023	12/28/2023	4.4	12/26/2025		105.44223	104.1670021	102.9227428	101.7083287	100.5226938	99.36482224	98.23374556	97.12853989	96.04832345
231228A00024	12/28/2023	4.15	12/28/2026		109.87075	107.5450436	105.2807447	103.0757658	100.9281134	98.83587845	96.79723224	94.81042218	92.87376779
231228A00025	12/28/2023	4.05	12/28/2027		114.20263	110.7792236	107.4782055	104.2944425	101.2230488	98.2593763	95.39900071	92.63770954	89.97149015
231228A00026	12/28/2023	3.96	12/28/2028		118.29786	113.7461753	109.3988662	105.2455673	101.2765057	97.48246015	93.85472632	90.38508449	87.06576944
231229A00002	12/29/2023	4.95	12/23/2024		101.02759	100.7844667	100.5424808	100.3016243	100.0618894	99.82326797	99.5857524	99.34933493	99.11400791
231229A00017	12/29/2023	4.42	12/29/2025		105.50814	104.2240301	102.9712966	101.7487978	100.5554474	99.39021019	98.25209986	97.14017563	96.05353984
231229A00061	12/29/2023	4.74	4/29/2025		102.50368	101.9152759	101.333631	100.7586328	100.1901677	99.62812481	99.07239568	98.52287429	97.979457
231229A00062	12/29/2023	4.74	4/29/2025		102.50368	101.9152759	101.333631	100.7586328	100.1901677	99.62812481	99.07239568	98.52287429	97.979457
231229A00063	12/29/2023	4.74	4/29/2025		102.50368	101.9152759	101.333631	100.7586328	100.1901677	99.62812481	99.07239568	98.52287429	97.979457
231229A00065	12/29/2023	4.6	7/29/2025		103.60432	102.7591	101.9277081	101.1098033	100.305059	99.51315919	98.7337977	97.96667815	97.2115134
231229A00066	12/29/2023	4.6	7/29/2025		103.60432	102.7591	101.9277081	101.1098033	100.305059	99.51315919	98.7337977	97.96667815	97.2115134
231229A00067	12/29/2023	4.6	7/29/2025		103.60432	102.7591	101.9277081	101.1098033	100.305059	99.51315919	98.7337977	97.96667815	97.2115134
231229A00068	12/29/2023	4.42	12/29/2025		105.50814	104.2240301	102.9712966	101.7487978	100.5554474	99.39021019	98.25209986	97.14017563	96.05353984

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231229A00070	12/29/2023	4.42	12/29/2025		105.50814	104.2240301	102.9712966	101.7487978	100.5554474	99.39021019	98.25209986	97.14017563	96.05353984
231229A00071	12/29/2023	4.42	12/29/2025		105.50814	104.2240301	102.9712966	101.7487978	100.5554474	99.39021019	98.25209986	97.14017563	96.05353984
240102A00029	1/2/2024	4.66	7/2/2025		103.28982	102.5210508	101.7637459	101.0176546	100.2825288	99.55812787	98.84421809	98.14057249	97.44697063
240102A00055	1/2/2024	4.23	1/4/2027		110.14334	107.7951057	105.5092717	103.2837282	101.1164528	99.00550824	96.94903789	94.94526167	92.9924722
240103A00003	1/3/2024	4.71	7/3/2025		103.34158	102.5698144	101.8096042	101.0606915	100.3228254	99.5957627	98.87926697	98.17310877	97.47706527
240103A00004	1/3/2024	4.48	1/5/2026		105.67784	104.3760675	103.1047316	101.8627626	100.6491431	99.4629027	98.30311493	97.16889501	96.0593974
240103A00005	1/3/2024	4.28	1/4/2027		110.25805	107.9084762	105.6213345	103.3945106	101.2259813	99.11380853	97.05613487	95.05117957	93.09723456
240103A00010	1/3/2024	4.84	1/18/2039		161.94702	144.67185	129.5749768	116.3627003	104.7827057	94.6180215	85.68188701	77.81338964	70.8737523
240103A00011	1/3/2024	4.84	1/18/2039		161.94702	144.67185	129.5749768	116.3627003	104.7827057	94.6180215	85.68188701	77.81338964	70.8737523
240103A00018	1/3/2024	4.28	1/4/2027		110.25805	107.9084762	105.6213345	103.3945106	101.2259813	99.11380853	97.05613487	95.05117957	93.09723456
240103A00023	3/29/2024	4.45	7/29/2025		103.47876	102.6341172	101.8032927	100.9859488	100.1817591	99.3904076	98.61158829	97.84500491	97.09037042
240103A00025	1/3/2024	4.48	1/2/2026		105.63797	104.3430035	103.0792042	101.8454526	100.6406813	99.46387322	98.31405843	97.19031155	96.09174915
240103A00026	1/3/2024	4.28	1/4/2027		110.25805	107.9084762	105.6213345	103.3945106	101.2259813	99.11380853	97.05613487	95.05117957	93.09723456
240103A00032	3/29/2024	4.45	7/29/2025		103.47876	102.6341172	101.8032927	100.9859488	100.1817591	99.3904076	98.61158829	97.84500491	97.09037042
240103A00033	3/29/2024	4.45	7/29/2025		103.47876	102.6341172	101.8032927	100.9859488	100.1817591	99.3904076	98.61158829	97.84500491	97.09037042
240103A00034	3/29/2024	4.45	7/29/2025		103.47876	102.6341172	101.8032927	100.9859488	100.1817591	99.3904076	98.61158829	97.84500491	97.09037042
240103A00035	3/29/2024	4.45	7/29/2025		103.47876	102.6341172	101.8032927	100.9859488	100.1817591	99.3904076	98.61158829	97.84500491	97.09037042
240103A00039	6/28/2024	4.11	10/29/2025		104.33783	103.2321627	102.1499796	101.0905387	100.053128	99.03706486	98.04169448	97.06638877	96.11054478
240103A00042	6/28/2024	4.11	10/29/2025		104.33783	103.2321627	102.1499796	101.0905387	100.053128	99.03706486	98.04169448	97.06638877	96.11054478
240103A00043	6/28/2024	4.11	10/29/2025		104.33783	103.2321627	102.1499796	101.0905387	100.053128	99.03706486	98.04169448	97.06638877	96.11054478
240103A00044	6/28/2024	4.11	10/29/2025		104.33783	103.2321627	102.1499796	101.0905387	100.053128	99.03706486	98.04169448	97.06638877	96.11054478
240103A00045	6/28/2024	4.11	10/29/2025		104.33783	103.2321627	102.1499796	101.0905387	100.053128	99.03706486	98.04169448	97.06638877	96.11054478
240103A00047	6/28/2024	4.05	1/29/2026		105.41742	104.0651648	102.7374174	101.4335516	100.152966	98.89507951	97.65932991	96.4451734	95.2520838
240103A00049	6/28/2024	4.05	1/29/2026		105.41742	104.0651648	102.7374174	101.4335516	100.152966	98.89507951	97.65932991	96.4451734	95.2520838
240103A00050	6/28/2024	4.05	1/29/2026		105.41742	104.0651648	102.7374174	101.4335516	100.152966	98.89507951	97.65932991	96.4451734	95.2520838
240103A00051	6/28/2024	4.05	1/29/2026		105.41742	104.0651648	102.7374174	101.4335516	100.152966	98.89507951	97.65932991	96.4451734	95.2520838
240103A00052	6/28/2024	4.05	1/29/2026		105.41742	104.0651648	102.7374174	101.4335516	100.152966	98.89507951	97.65932991	96.4451734	95.2520838
240103A00054	6/28/2024	3.94	6/29/2026		107.15522	105.3643017	103.6122297	101.8978079	100.2198871	98.57736556	96.96918643	95.39433519	93.85183768
240103A00056	6/28/2024	3.94	6/29/2026		107.15522	105.3643017	103.6122297	101.8978079	100.2198871	98.57736556	96.96918643	95.39433519	93.85183768
240103A00057	6/28/2024	3.94	6/29/2026		107.15522	105.3643017	103.6122297	101.8978079	100.2198871	98.57736556	96.96918643	95.39433519	93.85183768
240103A00058	6/28/2024	3.94	6/29/2026		107.15522	105.3643017	103.6122297	101.8978079	100.2198871	98.57736556	96.96918643	95.39433519	93.85183768
240103A00059	6/28/2024	3.94	6/29/2026		107.15522	105.3643017	103.6122297	101.8978079	100.2198871	98.57736556	96.96918643	95.39433519	93.85183768
240104A00014	1/4/2024	4.72	7/3/2025		103.34923	102.5774322	101.8171901	101.0682458	100.3303485	99.60325489	98.88672856	98.1805401	97.48446663



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240104A00064	1/4/2024	5.04	1/3/2025		101.13191	100.8677669	100.6050067	100.3436184	100.0835912	99.82491469	99.56757818	99.31157129	99.05688373
240104A00068	1/4/2024	4.76	7/3/2025		103.37983	102.6079033	101.8475336	101.0984631	100.3604409	99.63322363	98.91657496	98.2102654	97.51407207
240105A00011	1/5/2024	5.06	12/5/2024		100.82999	100.6392149	100.4491429	100.2597697	100.0710915	99.88310441	99.69580458	99.50918823	99.32325159
240105A00015	1/5/2024	4.99	1/6/2025		101.15709	100.8846216	100.6136316	100.3441053	100.0760307	99.80939608	99.54418979	99.28040031	99.01801626
240105A00017	1/5/2024	4.29	1/5/2027		110.29408	107.941319	105.6511347	103.4214098	101.2501187	99.13532095	97.07515655	95.06784195	93.11166622
240105A00019	1/5/2024	5.02	12/5/2024		100.82222	100.6315162	100.4415117	100.2522059	100.0635947	99.87567445	99.6884412	99.5018912	99.31602066
240105A00028	1/5/2024	4.76	7/7/2025		103.43496	102.6516972	101.8803304	101.1205936	100.3722248	99.63496963	98.90858152	98.19282101	97.48745569
240108A00018	1/8/2024	4.94	1/8/2025		101.16879	100.8907781	100.6143088	100.339365	100.065934	99.7940033	99.52356043	99.25459315	98.98708932
240108A00020	1/8/2024	4.68	7/8/2025		103.38644	102.6006026	101.8267489	101.0646055	100.3139076	99.57439813	98.84582799	98.12795526	97.42054516
240108A00022	1/8/2024	4.46	1/8/2026		105.69192	104.3835207	103.1048162	101.8547957	100.6324924	99.43698286	98.2673846	97.12285391	96.00258366
240108A00023	1/8/2024	4.27	1/8/2027		110.28724	107.9262564	105.6282542	103.3911095	101.2127908	99.09135084	97.02492244	95.01171447	93.05000803
240108A00032	1/8/2024	5.14	10/16/2024		100.24632	100.2002444	100.1542244	100.1082635	100.0623617	100.0165187	99.97073451	99.92500897	99.87934197
240108A00033	1/8/2024	4.96	1/2/2025		101.15036	100.8783959	100.6078447	100.3386924	100.0709281	99.80454114	99.53952091	99.27585692	99.01353878
240108A00034	1/8/2024	5.07	11/4/2024		100.45956	100.3586503	100.2579445	100.1574401	100.0571367	99.95703355	99.85713005	99.7574256	99.65791958
240108A00035	1/8/2024	5.04	12/2/2024		100.78844	100.6064853	100.425161	100.2444684	100.0644042	99.88496521	99.70614811	99.52794969	99.35036674
240108A00037	1/8/2024	4.69	7/8/2025		103.39423	102.6083578	101.8344712	101.0722952	100.321565	99.5820236	98.85342188	98.13551789	97.42807685
240108A00038	1/8/2024	4.13	1/8/2029		119.16409	114.562609	110.1687793	105.972047	101.9624607	98.13062938	94.46768773	90.96526305	87.61544514
240108A00040	1/8/2024	4.13	1/8/2029		119.16409	114.562609	110.1687793	105.972047	101.9624607	98.13062938	94.46768773	90.96526305	87.61544514
240108A00041	1/9/2024	4.13	1/9/2029		119.17599	114.5714108	110.1747334	105.9753914	101.9634199	98.12941493	94.46449867	90.96028647	87.60885667
240108A00047	1/11/2024	4.95	1/10/2025		101.1969	100.9133228	100.6313434	100.3509522	100.0721355	99.79488013	99.51917278	99.24500046	98.97235028
240108A00049	1/11/2024	4.95	1/10/2025		101.1969	100.9133228	100.6313434	100.3509522	100.0721355	99.79488013	99.51917278	99.24500046	98.97235028
240109A00006	1/9/2024	4.71	7/9/2025		103.42345	102.6346774	101.857975	101.093067	100.3396859	99.597572	98.86647345	98.14614581	97.43635187
240109A00025	1/9/2024	4.47	1/9/2026		105.71808	104.4073173	103.1260124	101.8731666	100.6478297	99.44909417	98.27609218	97.12799373	96.00400451
240109A00030	1/9/2024	4.99	1/9/2025		101.19544	100.9146211	100.6353745	100.3576848	100.0815388	99.80692354	99.53382627	99.26223434	98.99213522
240109A00031	1/9/2024	4.73	7/9/2025		103.43908	102.6502429	101.873474	101.1085004	100.3550544	99.61287623	98.88171409	98.16132353	97.45146732
240109A00042	1/9/2024	3.99	1/9/2029		118.9445	114.3340583	109.9321238	105.7280894	101.7119487	97.87425924	94.20610734	90.69907516	87.34521025
240109A00048	1/9/2024	4.12	1/9/2029		119.13242	114.5287826	110.1330102	105.9345434	101.9234186	98.09023292	94.4261097	90.92266532	87.57197915
240110A00001	1/10/2024	4.42	1/9/2026		105.65348	104.3431596	103.0622873	101.8098667	100.5849479	99.38662333	98.21402557	97.06632475	95.94272672
240110A00003	1/10/2024	4.78	1/10/2025		101.17097	100.8871854	100.6050107	100.3244282	100.0454242	99.76798542	99.49209849	99.21775034	98.944928
240110A00010	1/10/2024	4.42	1/12/2026		105.69285	104.3757241	103.0873117	101.826672	100.5929059	99.38515373	98.20259222	97.04443313	95.90992118
240110A00017	1/10/2024	4.94	1/6/2025		101.19491	100.9114152	100.6294556	100.3490222	100.0701026	99.79268454	99.51675583	99.24230445	98.96931852
240110A00021	1/10/2024	4.13	1/10/2028		114.62741	111.1604905	107.8186024	104.5964933	101.4891692	98.49187634	95.60008817	92.80949259	90.11598047
240110A00029	1/10/2024	4.5	7/10/2025		103.33544	102.5434297	101.7635921	100.9956521	100.2393383	99.49438776	98.7605452	98.03756305	97.32520104

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240111A00016	1/11/2024	4.63	7/11/2025		103.38777	102.593593	101.8116579	101.0416814	100.2833901	99.53651903	98.80081097	98.07601654	97.36189371
240111A00020	1/11/2024	4.93	1/13/2025		101.22909	100.9371659	100.6469361	100.3583894	100.0715109	99.78628618	99.50270084	99.22074064	98.94039155
240111A00021	1/11/2024	4.47	7/11/2025		103.32511	102.5303578	101.7478693	100.977361	100.2185586	99.47119647	98.73501668	98.00976915	97.2952112
240111A00025	1/11/2024	4.19	1/11/2027		110.14124	107.7736733	105.4694514	103.226453	101.0426413	98.91606322	96.8448453	94.82718954	92.86136982
240111A00028	1/11/2024	4.09	1/11/2029		119.02531	114.4182846	110.0195398	105.8184873	101.8051401	97.97007298	94.30438756	90.79967946	87.44800811
240111A00031	1/11/2024	4.19	1/11/2027		110.14124	107.7736733	105.4694514	103.226453	101.0426413	98.91606322	96.8448453	94.82718954	92.86136982
240111A00053	1/11/2024	4.93	1/10/2025		101.19125	100.9076746	100.6257055	100.3453243	100.0665178	99.7892724	99.51357505	99.2394127	98.96677244
240112A00014	1/12/2024	4.8	1/10/2025		101.20384	100.9091512	100.616126	100.3247549	100.0350238	99.74691892	99.46042636	99.17553259	98.89222415
240112A00015	1/12/2024	4.78	1/17/2025		101.23421	100.9312132	100.6300486	100.3306954	100.0331373	99.73735789	99.44334129	99.15107161	98.86053322
240112A00021	1/12/2024	4.8	1/13/2025		101.19123	100.8993753	100.609215	100.3207375	100.033928	99.74877188	99.46525488	99.18336273	98.9030814
240112A00022	1/12/2024	4.24	1/12/2026		105.4588	104.1432765	102.8564406	101.5973503	100.3651074	99.1588529	97.97776425	96.8210539	95.6879672
240112A00027	1/12/2024	4.79	1/15/2025		101.21278	100.9153512	100.6196895	100.3257745	100.0335908	99.74312283	99.45435555	99.16727389	98.881863
240112A00033	1/12/2024	4.46	7/11/2025		103.25395	102.4603525	101.6789888	100.9095776	100.1518456	99.40552777	98.67036717	97.94611448	97.23252776
240112A00034	1/12/2024	4.46	7/11/2025		103.25395	102.4603525	101.6789888	100.9095776	100.1518456	99.40552777	98.67036717	97.94611448	97.23252776
240112A00036	1/12/2024	4.07	1/12/2027		109.87608	107.5088593	105.2050566	102.9625473	100.7792945	98.65334465	96.58282354	94.56593223	92.60094353
240112A00040	1/12/2024	4.24	1/12/2026		105.4588	104.1432765	102.8564406	101.5973503	100.3651074	99.1588529	97.97776425	96.8210539	95.6879672
240112A00044	1/12/2024	4.24	1/12/2026		105.4588	104.1432765	102.8564406	101.5973503	100.3651074	99.1588529	97.97776425	96.8210539	95.6879672
240112A00047	1/12/2024	4.46	7/14/2025		103.29281	102.4907128	101.70111	100.9237108	100.1582334	99.40440465	98.66195949	97.930641	97.21019991
240112A00050	1/12/2024	4.3	7/11/2025		103.19125	102.3970722	101.6151558	100.8452134	100.086971	99.34016278	98.60453109	97.87982592	97.16580468
240112A00052	1/12/2024	4.07	1/12/2027		109.87608	107.5088593	105.2050566	102.9625473	100.7792945	98.65334465	96.58282354	94.56593223	92.60094353
240116A00006	1/16/2024	4.5	7/16/2025		103.35076	102.542851	101.747614	100.9647505	100.1939728	99.43500211	98.68756801	97.95140842	97.22626911
240116A00008	1/16/2024	4.81	1/17/2025		101.24328	100.9402656	100.6390838	100.3397136	100.0421384	99.7463421	99.45230864	99.16002219	98.86946709
240116A00052	1/16/2024	4.65	1/16/2025		101.20652	100.9060822	100.6074431	100.3105875	100.0154994	99.72216276	99.43056204	99.14068168	98.85250636
240116A00083	1/16/2024	4.53	7/16/2025		103.37479	102.5667762	101.771435	100.9884685	100.2175888	99.45851727	98.7109834	97.9747251	97.24948812
240117A00021	1/17/2024	4.06	1/17/2029		119.3457	114.703758	110.2725738	106.0414183	102.0001672	98.1392647	94.44968818	90.92291549	87.55089434
240117A00023	1/17/2024	4.13	1/19/2027		110.29846	107.9029614	105.5721191	103.3037857	101.0958982	98.94647657	96.85361898	94.81549867	92.83036017
240117A00024	1/17/2024	4.78	1/17/2025		101.25788	100.9545813	100.6531112	100.3534574	100.0556034	99.7595329	99.46522982	99.17267822	98.88186237
240117A00054	1/17/2024	4.22	1/18/2028		115.02838	111.5322889	108.1629324	104.9149954	101.7834211	98.76339383	95.8503254	93.03984334	90.32777923
240118A00004	1/18/2024	4.74	1/17/2025		101.24579	100.9425097	100.6410625	100.3414315	100.0436002	99.74755227	99.45327169	99.16074248	98.86994892
240118A00020	1/18/2024	4.25	2/18/2027		110.79247	108.3065146	105.8897082	103.5397436	101.2544008	99.03154676	96.86913129	94.76518352	92.71780825
240119A00003	1/19/2024	4.68	7/21/2025		103.56276	102.7400107	101.9303768	101.1335471	100.3492192	99.57709984	98.81690508	98.0683597	97.33119689
240119A00007	1/19/2024	4.23	1/19/2029		119.73346	115.0883761	110.6540391	106.4197289	102.3753324	98.51130286	94.81862523	91.28878355	87.9137305
240119A00008	1/19/2024	4.89	1/24/2025		101.35498	101.0323889	100.7118604	100.3933749	100.0769129	99.76245498	99.44998215	99.13947556	98.83091664

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240119A00013	1/19/2024	4.88	1/31/2025		101.43907	101.0969252	100.7570808	100.4195182	100.0842143	99.75114682	99.42029329	99.09163177	98.76514056
240119A00022	1/19/2024	4.9	1/30/2025		101.43337	101.0940023	100.7569054	100.4220558	100.089431	99.75900892	99.43076779	99.10468607	98.78074252
240119A00024	1/19/2024	4.49	1/20/2026		105.89042	104.5544808	103.2453078	101.9621118	100.7041311	99.47063448	98.26091893	97.07430867	95.9101537
240119A00028	1/19/2024	4.48	1/13/2026		105.78416	104.4642254	103.172771	101.9088722	100.6716469	99.46025077	98.27387542	97.11174628	95.97312086
240119A00029	1/19/2024	4.3	1/13/2027		110.42198	108.0455753	105.7328592	103.4817025	101.2900621	99.15597836	97.07757102	95.05303506	93.0806372
240119A00044	1/23/2024	4.23	1/23/2029		119.78219	115.1246358	110.6788443	106.4340417	102.3800598	98.50729879	94.80669285	91.26967721	87.88815788
240122A00002	1/22/2024	4.66	7/22/2025		103.55997	102.734451	101.9221335	101.1227047	100.3358591	99.56130077	98.79874293	98.04790777	97.30852598
240122A00005	1/22/2024	4.45	1/22/2026		105.86394	104.5238169	103.2099672	101.9216374	100.6581012	99.41865998	98.20264153	97.00939884	95.8383089
240122A00006	1/22/2024	4.25	1/22/2027		110.42284	108.0214736	105.6850329	103.4113659	101.19841	99.04418415	96.94678521	94.90438403	92.91522218
240122A00014	1/22/2024	4.93	1/16/2025		101.31539	101.0032202	100.692919	100.3844721	100.0778628	99.77307466	99.47009134	99.16889675	98.869475
240122A00015	1/22/2024	4.93	1/16/2025		101.31539	101.0032202	100.692919	100.3844721	100.0778628	99.77307466	99.47009134	99.16889675	98.869475
240122A00016	1/22/2024	4.66	7/22/2025		103.55997	102.734451	101.9221335	101.1227047	100.3358591	99.56130077	98.79874293	98.04790777	97.30852598
240122A00050	1/22/2024	4.25	1/22/2027		110.42284	108.0214736	105.6850329	103.4113659	101.19841	99.04418415	96.94678521	94.90438403	92.91522218
240122A00081	1/22/2024	4.93	1/22/2025		101.34262	101.0255915	100.710555	100.3974947	100.0863921	99.77722871	99.46998634	99.16464706	98.86119314
240123A00017	1/23/2024	5.08	11/22/2024		100.67232	100.5196207	100.3673814	100.215599	100.0642714	99.91339647	99.76297219	99.61299651	99.46346742
240123A00037	1/23/2024	4.2	1/17/2029		119.57772	114.9417126	110.5158426	106.2894289	102.2523893	98.39520709	94.70889602	91.18496761	87.81540083
240123A00057	1/23/2024	4.48	1/23/2026		105.91708	104.5743959	103.2577514	101.9664064	100.6996519	99.45680545	98.23721011	97.04023316	95.86526495
240125A00007	1/25/2024	4.27	1/25/2027		110.50883	108.0981263	105.7527751	103.4706261	101.2496094	99.08773596	96.9830942	94.93384617	92.93822433
240125A00019	1/25/2024	4.98	12/18/2024		100.96869	100.7408803	100.514078	100.2882769	100.0634704	99.83965196	99.6168149	99.39495273	99.17405898
240125A00035	1/25/2024	4.89	1/24/2025		101.35498	101.0323889	100.7118604	100.3933749	100.0769129	99.76245498	99.44998215	99.13947556	98.83091664
240125A00040	1/25/2024	4.24	12/15/2026		109.90634	107.6162522	105.3858778	103.2132176	101.0963586	99.03346769	97.02278753	95.06263273	93.15138621
240125A00061	1/25/2024	4.64	7/25/2025		103.58398	102.7499989	101.929486	101.1221177	100.3275794	99.54556661	98.77578432	98.0179468	97.27177715
240125A00068	1/25/2024	4.11	1/25/2028		115.03376	111.5107863	108.1163099	104.8449421	101.6915536	98.65125742	95.71939629	92.89153019	90.16342512
240125A00069	1/25/2024	4.11	1/25/2028		115.03376	111.5107863	108.1163099	104.8449421	101.6915536	98.65125742	95.71939629	92.89153019	90.16342512
240126A00004	1/26/2024	4.9	1/21/2025		101.36775	101.0412416	100.716781	100.3943445	100.0739129	99.75546759	99.43899005	99.12446202	98.81186543
240126A00006	1/26/2024	4.89	1/31/2025		101.44249	101.1003291	100.7604775	100.4229077	100.0875967	99.75452212	99.42366152	99.09499298	98.76849478
240126A00007	1/26/2024	4.9	1/24/2025		101.40519	101.0699288	100.7368175	100.4058349	100.0769604	99.75017391	99.42545563	99.10278589	98.7821453
240126A00031	1/26/2024	4.31	1/26/2026		105.83822	104.4878228	103.1627787	101.8624004	100.5860298	99.33303247	98.10279632	96.89473063	95.70826516
240126A00032	1/26/2024	4.31	1/26/2026		105.83822	104.4878228	103.1627787	101.8624004	100.5860298	99.33303247	98.10279632	96.89473063	95.70826516
240129A00009	1/29/2024	4.72	1/29/2025		101.38673	101.049928	100.7153705	100.383031	100.0528875	99.72491824	99.39910174	99.07541687	98.75384273
240129A00030	1/29/2024	5.03	12/2/2024		100.78221	100.6007775	100.4199777	100.2398077	100.0602643	99.8813443	99.7030444	99.52536139	99.34829207
240129A00049	1/29/2024	4.48	7/29/2025		103.5712	102.7252156	101.8930855	101.0744683	100.2690366	99.47647321	98.69647124	97.92873345	97.17297191
240129A00054	1/29/2024	4.72	1/29/2025		101.38673	101.049928	100.7153705	100.383031	100.0528875	99.72491824	99.39910174	99.07541687	98.75384273

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240129A00056	1/29/2024	4.72	1/29/2025		101.38673	101.049928	100.7153705	100.383031	100.0528875	99.72491824	99.39910174	99.07541687	98.75384273
240129A00066	1/29/2024	4.88	1/23/2025		101.38556	101.0534106	100.7233748	100.3954313	100.0695603	99.74574201	99.42395712	99.10418643	98.78641104
240130A00003	1/30/2024	4.62	7/30/2025		103.63446	102.7863157	101.9520898	101.1314383	100.3240316	99.5295507	98.74768662	97.97814025	97.22062187
240130A00005	1/30/2024	4.62	7/30/2025		103.63446	102.7863157	101.9520898	101.1314383	100.3240316	99.5295507	98.74768662	97.97814025	97.22062187
240130A00034	1/30/2024	4.43	10/30/2025		104.78944	103.6770127	102.588279	101.5224841	100.4789078	99.4568598	98.455678	97.47472738	96.51339839
240130A00036	1/30/2024	4.94	1/30/2025		101.4469	101.1075076	100.7703823	100.4355045	100.1028516	99.77240159	99.44413266	99.11802328	98.79405221
240130A00037	1/30/2024	5.03	11/29/2024		100.74556	100.5728248	100.4006647	100.229074	100.05805	99.88758994	99.71769096	99.54835034	99.37956535
240130A00044	1/30/2024	4.14	1/30/2029		119.47009	114.7993306	110.3418393	106.0867485	102.0238045	98.14332521	94.4361654	90.89368429	87.50771513
240130A00047	1/30/2024	4.01	1/30/2029		119.28009	114.6023831	110.1386025	105.8778362	101.8097861	97.92472902	94.21348145	90.66736711	87.27818626
240130A00051	1/30/2024	4.94	1/24/2025		101.41766	101.0824473	100.7493819	100.4184447	100.0896155	99.76287401	99.43820042	99.11557508	98.79497862
240130A00057	1/30/2024	4.15	1/29/2027		110.47467	108.0492654	105.6899499	103.3945495	101.1609773	98.98722719	96.87136995	94.81154989	92.80598157
240130A00059	1/30/2024	4.33	1/30/2026		105.91745	104.5577388	103.2224072	101.9108444	100.6224634	99.35669623	98.11299332	96.89082254	95.68966856
240130A00068	1/30/2024	4.17	1/30/2029		119.60255	114.9289108	110.4686329	106.2108482	102.145299	98.26229973	94.55270159	91.00786049	87.61960652
240130A00070	1/30/2024	4.33	1/30/2026		105.91745	104.5577388	103.2224072	101.9108444	100.6224634	99.35669623	98.11299332	96.89082254	95.68966856
240130A00076	1/30/2024	4.94	1/30/2025		101.4469	101.1075076	100.7703823	100.4355045	100.1028516	99.77240159	99.44413266	99.11802328	98.79405221
240130A00089	1/30/2024	4.17	1/30/2029		119.60255	114.9289108	110.4686329	106.2108482	102.145299	98.26229973	94.55270159	91.00786049	87.61960652
240131A00013	1/31/2024	4.13	2/1/2027		110.26904	107.8415028	105.4802488	103.1831067	100.9479874	98.7728817	96.65585699	94.59505386	92.58868289
240131A00014	1/31/2024	4.04	1/31/2029		119.04019	114.3759456	109.9248977	105.6761825	101.6195451	97.74530229	94.04430762	90.50791908	87.12796869
240131A00015	1/31/2024	4.02	1/31/2029		110.25844	107.7417931	105.3140087	102.9711885	100.7096357	98.52584	96.41646703	94.37834818	92.40847147
240131A00021	1/31/2024	4.8	1/27/2025		101.40773	101.0642561	100.723039	100.3840529	100.047276	99.71268681	99.38026404	99.04998669	98.72183403
240131A00022	3/1/2024	4.13	3/1/2027		110.65183	108.1341374	105.6873439	103.3090531	100.9969622	98.7488593	96.56262011	94.43620324	92.36764675
240131A00026	1/31/2024	4.31	1/30/2026		105.78059	104.4235802	103.0908759	101.78187	100.4959781	99.23263428	97.99129116	96.77141856	95.57250311
240131A00028	1/31/2024	4.8	1/27/2025		101.40773	101.0642561	100.723039	100.3840529	100.047276	99.71268681	99.38026404	99.04998669	98.72183403
240131A00033	1/31/2024	4.18	1/30/2026		105.71479	104.3565227	103.0226061	101.712434	100.4254203	99.16099775	97.91861724	96.69774728	95.49787313
240131A00034	1/31/2024	4	1/29/2027		110.11974	107.6985942	105.3434443	103.052121	100.8225401	98.65269797	96.54066777	94.48459618	92.48270005
240131A00036	1/31/2024	4.51	7/31/2025		103.55517	102.7046083	101.8680451	101.0451381	100.2355548	99.43897311	98.6550815	97.88357819	97.12417097
240131A00039	1/31/2024	4.22	7/31/2026		108.06605	106.1787923	104.3340464	102.5306043	100.7673029	99.04301922	97.35666851	95.70720303	94.09361033
240131A00044	1/31/2024	4.8	1/27/2025		101.40773	101.0642561	100.723039	100.3840529	100.047276	99.71268681	99.38026404	99.04998669	98.72183403
240131A00054	1/31/2024	4.8	1/31/2025		101.41179	101.069694	100.7299072	100.3924019	100.0571552	99.72414443	99.3933474	99.06474209	98.73830682
240131A00059	1/31/2024	4.57	7/31/2025		103.60573	102.7549309	101.9181378	101.0950035	100.2851955	99.48839165	98.70428038	97.93255987	97.17293786
240131A00076	1/31/2024	4.35	1/30/2026		105.8346	104.4772079	103.1441268	101.8347506	100.5484945	99.28479273	98.04309747	96.82287849	95.62362223
240131A00080	1/31/2024	4.16	1/29/2027		110.30096	107.8816386	105.5281762	103.2384094	101.0102608	98.84173291	96.73090486	94.67592893	92.67502726
240201A00003	2/1/2024	4.17	2/2/2026		105.74191	104.37524	103.0328783	101.7142302	100.4187203	99.14579154	97.89490442	96.6655361	95.45717991

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240201A00009	2/1/2024	3.96	2/1/2029		118.69914	114.0391915	109.592469	105.3480969	101.2958109	97.42591941	93.72926832	90.19720883	86.82156688
240201A00021	2/1/2024	4.81	2/3/2025		101.45296	101.1025077	100.7544774	100.4088456	100.0655875	99.72467871	99.38609512	99.04981301	98.71580893
240201A00023	2/1/2024	4.5	8/1/2025		103.56009	102.7067221	101.8674516	101.0419275	100.2298139	99.43078563	98.64452799	97.87073628	97.10911544
240201A00027	2/1/2024	3.83	2/1/2029		118.50754	113.8406801	109.3877063	105.1376963	101.0803415	97.20590899	93.50520645	89.96954952	86.59073111
240201A00029	2/1/2024	4.52	8/1/2025		103.57699	102.7235513	101.8842036	101.0586033	100.2464144	99.44731165	98.66098036	97.88711583	97.12542298
240201A00030	2/1/2024	4.35	2/2/2026		105.87599	104.510104	103.1684884	101.8505482	100.5557095	99.28341656	98.03313111	96.80433152	95.59651225
240201A00038	2/1/2024	4.3	2/2/2026		105.80806	104.4426585	103.1015193	101.7840474	100.4896692	99.21782906	97.96798895	96.73962744	95.53223919
240201A00040	2/1/2024	4.08	2/1/2030		123.30351	117.4698329	111.9549979	106.7398702	101.8065578	97.13832593	92.71951676	88.53547481	84.57247788
240201A00042	2/1/2024	4.24	2/1/2033		134.68593	125.2726206	116.6156989	108.649822	101.3156215	94.55913138	88.33127122	82.58738039	77.28679936
240201A00043	2/1/2024	4.27	2/1/2034		138.33778	127.7029463	118.0099882	109.1695025	101.1010359	93.73214506	86.99756151	80.83844684	75.20172887
240201A00051	2/1/2024	4.83	2/3/2025		101.45995	101.1094812	100.761436	100.4157892	100.0725163	99.73159274	99.39299448	99.05669775	98.72267914
240201A00052	2/1/2024	4.5	8/1/2025		103.56009	102.7067221	101.8674516	101.0419275	100.2298139	99.43078563	98.64452799	97.87073628	97.10911544
240201A00054	2/1/2024	4.83	2/3/2025		101.45995	101.1094812	100.761436	100.4157892	100.0725163	99.73159274	99.39299448	99.05669775	98.72267914
240201A00056	2/1/2024	4.3	2/2/2026		105.80806	104.4426585	103.1015193	101.7840474	100.4896692	99.21782906	97.96798895	96.73962744	95.53223919
240201A00057	2/1/2024	4.83	2/3/2025		101.45995	101.1094812	100.761436	100.4157892	100.0725163	99.73159274	99.39299448	99.05669775	98.72267914
240201A00061	2/1/2024	4.5	8/1/2025		103.56009	102.7067221	101.8674516	101.0419275	100.2298139	99.43078563	98.64452799	97.87073628	97.10911544
240201A00063	2/1/2024	4.81	2/3/2025		101.45296	101.1025077	100.7544774	100.4088456	100.0655875	99.72467871	99.38609512	99.04981301	98.71580893
240201A00064	2/1/2024	4.51	8/1/2025		103.56854	102.7151367	101.8758276	101.0502654	100.2381142	99.43904864	98.65275417	97.87892605	97.11726921
240201A00065	2/1/2024	4.33	2/2/2026		105.84882	104.4831258	103.1417008	101.8239479	100.5292934	99.25718156	98.00707425	96.77844989	95.57080302
240201A00069	5/1/2024	4.44	4/30/2025		102.34021	101.7495799	101.1657648	100.588652	100.0181266	99.45407622	98.89639108	98.34496388	97.79968968
240201A00072	8/1/2024	4.1	7/31/2025		103.20971	102.3607367	101.5257449	100.7043912	99.89634336	99.10127977	98.31888914	97.54887005	96.79093058
240202A00014	2/2/2024	4.51	8/1/2025		103.63655	102.7819039	101.9413854	101.1146454	100.3013469	99.50116372	98.71378009	97.93889039	97.17619865
240202A00016	2/2/2024	4.25	2/2/2027		110.56775	108.1335643	105.765895	103.4625638	101.221472	99.04060118	96.91801017	94.85183132	92.84026734
240202A00017	2/2/2024	4.23	8/3/2026		108.27776	106.377448	104.5201448	102.7046242	100.9297036	99.19424176	97.49713637	95.83732294	94.21377307
240202A00022	2/2/2024	4.96	2/3/2025		101.50538	101.1548091	100.8066664	100.4609228	100.1175534	99.77653395	99.43784025	99.10144858	98.76733549
240202A00023	2/2/2024	4.96	2/3/2025		101.50538	101.1548091	100.8066664	100.4609228	100.1175534	99.77653395	99.43784025	99.10144858	98.76733549
240202A00025	2/2/2024	4.82	2/3/2025		101.48391	101.1330737	100.78467	100.438671	100.0950518	99.75378791	99.41485507	99.07822944	98.74388747
240202A00029	2/2/2024	4.15	2/2/2029		119.55209	114.8704086	110.4028571	106.1385116	102.0670634	98.17877906	94.4644655	90.91543699	87.52348481
240202A00030	2/2/2024	4.32	2/3/2031		128.30716	121.2537502	114.6473246	108.4570639	102.6544282	97.212978	92.10820895	87.31740121	82.81948089
240205A00004	2/5/2024	5.19	11/6/2024		100.49084	100.3844672	100.2783182	100.172396	100.0666998	99.96122888	99.85598249	99.75095987	99.64616029
240205A00020	2/5/2024	4.99	2/5/2025		101.54203	101.1858659	100.832204	100.4810201	100.132288	99.78598219	99.4420773	99.10054837	98.76137079
240205A00044	2/5/2024	4.99	2/5/2025		101.54203	101.1858659	100.832204	100.4810201	100.132288	99.78598219	99.4420773	99.10054837	98.76137079
240206A00017	2/6/2024	4.33	8/6/2027		113.23822	110.2394561	107.336946	104.5270876	101.8064307	99.17167268	96.61965106	94.14733694	91.75182855



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240206A00026	2/6/2024	4.59	8/6/2025		103.77328	102.9040739	102.0494715	101.2091083	100.3826299	99.56969374	98.76996847	97.98313338	97.20887811
240207A00002	2/7/2024	4.81	2/7/2025		101.53173	101.1697365	100.8103372	100.453501	100.0992004	99.74740842	99.39809836	99.0512439	98.70681913
240207A00006	2/7/2024	4.06	2/7/2029		119.60408	114.8943436	110.4009828	106.1129118	102.0196721	98.11139135	94.37874752	90.8129353	87.40563494
240207A00022	2/7/2024	4.25	2/7/2028		115.38843	111.8285906	108.3996351	105.0960552	101.9126082	98.84429826	95.88636363	93.0342644	90.28367095
240207A00025	2/8/2024	4.2	1/8/2029		119.46884	114.8608178	110.460661	106.2578097	102.2423038	98.40474422	94.73625785	91.22846462	87.87344727
240207A00039	2/7/2024	4.55	8/7/2025		103.75261	102.8807082	102.0235092	101.1806394	100.3517411	99.53646827	98.73448652	97.94547214	97.16911194
240207A00040	2/7/2024	4.55	8/7/2025		103.75261	102.8807082	102.0235092	101.1806394	100.3517411	99.53646827	98.73448652	97.94547214	97.16911194
240208A00053	2/8/2024	4.58	2/9/2026		106.29255	104.9025945	103.5376595	102.1971264	100.8803958	99.58688737	98.3160395	97.06730807	95.84016604
240208A00055	2/8/2024	4.37	2/8/2027		110.93903	108.4819668	106.0924855	103.7683483	101.5074091	99.30760503	97.16695241	95.08354331	93.05554222
240209A00007	2/9/2024	4.5	12/9/2025		105.43033	104.2014885	103.00141	101.8290922	100.6835784	99.56395515	98.46935045	97.39893095	96.3519
240209A00019	2/9/2024	4.39	2/9/2027		111.0013	108.540415	106.1472875	103.8196727	101.5554167	99.35244884	97.20877845	95.12249082	93.09174402
240209A00020	2/9/2024	4.58	2/9/2026		106.29255	104.9025945	103.5376595	102.1971264	100.8803958	99.58688737	98.3160395	97.06730807	95.84016604
240212A00029	2/12/2024	4.58	2/12/2026		106.33717	104.9378378	103.5638391	102.2145404	100.8893317	99.58762255	98.30884138	97.05243478	95.81786674
240213A00017	2/13/2024	4.26	2/13/2029		120.57453	115.8245093	111.2932722	106.9695775	102.8428191	98.90298751	95.14063305	91.54683163	88.11315295
240213A00022	2/13/2024	4.6	8/13/2026		108.95375	107.0221615	105.1347734	103.2903129	101.4875507	99.72530092	98.00241875	96.31779911	94.6703749
240214A00001	2/14/2024	4.79	11/10/2025		105.25644	104.1117096	102.9920006	101.8964952	100.8244133	99.77500802	98.74756385	97.74139522	96.75584486
240214A00007	2/14/2024	4.7	2/17/2026		106.57957	105.1633733	103.7730457	102.4079394	101.0674258	99.75089663	98.45776343	97.18745646	95.93942408
240214A00012	2/14/2024	5.1	2/14/2025		101.70159	101.3202033	100.9416868	100.5660109	100.1931435	99.82305311	99.45570869	99.09107963	98.72913578
240214A00019	2/15/2024	4.41	1/26/2029		120.6115	115.9273697	111.4563464	107.1875873	103.1108596	99.21650216	95.49538979	91.93890125	88.5388886
240215A00013	2/15/2024	4.82	8/15/2025		104.02981	103.1352638	102.2561614	101.3921075	100.5427173	99.70761902	98.88645343	98.07887318	97.28454242
240215A00026	2/15/2024	4.48	2/10/2027		111.2315	108.7647525	106.3659827	104.032937	101.7634522	99.55544924	97.40692891	95.31596861	93.28071892
240215A00033	2/15/2024	4.35	2/16/2027		111.20839	108.719329	106.2994032	103.9463036	101.6578137	99.43180345	97.26622578	95.15911256	93.10857115
240215A00046	4/1/2024	4.49	4/1/2027		111.95504	109.334682	106.7904059	104.3195575	101.9195877	99.5880523	97.32260652	95.12100073	92.98107576
240216A00012	2/16/2024	4.53	8/16/2027		113.95202	110.9147513	107.9757215	105.1312248	102.3777123	99.71178831	97.13020243	94.6298428	92.20772931
240220A00031	2/20/2024	4.68	2/20/2026		106.59703	105.1716336	103.7724181	102.3987233	101.0499098	99.72535885	98.42447209	97.14667027	95.89139269
240220A00073	2/20/2024	5.08	2/20/2025		101.774	101.3758363	100.9808027	100.5888579	100.1999658	99.8140906	99.43119726	99.05125121	98.67421842
240221A00012	2/21/2024	5.23	12/20/2024		101.04599	100.8127359	100.580541	100.3493949	100.1192907	99.89022117	99.6621793	99.43515813	99.20915076
240221A00013	2/21/2024	5.23	12/23/2024		101.0846	100.8426493	100.6018267	100.3621281	100.1235455	99.88607116	99.64969735	99.41441635	99.18022056
240221A00014	2/21/2024	4.53	2/22/2027		111.52933	109.0220266	106.5847241	104.2150737	101.9108192	99.66979303	97.48991247	95.36917557	93.30565764
240221A00015	2/21/2024	4.48	2/22/2028		116.38396	112.7618433	109.2742936	105.915588	102.6802794	99.5631803	96.55934926	93.66407759	90.87287726
240221A00022	2/21/2024	4.97	2/21/2025		101.77521	101.3739141	100.9757925	100.5808088	100.1889258	99.80010718	99.41431685	99.03151947	98.65168019
240222A00007	2/22/2024	5.26	12/23/2024		101.09165	100.8496682	100.6088205	100.3690968	100.1304894	99.8929903	99.65659184	99.42128631	99.18706611
240222A00030	2/22/2024	4.99	2/21/2025		101.7832	101.3818826	100.983742	100.5887394	100.1968376	99.80800029	99.42219138	99.03937552	98.65951787

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240222A00035	2/22/2024	5.17	2/24/2025		101.86401	101.4545579	101.0484025	100.6455051	100.2458267	99.84932853	99.45597288	99.06572239	98.67854036
240222A00036	2/22/2024	5.17	2/24/2025		101.86401	101.4545579	101.0484025	100.6455051	100.2458267	99.84932853	99.45597288	99.06572239	98.67854036
240222A00037	2/22/2024	5.17	2/24/2025		101.86401	101.4545579	101.0484025	100.6455051	100.2458267	99.84932853	99.45597288	99.06572239	98.67854036
240223A00004	2/23/2024	5	2/24/2025		101.82725	101.417512	101.0110776	100.6079082	100.2079646	99.81120795	99.41760035	99.02710431	98.63968295
240223A00007	2/23/2024	4.81	8/22/2025		104.19324	103.2773468	102.3776155	101.493624	100.6249611	99.77122995	98.93204713	98.10704235	97.29585777
240223A00020	2/23/2024	5.16	2/24/2025		101.85993	101.4504916	101.0443461	100.6414586	100.2417899	99.84530145	99.45195545	99.06171455	98.67454207
240223A00022	2/23/2024	5.22	1/23/2025		101.49207	101.1599925	100.8300275	100.5021544	100.1763532	99.85260441	99.53088855	99.21118647	98.89347925
240226A00010	2/26/2024	4.53	7/15/2027		113.51819	110.5770917	107.7286758	104.9694619	102.2961238	99.70548146	97.19449357	94.76025029	92.39996673
240226A00025	2/26/2024	4.43	2/26/2027		111.54995	109.0258265	106.5725619	104.1877693	101.8691527	99.61450693	97.42171343	95.28873643	93.21361914
240226A00037	2/26/2024	5.17	2/26/2025		101.89117	101.4761117	101.0644346	100.6561007	100.2510695	99.84930102	99.4507559	99.05539547	98.66318164
240227A00009	2/27/2024	5.24	1/27/2025		101.55149	101.2078553	100.8664772	100.5273312	100.1903955	99.85564852	99.52306895	99.19263582	98.86432838
240227A00015	2/27/2024	5.18	2/27/2025		101.90891	101.4910363	101.0765872	100.6655244	100.2578064	99.85339249	99.45224273	99.05431767	98.65957854
240227A00020	2/27/2024	5.18	2/27/2025		101.90891	101.4910363	101.0765872	100.6655244	100.2578064	99.85339249	99.45224273	99.05431767	98.65957854
240227A00021	2/27/2024	4.97	8/27/2025		104.33822	103.4086425	102.4956974	101.5989376	100.717935	99.85227597	99.00156169	98.16540687	97.34343943
240227A00025	2/27/2024	5.02	2/27/2025		101.87563	101.4574495	101.0427058	100.6313556	100.2233573	99.81867014	99.41725387	99.01906893	98.6240764
240228A00007	2/28/2024	5.17	2/27/2025		101.90475	101.4868873	101.0724485	100.6613959	100.253688	99.84928425	99.44814452	99.05022943	98.65550022
240228A00035	5/28/2024	4.99	5/28/2025		103.04927	102.3785879	101.7166607	101.0633146	100.4183834	99.78170484	99.15312126	98.53247873	97.91962727
240229A00015	2/29/2024	5.25	12/30/2024		101.17823	100.9161946	100.6554723	100.3960534	100.1379281	99.88108692	99.62552022	99.3712186	99.11817269
240229A00026	2/29/2024	4.74	2/27/2026		106.78882	105.3408111	103.9197361	102.5249056	101.1556539	99.81133741	98.49133371	97.19504062	95.92187547
240229A00027	2/29/2024	4.54	2/26/2027		111.61309	109.0924261	106.6424403	104.2607517	101.9450725	99.6932055	97.50303964	95.37254627	93.29977534
240301A00001	3/1/2024	5.03	6/2/2025		103.14589	102.4609743	101.7851722	101.1183067	100.4602014	99.8106841	99.16958741	98.53674815	97.91200732
240301A00002	3/1/2024	5.24	1/2/2025		101.21517	100.9444845	100.6752001	100.4073079	100.1407974	99.87565771	99.61187836	99.3494489	99.08835899
240301A00003	3/1/2024	5.19	2/3/2025		101.62792	101.2641346	100.9028752	100.5441121	100.1878195	99.83397207	99.48254458	99.13351232	98.78685087
240301A00022	3/1/2024	4.94	3/3/2025		101.89589	101.4665934	101.0409219	100.6188287	100.200269	99.78519821	99.37357295	98.96535031	98.56048815
240301A00023	3/1/2024	4.17	3/1/2029		120.38436	115.5880617	111.0149321	106.6533923	102.4925225	98.52202289	94.7321757	91.11380902	87.65826339
240301A00024	3/1/2024	4.17	3/1/2029		120.38436	115.5880617	111.0149321	106.6533923	102.4925225	98.52202289	94.7321757	91.11380902	87.65826339
240301A00025	3/1/2024	4.45	3/1/2027		111.43598	108.9085649	106.452263	104.0646702	101.7434774	99.48646689	97.29150843	95.15655519	93.07963991
240301A00031	3/1/2024	5.1	3/3/2025		101.93005	101.5010692	101.0757004	100.6539023	100.2356302	99.82083989	99.40948796	99.00153175	98.59692927
240305A00008	3/5/2024	4.84	9/5/2025		104.34832	103.3935555	102.4563269	101.5361567	100.6325813	99.74515403	98.8734441	98.01703589	97.17552835
240305A00010	3/5/2024	4.66	3/5/2026		106.75966	105.295208	103.8582866	102.4481876	101.0642236	99.70573003	98.37206471	97.06260643	95.77675435
240305A00011	3/5/2024	4.55	9/4/2026		109.16548	107.1706677	105.2227933	103.3204603	101.4623277	99.64710334	97.87354113	96.14043957	94.44663963
240305A00035	3/5/2024	5.11	2/28/2025		101.93306	101.4965802	101.0637164	100.6344229	100.2086558	99.78637175	99.36752832	98.95208365	98.5399966
240306A00006	3/6/2024	4.65	9/5/2025		104.24526	103.2899467	102.3521992	101.4315381	100.5274989	99.63963369	98.7675105	97.9107127	97.06883826

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240306A00010	3/6/2024	4.22	3/6/2029		120.27507	115.4784416	110.9053654	106.5442213	102.3840517	98.41452283	94.62588574	91.00894022	87.55500106
240306A00014	3/6/2024	5.09	3/6/2025		101.96673	101.5293629	101.0957598	100.6658708	100.2396484	99.81704562	99.39801635	98.98251531	98.57049796
240306A00015	3/6/2024	4.93	3/6/2025		101.93189	101.4942071	101.0602952	100.6301052	100.2035895	99.78070089	99.3613931	98.94562068	98.5333389
240306A00025	3/19/2024	5.07	3/19/2025		102.13471	101.6609417	101.1915825	100.726575	100.2658587	99.80937417	99.35706313	98.90886834	98.46473361
240306A00026	3/19/2024	5.07	3/19/2025		102.13471	101.6609417	101.1915825	100.726575	100.2658587	99.80937417	99.35706313	98.90886834	98.46473361
240306A00027	3/19/2024	5.07	3/19/2025		102.13471	101.6609417	101.1915825	100.726575	100.2658587	99.80937417	99.35706313	98.90886834	98.46473361
240306A00028	3/19/2024	5.07	3/19/2025		102.13471	101.6609417	101.1915825	100.726575	100.2658587	99.80937417	99.35706313	98.90886834	98.46473361
240306A00029	3/19/2024	5.07	3/19/2025		102.13471	101.6609417	101.1915825	100.726575	100.2658587	99.80937417	99.35706313	98.90886834	98.46473361
240306A00030	3/19/2024	5.07	3/19/2025		102.13471	101.6609417	101.1915825	100.726575	100.2658587	99.80937417	99.35706313	98.90886834	98.46473361
240307A00022	3/7/2024	4.09	3/7/2029		120.09462	115.2875817	110.7050706	106.3353958	102.1675323	98.19108391	94.396244	90.77375878	87.31489341
240308A00005	3/8/2024	4.03	3/8/2029		119.83478	115.0306639	110.4511471	106.0845201	101.9197468	97.9464213	94.15472784	90.53540461	87.07970952
240308A00008	3/8/2024	4.99	4/1/2025		102.27096	101.7607808	101.2556924	100.7556228	100.2604972	99.77024266	99.28478751	98.80406148	98.32799568
240308A00009	3/8/2024	4.74	9/8/2025		104.29658	103.3337079	102.3886781	101.4610016	100.5502029	99.65582352	98.77742153	97.91457079	97.06686018
240308A00011	3/8/2024	4.54	3/9/2026		106.64095	105.1664866	103.7199405	102.3005888	100.9077298	99.54068534	98.1988001	96.88144047	95.58799368
240308A00018	3/8/2024	5.06	3/10/2025		102.00793	101.5593985	101.1148297	100.6741683	100.2373628	99.80436256	99.37511781	98.94957969	98.52770018
240308A00019	3/8/2024	5.06	3/10/2025		102.00793	101.5593985	101.1148297	100.6741683	100.2373628	99.80436256	99.37511781	98.94957969	98.52770018
240308A00020	3/8/2024	5.06	3/10/2025		102.00793	101.5593985	101.1148297	100.6741683	100.2373628	99.80436256	99.37511781	98.94957969	98.52770018
240308A00021	3/8/2024	5.06	3/10/2025		102.00793	101.5593985	101.1148297	100.6741683	100.2373628	99.80436256	99.37511781	98.94957969	98.52770018
240308A00022	3/8/2024	5.06	3/10/2025		102.00793	101.5593985	101.1148297	100.6741683	100.2373628	99.80436256	99.37511781	98.94957969	98.52770018
240308A00023	3/8/2024	5.06	3/10/2025		102.00793	101.5593985	101.1148297	100.6741683	100.2373628	99.80436256	99.37511781	98.94957969	98.52770018
240308A00027	3/8/2024	4.23	3/8/2027		111.19422	108.6460721	106.1702539	103.7643012	101.4258455	99.1526129	96.94242002	94.79316973	92.70284719
240308A00031	3/8/2024	4.46	9/16/2026		109.15594	107.1270945	105.1467689	103.2134997	101.3258786	99.48254886	97.68220354	95.92358298	94.2054729
240311A00006	3/11/2024	4.6	3/11/2026		106.75597	105.2751694	103.8225077	102.3972497	100.9986859	99.62613055	98.2789213	96.95641767	95.6580004
240311A00009	3/11/2024	4.38	3/11/2027		111.39701	108.8423053	106.3602472	103.9483534	101.6042405	99.32562025	97.1102959	94.95615757	92.86117833
240311A00010	3/11/2024	5.07	3/11/2025		102.02598	101.574642	101.1273104	100.683935	100.2444634	99.80884385	99.37702582	98.94895946	98.52459587
240311A00011	3/11/2024	4.89	7/11/2025		103.59243	102.7973725	102.0145635	101.2437225	100.4845759	99.73685861	99.00031325	98.27469028	97.55974752
240311A00012	3/11/2024	4.8	9/11/2025		104.39663	103.4248567	102.4712537	101.5353105	100.6165388	99.7144683	98.82864561	97.95863377	97.10401135
240311A00014	3/11/2024	5.07	3/11/2025		102.02598	101.574642	101.1273104	100.683935	100.2444634	99.80884385	99.37702582	98.94895946	98.52459587
240312A00009	3/12/2024	4.68	3/12/2026		106.88694	105.4024068	103.9461334	102.517378	101.115427	99.73959075	98.38920295	97.06361953	95.76221769
240312A00013	3/12/2024	4.68	3/12/2026		106.88694	105.4024068	103.9461334	102.517378	101.115427	99.73959075	98.38920295	97.06361953	95.76221769
240312A00015	3/12/2024	4.13	3/12/2029		120.33527	115.508533	110.9078338	106.5213647	102.3379981	98.34724259	94.5392036	90.90454599	87.43445958
240312A00019	3/12/2024	4.87	9/12/2025		104.47828	103.503298	102.5465882	101.6076438	100.6859723	99.78109921	98.89256746	98.01993629	97.16278076
240312A00020	3/12/2024	4.82	11/3/2025		105.1868	104.062137	102.9616321	101.8845106	100.830032	99.79748638	98.78619347	97.79550085	96.82478255

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240312A00028	3/12/2024	4.87	9/12/2025		104.47828	103.503298	102.5465882	101.6076438	100.6859723	99.78109921	98.89256746	98.01993629	97.16278076
240313A00007	3/13/2024	4.88	9/12/2025		104.4879	103.5128659	102.5561069	101.6171139	100.6953945	99.79047414	98.90189567	98.02921837	97.17201728
240313A00023	3/13/2024	4.68	3/13/2026		106.90099	105.4136227	103.9546133	102.5232214	101.1187295	99.74044446	98.3876965	97.05983823	95.75624371
240314A00008	3/14/2024	4.55	3/10/2027		111.80461	109.2475771	106.7631535	104.3488561	102.0023054	99.72121736	97.50339887	95.3467435	93.24922754
240314A00009	3/14/2024	4.75	3/10/2026		106.96093	105.4813007	104.0297337	102.6054995	101.2078915	99.83622702	98.48984621	97.16811126	95.87040536
240314A00012	3/14/2024	4.62	3/13/2026		106.93351	105.4439221	103.9827693	102.5493029	101.142803	99.76257393	98.4079438	97.07826308	95.77290384
240314A00013	3/14/2024	4.62	3/13/2026		106.93351	105.4439221	103.9827693	102.5493029	101.142803	99.76257393	98.4079438	97.07826308	95.77290384
240314A00026	3/14/2024	5.25	1/14/2025		101.37664	101.0715849	100.768327	100.4668484	100.1671335	99.86916673	99.57293273	99.2784163	98.98560246
240314A00027	3/14/2024	5.15	3/14/2025		102.10336	101.6435118	101.1878264	100.736245	100.2887121	99.84517336	99.40557513	98.96986491	98.53799109
240315A00015	3/15/2024	4.8	3/16/2026		107.1202	105.6229428	104.1543838	102.7137647	101.3003561	99.91345312	98.55237514	97.21646423	95.90508441
240318A00014	3/18/2024	4.67	3/18/2026		107.07821	105.5738128	104.0983801	102.6511446	101.2313668	99.83833276	98.47135279	97.12976046	95.81291169
240318A00015	3/18/2024	4.47	2/20/2029		121.21698	116.4419744	111.887389	107.5418651	103.3946901	99.43575566	95.65552032	92.04497511	88.59561091
240318A00020	3/18/2024	4.48	3/19/2029		119.39343	115.0268013	110.8601667	106.8831011	103.0857856	99.45896706	95.99392193	92.6824232	89.51670917
240319A00003	3/19/2024	4.65	3/19/2026		107.06278	105.5557623	104.0778085	102.6281486	101.2060394	99.81076353	98.44162772	97.09796236	95.7791202
240319A00004	3/19/2024	4.47	3/19/2027		111.93892	109.3507279	106.8367911	104.394551	102.0215492	99.7154266	97.47391948	95.29485446	93.17614448
240319A00007	3/19/2024	5.16	3/19/2025		102.17714	101.7032462	101.2337713	100.768649	100.3078185	99.85122062	99.39879695	98.95049026	98.50624436
240319A00011	3/19/2024	5.12	5/1/2025		102.75399	102.1592053	101.57132	100.9902127	100.4157665	99.84786722	99.28640339	98.73126596	98.18234836
240319A00012	3/19/2024	4.77	4/14/2026		107.49936	105.9182461	104.368644	102.8496799	101.3605149	99.90034066	98.46837758	97.06387365	95.68610322
240319A00014	3/19/2024	4.44	3/19/2029		121.43115	116.5715083	111.9397337	107.5239005	103.3127676	99.29573863	95.46282131	91.80458986	88.31214995
240319A00021	3/19/2024	4.83	9/19/2025		104.62008	103.6236374	102.6462577	101.687397	100.7465316	99.82315734	98.9167888	98.02695836	97.15321543
240320A00010	3/20/2024	4.77	3/20/2036		150.9463	137.3892607	125.2554478	114.3848954	104.6365117	95.88575902	88.02262939	80.94987791	74.5814786
240320A00015	3/20/2024	5.35	12/11/2024		100.94902	100.7424772	100.5367695	100.3318917	100.1278388	99.9246057	99.7221874	99.52057894	99.3197754
240321A00006	3/21/2024	4.88	9/22/2025		104.63348	103.6296968	102.6452609	101.6796123	100.7322157	99.80255633	98.89013841	97.9944846	97.11513504
240321A00007	3/21/2024	4.7	3/23/2026		107.07146	105.5554226	104.0687963	102.6107944	101.180661	99.77766619	98.40110512	97.05029688	95.72458351
240321A00019	3/21/2024	4.88	9/22/2025		104.63348	103.6296968	102.6452609	101.6796123	100.7322157	99.80255633	98.89013841	97.9944846	97.11513504
240321A00025	3/21/2024	5.06	4/17/2025		102.52613	101.9709148	101.4217322	100.8784869	100.3410827	99.8094255	99.28342327	98.76298585	98.24802504
240321A00026	3/21/2024	5.03	5/19/2025		102.95087	102.3055366	101.6683257	101.0390824	100.4176576	99.80390575	99.19768508	98.59885725	98.00728728
240321A00031	3/21/2024	5.41	10/21/2024		100.30534	100.2453418	100.1854315	100.1256065	100.0658665	100.0062114	99.94664107	99.88715523	99.82775372
240322A00007	3/22/2024	4.67	3/23/2026		107.02661	105.510929	104.0246459	102.5669813	101.1371794	99.73451041	98.35826972	97.00777653	95.68237301
240322A00008	3/22/2024	4.65	4/22/2026		107.42932	105.8260225	104.2549241	102.7151288	101.2057688	99.72600813	98.27504133	96.85209168	95.45641012
240322A00012	3/22/2024	4.92	3/21/2025		102.16451	101.6677327	101.1756631	100.6882309	100.2053707	99.72701836	99.2531108	98.7835862	98.31838388
240322A00013	3/22/2024	4.18	3/22/2029		120.68293	115.8197	111.1854297	106.7680944	102.5563633	98.53955718	94.70760785	91.05101963	87.56083391
240322A00014	3/22/2024	4.51	5/22/2026		107.76382	106.0720889	104.4154567	102.7928999	101.2034314	99.64610219	98.11999944	96.62424497	95.15799343

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240322A00015	3/22/2024	4.65	11/21/2025		105.35011	104.1724652	103.0212671	101.8956283	100.7947031	99.7176824	98.66379247	97.63229249	96.62247304
240322A00018	3/22/2024	4.34	3/22/2027		111.65367	109.0607096	106.5423973	104.0961519	101.7194941	99.41004529	97.16552326	94.98373718	92.86258351
240322A00020	3/22/2024	4.92	3/21/2025		102.16451	101.6677327	101.1756631	100.6882309	100.2053707	99.72701836	99.2531108	98.7835862	98.31838388
240322A00021	3/22/2024	4.93	3/21/2025		102.16935	101.672528	101.180411	100.6929318	100.2100252	99.73162672	99.25767351	98.78810369	98.32285656
240322A00022	3/22/2024	5.08	3/17/2025		102.14809	101.6628834	101.1821666	100.7058738	100.2339438	99.76631688	99.30293421	98.84373813	98.38867197
240322A00029	3/22/2024	4.36	3/22/2027		111.70391	109.110306	106.5913704	104.1445154	101.7672612	99.45722913	97.2121363	95.02979158	92.90809109
240322A00032	3/22/2024	4.67	3/23/2026		107.02661	105.510929	104.0246459	102.5669813	101.1371794	99.73451041	98.35826972	97.00777653	95.68237301
240325A00023	3/25/2024	4.71	9/25/2025		104.58822	103.5751224	102.5817243	101.6074555	100.6517665	99.71412871	98.79403327	97.89099042	97.00452848
240325A00024	3/25/2024	4.71	9/25/2025		104.58822	103.5751224	102.5817243	101.6074555	100.6517665	99.71412871	98.79403327	97.89099042	97.00452848
240325A00027	4/1/2024	4.91	10/1/2025		104.79517	103.7653023	102.7557572	101.7659381	100.7952699	99.8431999	98.90919659	97.99274839	97.09336297
240325A00028	4/1/2024	4.91	10/1/2025		104.79517	103.7653023	102.7557572	101.7659381	100.7952699	99.8431999	98.90919659	97.99274839	97.09336297
240325A00040	3/25/2024	4.46	4/30/2027		112.28438	109.5758496	106.9476925	104.3970212	101.9210768	99.51721721	97.18291151	94.91573464	92.71336204
240325A00060	3/25/2024	4.57	3/25/2026		107.02793	105.5047305	104.0112118	102.5465782	101.1100639	99.70092921	98.31846028	96.96196749	95.63078456
240326A00013	3/26/2024	4.91	9/26/2025		104.72173	103.7062734	102.7105921	101.7341132	100.7762839	99.83657291	98.91446872	98.00947899	97.1211296
240326A00027	3/26/2024	4.95	3/26/2025		102.21017	101.7163212	101.2272584	100.7429115	100.2632122	99.78809378	99.31749076	98.85133883	98.38957494
240326A00042	3/26/2024	4.71	3/26/2026		107.12883	105.6041339	104.1091629	102.6431224	101.2052445	99.79478819	98.41103779	97.0533022	95.72091366
240327A00008	3/27/2024	4.72	10/1/2025		104.68453	103.6540759	102.6439817	101.6536455	100.6824911	99.72996427	98.79553211	97.87868185	96.97891995
240327A00014	3/27/2024	4.88	9/24/2025		104.66259	103.6530578	102.6630799	101.6920954	100.7395605	99.80495203	98.88776641	97.98751886	97.10374243
240327A00016	3/27/2024	4.56	3/27/2026		107.04083	105.5120492	104.0131531	102.5433438	101.1018474	99.6879169	98.3008313	96.93989418	95.60443279
240327A00025	3/27/2024	4.35	3/26/2027		111.73248	109.1273374	106.597503	104.1403563	101.7533862	99.43418432	97.18043996	94.98993553	92.86054216
240327A00028	3/27/2024	4.4	3/27/2028		116.55844	112.8357098	109.2548237	105.8095913	102.4941292	99.30284243	96.23040828	93.27176159	90.42208082
240328A00016	3/29/2024	4.98	3/28/2025		102.28704	101.7698529	101.2577508	100.7506579	100.248501	99.75120828	99.25870936	98.77093522	98.28781814
240328A00017	3/28/2024	4.6	3/30/2026		107.14332	105.605496	104.097887	102.6196794	101.1700871	99.74835172	98.35374118	96.98554856	95.64309106
240328A00018	3/28/2024	4.39	3/29/2027		111.874	109.2586632	106.7191503	104.2528153	101.8571224	99.52963988	97.26803513	95.07006968	92.93359495
240328A00022	3/28/2024	4.3	3/28/2028		116.52191	112.7892571	109.199121	105.7452684	102.4217775	99.22301723	96.14363113	93.17852242	90.32283992
240328A00023	3/28/2024	4.22	3/28/2029		120.93873	116.0524793	111.3969935	106.9601104	102.7303746	98.69699159	94.84978678	91.17916603	87.67607971
240328A00024	3/28/2024	5.14	3/24/2025		102.27161	101.7659453	101.2651416	100.7691294	100.2778401	99.7912066	99.30916284	98.83164411	98.35858687
240328A00026	3/28/2024	4.6	3/27/2026		107.10111	105.571849	104.0724879	102.6022217	101.1602762	99.74590423	98.35838463	96.99702077	95.6611397
240328A00027	3/28/2024	4.39	3/29/2027		111.874	109.2586632	106.7191503	104.2528153	101.8571224	99.52963988	97.26803513	95.07006968	92.93359495
240328A00031	3/28/2024	4.92	9/24/2025		104.7024	103.6926468	102.7024589	101.7312672	100.7785278	99.84371754	98.92633279	98.02588869	97.14191824
240328A00039	3/28/2024	5.14	3/28/2025		102.29177	101.7926074	101.2983288	100.8088594	100.3241291	99.84406929	99.36861261	98.89769301	98.43124571
240328A00052	3/28/2024	4.34	3/28/2029		121.08645	116.2087127	111.5609756	107.1311314	102.9077763	98.8801638	95.03816367	91.37222303	87.87333051
240328A00054	3/28/2024	5.2	2/27/2025		101.95319	101.5206408	101.0916573	100.666191	100.2441987	99.82563811	99.41046762	98.99864621	98.59013354



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240328A00055	3/28/2024	5.2	2/27/2025		101.95319	101.5206408	101.0916573	100.666191	100.2441987	99.82563811	99.41046762	98.99864621	98.59013354
240328A00057	3/28/2024	5.2	2/27/2025		101.95319	101.5206408	101.0916573	100.666191	100.2441987	99.82563811	99.41046762	98.99864621	98.59013354
240328A00061	3/28/2024	4.35	3/28/2029		121.13221	116.2534393	111.6047071	107.1739019	102.9496183	98.92110863	95.07824119	91.41146192	87.91175825
240328A00063	3/28/2024	4.47	3/28/2030		126.05158	119.9776014	114.2435007	108.8283621	103.7126652	98.87818576	94.3079031	89.98591431	85.89735525
240328A00064	3/28/2024	4.48	3/28/2031		129.88927	122.6255375	115.8313472	109.4736497	103.5218923	97.94781824	92.72528327	87.83008685	83.23981816
240328A00065	7/16/2024	4.46	7/16/2032		134.56997	125.7424591	117.5827124	110.036184	103.0530729	96.58788291	90.59902883	85.04848108	79.90144404
240401A00003	4/1/2024	4.81	10/1/2025		104.77587	103.7449188	102.7343331	101.7435123	100.7718799	99.81888141	98.88398393	97.96667451	97.06645946
240401A00004	4/1/2024	4.81	10/1/2025		104.77587	103.7449188	102.7343331	101.7435123	100.7718799	99.81888141	98.88398393	97.96667451	97.06645946
240401A00006	4/1/2024	4.32	4/2/2029		120.11355	115.5043125	111.1109657	106.9220821	102.9269084	99.11531823	95.47777277	92.0052827	88.68937362
240401A00009	4/1/2024	4.79	4/1/2026		107.33587	105.7930044	104.2804958	102.7975273	101.3433073	99.91707209	98.51808449	97.14563275	95.79902943
240401A00016	4/1/2024	4.47	4/1/2027		112.11828	109.4913212	106.9407177	104.4637962	102.0579965	99.72086323	97.45004168	95.24327245	93.09838716
240401A00023	4/1/2024	5.17	4/1/2025		102.36229	101.8518367	101.3464818	100.8461475	100.3507591	99.86024372	99.37452953	98.89354629	98.41722508
240401A00024	4/1/2024	4.97	10/1/2025		104.85604	103.8258382	102.8159661	101.8258242	100.8548377	99.90245376	98.96814062	98.0513867	97.15169956
240401A00027	4/1/2024	4.82	4/1/2026		107.38147	105.838237	104.3253739	102.8420571	101.3874948	99.96092309	98.56160469	97.1888277	95.84190451
240402A00015	4/2/2024	4.61	11/15/2027		115.45052	112.1295777	108.9236651	105.8281091	102.8384581	99.95046901	97.1600958	94.46347897	91.85693566
240402A00044	4/2/2024	4.83	4/2/2026		107.41174	105.8654341	104.3495824	102.8633627	101.4059798	99.97666636	98.57468166	97.19931073	95.84986301
240403A00002	4/3/2024	5.01	10/3/2025		104.9269	103.8907161	102.8750879	101.8794098	100.903097	99.94558752	99.00634108	98.08483779	97.18057738
240403A00006	4/3/2024	4.71	4/3/2026		107.36933	105.8184376	104.2981571	102.8076553	101.3461306	99.91280996	98.50694744	97.12782283	95.77474073
240403A00008	4/3/2024	4.67	4/2/2027		112.42628	109.7969845	107.2440555	104.7648199	102.3567176	100.0172939	97.7441942	95.53515952	93.38802171
240403A00010	4/3/2024	4.54	4/5/2027		112.35387	109.7122934	107.1477093	104.6574143	102.238818	99.88943668	97.60688877	95.38888959	93.23324687
240403A00013	4/3/2024	4.58	4/17/2028		117.49138	113.6907568	110.0366963	106.5227217	103.1426781	99.89071671	96.76127781	93.74907468	90.84907856
240403A00018	4/3/2024	4.67	4/5/2027		112.46997	109.8314325	107.2697035	104.7820851	102.3659958	100.0189607	97.73860617	95.52265535	93.36892321
240403A00022	4/3/2024	4.53	4/3/2029		122.03383	117.1171722	112.4328194	107.968513	103.7127065	99.65452156	95.78370499	92.09058997	88.56605915
240404A00004	4/4/2024	4.45	4/4/2029		121.6794	116.7677805	112.0884432	107.6291229	103.3782665	99.32498978	95.45903449	91.7707294	88.25095335
240404A00012	4/4/2024	4.46	4/4/2029		121.72536	116.8126952	112.1323546	107.6720653	103.4202731	99.36609195	95.49926258	91.81011238	88.28951903
240404A00014	4/4/2024	4.78	4/6/2026		107.39537	105.8378373	104.3110987	102.8143187	101.3466878	99.9074251	98.49577735	97.11101741	95.75244328
240404A00015	4/4/2024	4.6	4/5/2027		112.29159	109.6553511	107.0958656	104.6104407	102.1964966	99.85155964	97.57325784	95.35931556	93.20754909
240404A00019	6/3/2024	4.55	6/1/2027		112.96236	110.1549608	107.4329018	104.7930356	102.2323549	99.7479843	97.33717375	94.99729174	92.72581939
240404A00020	6/3/2024	4.55	6/1/2027		112.96236	110.1549608	107.4329018	104.7930356	102.2323549	99.7479843	97.33717375	94.99729174	92.72581939
240404A00021	4/4/2024	4.57	4/1/2031		126.88593	120.5062822	114.5244625	108.9128745	103.6459972	98.70021811	94.05368003	89.68614117	85.57884691
240404A00022	4/4/2024	4.78	4/6/2026		107.39537	105.8378373	104.3110987	102.8143187	101.3466878	99.9074251	98.49577735	97.11101741	95.75244328
240404A00023	4/4/2024	4.51	4/24/2028		117.33637	113.517908	109.8473432	106.3181118	102.9239767	99.65901256	96.51758851	93.49435139	90.58421053
240404A00062	4/4/2024	5.13	4/4/2025		102.38376	101.8649563	101.3514194	100.8430719	100.3398351	99.84163221	99.34838784	98.8600281	98.37648058

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240405A00004	4/5/2024	4.99	10/6/2025		104.95177	103.9070408	102.8832133	101.8796605	100.8957832	99.93100582	98.98477497	98.0565585	97.14584447
240405A00005	4/5/2024	4.81	4/6/2026		107.44138	105.8834807	104.3563814	102.8592471	101.3912679	99.95166296	98.53967875	97.154588	95.79568855
240405A00006	4/5/2024	4.63	4/5/2027		112.36804	109.7308146	107.1703676	104.6840026	102.2691391	99.92330294	97.64412141	95.42931833	93.27670943
240405A00017	4/5/2024	4.5	4/5/2027		112.25183	109.6115721	107.0482727	104.5592338	102.1418659	99.79368601	97.51231346	95.29546433	93.14094709
240408A00015	4/8/2024	4.54	4/5/2029		122.10622	117.1819657	112.490585	108.0197778	103.7579596	99.69421621	95.81826185	92.12039932	88.59148324
240408A00018	4/8/2024	4.87	10/6/2025		104.91168	103.8659642	102.8411889	101.8367267	100.851977	99.88636244	98.93932827	98.01034088	97.09888697
240408A00020	4/8/2024	4.86	4/8/2026		107.5484	105.9839531	104.4505029	102.9471976	101.4732199	100.0277817	98.61012266	97.21950916	95.85523283
240408A00025	4/8/2024	5.03	10/8/2025		105.0233	103.9725734	102.9429775	101.9338776	100.9446648	99.9747543	99.02358385	98.09061296	97.17532176
240408A00026	4/8/2024	4.86	4/8/2026		107.5484	105.9839531	104.4505029	102.9471976	101.4732199	100.0277817	98.61012266	97.21950916	95.85523283
240409A00021	4/9/2024	4.83	4/9/2026		107.5173	105.9502631	104.4143014	102.9085632	101.4322279	99.98450385	98.56462781	97.17186306	95.80549847
240409A00035	4/9/2024	4.66	4/9/2027		112.50263	109.8520955	107.2789489	104.7804642	102.3540316	99.99714915	97.70741821	95.48253795	93.32030091
240410A00005	4/10/2024	5.14	4/10/2025		102.51523	101.9789131	101.4482287	100.923089	100.4034071	99.88909802	99.38007855	98.87626709	98.37758379
240410A00007	4/10/2024	4.64	4/10/2028		117.91838	114.1228658	110.4732143	106.9630017	103.5861228	100.3367746	97.20943991	94.19887134	91.30007653
240410A00008	4/10/2024	4.56	4/10/2029		122.67241	117.7083447	112.9797834	108.4742468	104.1799833	100.0859242	96.18164001	92.45730034	88.90363606
240412A00003	4/12/2024	5.47	10/11/2024		100.17959	100.1482871	100.1170212	100.0857911	100.0545968	100.0234383	99.99231537	99.96122807	99.93017628
240412A00005	4/12/2024	5.46	11/12/2024		100.58373	100.4610143	100.3386013	100.2164939	100.0946912	99.97319172	99.85199449	99.73109828	99.61050193
240412A00006	4/12/2024	5.44	12/12/2024		100.97604	100.7671767	100.5591691	100.3520125	100.1457015	99.94023106	99.73559584	99.53179071	99.32881054
240412A00009	4/12/2024	5.47	10/11/2024		100.17959	100.1482871	100.1170212	100.0857911	100.0545968	100.0234383	99.99231537	99.96122807	99.93017628
240412A00010	4/12/2024	5.26	4/11/2025		102.58323	102.024988	101.4726599	100.9261525	100.385374	99.85023464	99.32064652	98.79652352	98.2777813
240412A00012	4/12/2024	5.46	11/12/2024		100.58373	100.4610143	100.3386013	100.2164939	100.0946912	99.97319172	99.85199449	99.73109828	99.61050193
240412A00017	4/12/2024	4.84	4/10/2026		107.6752	106.1019339	104.5599245	103.0483155	101.5662792	100.1130178	98.68776159	97.28976793	95.91832008
240412A00019	4/12/2024	5.47	10/11/2024		100.17959	100.1482871	100.1170212	100.0857911	100.0545968	100.0234383	99.99231537	99.96122807	99.93017628
240415A00018	4/15/2024	5.41	1/15/2025		101.43194	101.124999	100.819877	100.516562	100.2150378	99.91528843	99.61729822	99.3210516	99.02653319
240415A00019	4/15/2024	5.41	1/15/2025		101.43194	101.124999	100.819877	100.516562	100.2150378	99.91528843	99.61729822	99.3210516	99.02653319
240415A00020	4/15/2024	5.41	1/15/2025		101.43194	101.124999	100.819877	100.516562	100.2150378	99.91528843	99.61729822	99.3210516	99.02653319
240415A00060	4/15/2024	5.06	4/15/2026		107.9663	106.3785614	104.8224882	103.2972018	101.8018582	100.3356437	98.89777386	97.487492	96.10406797
240416A00017	4/16/2024	5.17	10/16/2025		105.29276	104.2180764	103.1654547	102.1342204	101.1237249	100.1333456	99.16248482	98.21056816	97.27704371
240416A00018	4/16/2024	5.04	4/16/2026		107.95079	106.3603301	104.8016173	103.2737732	101.7759503	100.3073315	98.86712907	97.45458337	96.06896133
240416A00019	4/16/2024	4.91	4/16/2027		113.24914	110.5686177	107.9667087	105.4406295	102.9877139	100.6054068	98.29125936	96.04292336	93.85814658
240416A00020	4/16/2024	4.85	4/17/2028		118.46516	114.6470746	110.9760568	107.4456067	104.0495518	100.7820265	97.63745496	94.61053514	91.69622351
240416A00030	4/16/2024	4.78	4/16/2027		113.1325	110.4488611	107.8440284	105.3152093	102.8597279	100.4750206	98.15862972	95.90819932	93.72146959
240416A00050	4/16/2024	5.14	4/16/2025		102.6003	102.0470792	101.4998514	100.9585171	100.4229811	99.89315036	99.36893371	98.85024201	98.33698797
240417A00015	4/17/2024	4.76	4/16/2027		113.08087	110.3978999	107.7937246	105.2655482	102.8106952	100.4266022	98.11081244	95.86097002	93.67481562

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240417A00016	4/17/2024	4.63	4/17/2029		123.09221	118.097541	113.3405307	108.8085426	104.4896828	100.3727508	96.44719572	92.70307443	89.13101351
240417A00017	4/17/2024	4.63	4/17/2029		123.09221	118.097541	113.3405307	108.8085426	104.4896828	100.3727508	96.44719572	92.70307443	89.13101351
240418A00001	4/18/2024	5.15	4/18/2025		102.6342	102.0753238	101.5225599	100.9758071	100.4349674	99.89994494	99.37064602	98.84697885	98.32885362
240418A00004	4/18/2024	4.87	4/18/2031		132.70931	125.2916143	118.3554716	111.8667965	105.7940954	100.1082566	94.78235821	89.79149243	85.11260457
240418A00012	4/18/2024	5.19	10/17/2025		105.32953	104.2518267	103.1963047	102.1622826	101.1491066	100.1561496	99.18280922	98.22850682	97.29268643
240418A00018	4/18/2024	5.31	4/18/2025		102.67847	102.1200041	101.567633	101.0212613	100.4807913	99.94612754	99.4171765	98.89384673	98.37604874
240418A00019	4/18/2024	5.05	4/17/2026		107.9821	106.3885358	104.8268098	103.2960413	101.7953789	100.3240019	98.88111925	97.46596802	96.07781212
240419A00026	4/23/2024	5.07	4/1/2026		107.76141	106.2151758	104.6993584	103.2131388	101.7557238	100.3263481	98.92427305	97.54878559	96.19919687
240422A00038	4/22/2024	5.03	10/22/2025		105.32319	104.2301818	103.1599805	102.1118738	101.0851811	100.0792498	99.09345323	98.12718998	97.17988236
240422A00040	4/22/2024	4.85	10/22/2026		110.64009	108.4913313	106.3958772	104.3520522	102.3582422	100.4128958	98.51452121	96.66168349	94.85300205
240422A00041	4/22/2024	4.92	4/22/2026		107.98581	106.3757558	104.7980666	103.2518344	101.7361864	100.250282	98.79331091	97.36449219	95.96307255
240423A00024	4/23/2024	5.33	3/31/2025		102.45979	101.9344686	101.4143797	100.8994497	100.3896021	99.88476221	99.38485662	98.88981341	98.39956202
240423A00025	4/23/2024	5.28	6/30/2025		103.73196	102.9668871	102.2131337	101.47045	100.7385931	100.0173273	99.30642368	98.60565985	97.91481975
240423A00027	4/23/2024	4.93	3/31/2027		113.05606	110.4244925	107.8691816	105.3874697	102.9768054	100.634742	98.35893228	96.14712428	93.99715627
240423A00028	4/23/2024	5.08	3/31/2026		107.76084	106.2174489	104.7043935	103.2208539	101.7660407	100.3391919	98.93957203	97.566471	96.21920288
240423A00032	4/23/2024	5.06	4/20/2026		108.04492	106.4422841	104.8717623	103.3324606	101.8235164	100.3440985	98.89340558	97.47066523	96.07513224
240423A00033	4/23/2024	5.15	4/23/2025		102.70523	102.1322395	101.5656685	101.005405	100.4513439	99.90338243	99.36141996	98.82535819	98.29510089
240423A00034	4/23/2024	4.92	4/19/2027		113.32073	110.6305497	108.0194382	105.4845897	103.0233158	100.6330407	98.3112956	96.05571386	93.86402574
240424A00008	4/24/2024	5.29	4/24/2025		102.75357	102.1782161	101.6093231	101.0467847	100.4904948	99.94034948	99.39624713	98.85808838	98.32577607
240424A00013	4/24/2024	5.13	4/24/2025		102.70801	102.1322332	101.562936	101.0000057	100.4433359	99.89282229	99.34836292	98.80985814	98.27721043
240424A00014	4/24/2024	5.4	1/24/2025		101.55187	101.2192609	100.8887822	100.5604152	100.2341398	99.90993588	99.58778382	99.2676641	98.9495575
240424A00015	4/24/2024	5.48	11/25/2024		100.75339	100.5936441	100.4344035	100.2756622	100.117418	99.95966838	99.80241114	99.64564393	99.48936446
240424A00030	4/24/2024	4.89	4/21/2027		113.27348	110.5780957	107.9620594	105.4225485	102.9568606	100.5624066	98.23670546	95.97737882	93.78214594
240425A00010	4/25/2024	4.83	4/26/2027		113.41433	110.697819	108.061666	105.5029942	103.0190526	100.6072067	98.26493246	95.98981101	93.77952338
240425A00019	4/25/2024	5.34	4/21/2025		102.73862	102.1716348	101.6109332	101.0564084	100.5079586	99.96548418	99.42888752	98.89807327	98.37294809
240425A00021	4/25/2024	4.83	4/26/2027		113.41433	110.697819	108.061666	105.5029942	103.0190526	100.6072067	98.26493246	95.98981101	93.77952338
240425A00028	4/25/2024	4.9	4/25/2028		118.76561	114.9184251	111.2200813	107.6639754	104.243832	100.9536893	97.78788175	94.74102351	91.80799272
240425A00029	4/25/2024	4.85	4/25/2029		123.81378	118.7907574	114.0071419	109.4501737	105.1078467	100.9688564	97.02255572	93.25891265	89.66847142
240425A00030	4/25/2024	4.85	4/25/2029		123.81378	118.7907574	114.0071419	109.4501737	105.1078467	100.9688564	97.02255572	93.25891265	89.66847142
240425A00032	4/25/2024	4.92	4/25/2030		128.91687	122.679949	116.7949555	111.2400191	105.9947466	101.0401141	96.35836689	91.93292893	87.74831796
240425A00033	4/25/2024	4.96	4/27/2026		108.12745	106.5019242	104.9092318	103.3484457	101.818674	100.3190578	98.84876976	97.40701253	95.99301735
240425A00034	4/25/2024	4.96	4/27/2026		108.12745	106.5019242	104.9092318	103.3484457	101.818674	100.3190578	98.84876976	97.40701253	95.99301735
240426A00011	4/26/2024	5.17	10/27/2025		105.46429	104.3576829	103.2744249	102.2137818	101.1750491	100.1575518	99.16064216	98.18369855	97.22612425

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240426A00012	4/26/2024	4.92	4/27/2026		108.06372	106.4387259	104.8465512	103.2862736	101.7570015	100.2578763	98.78807085	97.34678798	95.93325915
240426A00019	4/26/2024	5.5	10/28/2024		100.39034	100.3106705	100.2311296	100.1517173	100.0724332	99.99327709	99.91424865	99.83534757	99.75657355
240426A00024	4/26/2024	4.79	4/26/2029		122.1164	117.3982563	112.9030126	108.6187565	104.5342867	100.639063	96.92316257	93.37724039	89.99249226
240426A00025	4/26/2024	5.32	4/21/2025		102.72736	102.1604156	101.5997497	101.0452604	100.4968459	99.95440635	99.41784435	98.8870645	98.36197347
240426A00026	4/26/2024	5.05	4/30/2026		108.1862	106.5538357	104.9545011	103.3872634	101.8512222	100.3455106	98.86929375	97.42176687	96.0021544
240426A00027	4/26/2024	5.32	4/25/2025		102.78515	102.2069169	101.6352068	101.0699116	100.5109236	99.95813761	99.41145057	98.87076178	98.33597275
240426A00029	4/26/2024	5.19	10/27/2025		105.48602	104.3792883	103.295906	102.2351404	101.1962871	100.1786708	99.18164388	98.20458465	97.24689634
240426A00044	4/26/2024	4.78	4/26/2027		113.28384	110.5690516	107.9345771	105.3775457	102.8952079	100.4849301	98.14418934	95.87056788	93.66174772
240429A00006	4/29/2024	4.86	10/29/2026		110.76639	108.59667	106.4810904	104.4179302	102.4055383	100.4423286	98.52677616	96.65741506	94.83283519
240429A00007	4/29/2024	5.04	10/29/2025		105.44217	104.3287451	103.238951	102.1720395	101.1272941	100.104028	99.10158259	98.1193259	97.15665136
240429A00008	4/29/2024	4.93	4/29/2026		108.11088	106.4797667	104.8816632	103.3156364	101.7807869	100.2762489	98.80118825	97.35480139	95.93631353
240429A00024	4/29/2024	5.5	11/26/2024		100.7686	100.6060911	100.4440997	100.2826233	100.1216596	99.96120609	99.80126033	99.64181992	99.48288247
240429A00028	4/29/2024	5.32	4/29/2025		102.84294	102.2534055	101.6706422	101.0945347	100.5249695	99.96183527	99.40502364	98.85442844	98.3099459
240429A00045	4/29/2024	5.1	8/5/2025		104.19641	103.3280171	102.4741546	101.6344631	100.8085913	99.9961995	99.19695891	98.41055149	97.63666936
240429A00047	4/29/2024	5.46	1/6/2025		101.31765	101.0372495	100.7583667	100.4809935	100.2051176	99.93072683	99.65780916	99.38635269	99.11634568
240429A00052	4/29/2024	4.91	5/3/2027		113.50698	110.7738768	108.1219538	105.5482905	103.0500943	100.624692	98.26952277	95.98213338	93.76017245
240430A00016	4/30/2024	5.08	10/30/2025		105.50145	104.3848597	103.2920203	102.2221802	101.1746178	100.1486413	99.14358726	98.15881932	97.19372663
240430A00017	4/30/2024	5.08	10/30/2025		105.50145	104.3848597	103.2920203	102.2221802	101.1746178	100.1486413	99.14358726	98.15881932	97.19372663
240430A00029	4/30/2024	5.51	11/1/2024		100.44106	100.3500199	100.2591458	100.1684333	100.0778821	99.98749166	99.89726168	99.80719168	99.71728125
240430A00030	4/30/2024	5.44	2/3/2025		101.70451	101.3430532	100.9841058	100.6276387	100.2736263	99.92204335	99.57286491	99.22606636	98.88162344
240430A00031	4/30/2024	5.36	5/1/2025		102.8957	102.3004424	101.7120861	101.1305117	100.5556022	99.98724347	99.4253239	98.86973442	98.3203684
240430A00034	4/30/2024	4.69	4/30/2029		123.55178	118.5073985	113.7044455	109.13001	104.7719412	100.6188015	96.6598207	92.88485336	89.28433883
240430A00035	4/30/2024	4.94	4/30/2027		113.54107	110.8159476	108.1715764	105.6050584	103.113623	100.6946175	98.34550032	96.06383642	93.84729151
240430A00038	4/30/2024	5.37	3/28/2025		102.43557	101.9194027	101.408304	100.9021987	100.4010141	99.90467859	99.41312222	98.92627623	98.44407323
240430A00075	4/30/2024	5.2	4/30/2025		102.83405	102.2411855	101.6551644	101.0758733	100.5031966	99.93702141	99.37723745	98.82373684	98.27641416
240501A00017	5/1/2024	5.13	5/1/2026		108.32981	106.6934963	105.0903271	103.519363	101.9796994	100.4704652	98.99082154	97.53995999	96.1171014
240501A00054	5/6/2024	4.79	5/4/2029		123.65798	118.6118763	113.8073875	109.2315824	104.872293	100.7180661	96.75811756	92.98228919	89.38100897
240502A00013	5/2/2024	4.68	5/2/2028		118.38391	114.5149526	110.7965754	107.2220563	103.7850125	100.4793822	97.29940674	94.23961319	91.29479874
240502A00014	5/2/2024	5.5	11/4/2024		100.47904	100.3794853	100.2801295	100.1809725	100.0820138	99.98325257	99.88468837	99.78632054	99.68814849
240502A00017	5/2/2024	4.81	5/2/2028		118.54156	114.6778685	110.9643341	107.3942579	103.9612826	100.6593702	97.48278427	94.42607287	91.48405263
240502A00030	5/2/2024	4.75	5/2/2029		123.44412	118.4087435	113.6142915	109.0478835	104.6973955	100.5514154	96.59919683	92.83061659	89.23613518
240502A00048	5/2/2024	4.89	5/3/2027		113.45445	110.7220426	108.0707994	105.4978003	103.0002536	100.5754861	98.22093767	95.93415546	93.71278851
240503A00007	5/3/2024	5.22	4/28/2025		102.77028	102.1837615	101.6039534	101.0307391	100.4640064	99.90364585	99.34955025	98.80161487	98.25973728

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240503A00009	5/3/2024	4.61	5/3/2029		122.80268	117.7791554	112.9962967	108.441223	104.1018135	99.96665934	96.02501774	92.26676956	88.68237944
240503A00016	5/3/2024	4.72	5/3/2028		118.22729	114.3664408	110.655785	107.0886173	103.6585739	100.359611	97.18598683	94.13224458	91.1931965
240503A00020	5/3/2024	5.46	11/4/2024		100.47466	100.37514	100.2758188	100.1766964	100.0777721	99.97904533	99.88051547	99.78218192	99.68404407
240503A00021	5/3/2024	5.3	3/3/2025		102.04462	101.6022074	101.1635332	100.7285547	100.2972252	99.86949896	99.44533103	99.02467715	98.60749378
240503A00022	5/3/2024	5.22	5/5/2025		102.8707	102.2644542	101.6653743	101.0733345	100.4882109	99.90988266	99.33823164	98.7731425	98.2145025
240503A00023	5/3/2024	5.13	8/4/2025		104.13792	103.2735344	102.4235512	101.5876163	100.7653829	99.95651552	99.16068963	98.37759109	97.60691583
240503A00024	5/3/2024	5.04	11/3/2025		105.43012	104.3040199	103.2021006	102.1235859	101.0677345	100.0338361	99.02120998	98.02920315	97.05718926
240503A00028	5/3/2024	5.48	10/3/2024		100.07491	100.0664079	100.0579124	100.0494248	100.040945	100.032473	100.0240089	100.0155526	100.0071041
240503A00035	5/3/2024	4.92	5/1/2026		107.99314	106.3596237	104.7592048	103.1909425	101.6539333	100.1473075	98.67022732	97.2218857	95.80150458
240503A00043	5/3/2024	5.48	10/2/2024		100.06242	100.0567505	100.0510873	100.0454292	100.0397761	100.0341282	100.0284853	100.0228474	100.0172146
240503A00044	5/3/2024	5.46	11/1/2024		100.43558	100.3446046	100.2537933	100.1631436	100.0726551	99.98232729	99.89215977	99.80215214	99.71230396
240503A00046	5/3/2024	5.46	12/2/2024		100.84022	100.6606568	100.4817168	100.3034002	100.1257037	99.94862422	99.77215844	99.59630321	99.42105536
240503A00047	5/3/2024	5.41	1/6/2025		101.3029	101.0227488	100.7441215	100.4670024	100.1913792	99.91723982	99.64457216	99.37336438	99.10360473
240503A00048	5/3/2024	5.35	2/3/2025		101.67191	101.3108523	100.9522986	100.5962226	100.2425986	99.89140137	99.54260601	99.19618792	98.85212289
240503A00050	5/3/2024	5.3	3/3/2025		102.04462	101.6022074	101.1635332	100.7285547	100.2972252	99.86949896	99.44533103	99.02467715	98.60749378
240503A00051	5/3/2024	5.26	4/1/2025		102.43632	101.9091227	101.3872087	100.8705019	100.3589247	99.85240111	99.35085669	98.85421837	98.36241453
240503A00052	5/3/2024	5.22	5/1/2025		102.81303	102.2180541	101.6299726	101.0486706	100.4740314	99.90594066	99.34428693	98.78896115	98.23985671
240506A00011	5/6/2024	4.46	5/4/2029		122.52713	117.4947073	112.7039169	108.141802	103.7961717	99.6555529	95.7091433	91.9467688	88.35884329
240506A00012	5/6/2024	5.04	11/6/2025		105.47626	104.3414608	103.2312092	102.1447145	101.0812185	100.039995	99.02034813	98.02161093	97.04314354
240506A00016	5/6/2024	5.23	5/6/2025		102.89116	102.282075	101.6802237	101.0854781	100.4977127	99.91680488	99.34263483	98.77508561	98.21404294
240506A00017	5/6/2024	5.48	11/6/2024		100.50219	100.397004	100.2920431	100.1873065	100.0827934	99.97850307	99.87443472	99.77058764	99.6669611
240506A00020	5/6/2024	4.73	5/6/2027		113.07716	110.3413304	107.6869926	105.1112051	102.6111575	100.1841589	97.8276328	95.53911083	93.31622757
240506A00031	5/6/2024	5.08	5/6/2025		102.84901	102.239466	101.6371669	101.0419872	100.4538011	99.87248536	99.29792002	98.72998769	98.16857373
240506A00040	5/6/2024	5.21	5/6/2025		102.87907	102.2700299	101.6682195	101.0735145	100.4857893	99.90492131	99.33079081	98.76328082	98.20227706
240507A00017	5/7/2024	4.51	5/8/2028		117.8454	113.9690479	110.2442093	106.6640933	103.2222528	99.91256627	96.72921974	93.66668903	90.71972368
240507A00019	5/7/2024	4.51	5/8/2028		117.8454	113.9690479	110.2442093	106.6640933	103.2222528	99.91256627	96.72921974	93.66668903	90.71972368
240507A00020	5/7/2024	4.6	5/7/2027		112.97202	110.2299911	107.5698013	104.9884976	102.4832518	100.0513565	97.69021955	95.39735785	93.17039209
240507A00021	5/7/2024	4.77	5/7/2026		107.97393	106.3217876	104.7033769	103.1177268	101.5639081	100.0410263	98.54822069	97.08466193	95.64955116
240507A00034	5/7/2024	4.9	5/7/2026		108.05069	106.4001818	104.7833303	103.1991717	101.6467794	100.1252618	98.63376031	97.17144814	95.73752861
240507A00042	5/7/2024	4.57	5/7/2029		122.66691	117.6349414	112.8445585	108.2828028	103.937484	99.79712935	95.85093754	92.08873547	88.50093819
240507A00043	5/7/2024	4.9	5/7/2026		108.05069	106.4001818	104.7833303	103.1991717	101.6467794	100.1252618	98.63376031	97.17144814	95.73752861
240507A00048	5/7/2024	4.73	5/7/2027		113.09147	110.35265	107.695467	105.1169779	102.6143646	100.1849292	97.82608853	95.53536782	93.31039576
240507A00049	5/7/2024	4.64	5/8/2028		118.0046	114.1335267	110.413534	106.8378613	103.4000869	100.0941136	96.91414995	93.85469281	90.91051145



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240507A00051	5/7/2024	4.57	5/7/2029		122.66691	117.6349414	112.8445585	108.2828028	103.937484	99.79712935	95.85093754	92.08873547	88.50093819
240508A00005	5/8/2024	4.59	5/8/2031		131.66272	124.1961818	117.2192519	110.69697	104.5970549	98.88968799	93.54731265	88.54445126	83.85753755
240508A00006	5/8/2024	4.92	5/8/2026		108.09808	106.4444203	104.8245165	103.237401	101.6821432	100.1578477	98.66365228	97.19872672	95.76227106
240508A00010	5/8/2024	5.48	12/9/2024		100.93782	100.7383068	100.539576	100.3416239	100.1444461	99.94803782	99.75239459	99.55751186	99.36338515
240509A00005	5/9/2024	4.62	5/9/2029		122.92726	117.8834933	113.0820434	108.5098977	104.1548199	100.0052948	96.05048167	92.28017097	88.68474387
240509A00007	5/9/2024	5.22	5/8/2025		102.91395	102.2992467	101.6919123	101.0918149	100.4988254	99.9128179	99.33366919	98.76125911	98.19547028
240509A00008	5/9/2024	4.6	5/10/2027		113.01463	110.2635853	107.5948438	105.0054214	102.4924667	100.0532512	97.68516223	95.38569782	93.15246072
240509A00009	5/9/2024	5.33	3/13/2025		102.19929	101.7279234	101.2608111	100.7978969	100.3391242	99.88443752	99.43378237	98.98710517	98.54435334
240509A00010	5/9/2024	4.6	5/10/2027		113.01463	110.2635853	107.5948438	105.0054214	102.4924667	100.0532512	97.68516223	95.38569782	93.15246072
240509A00011	5/9/2024	5.37	2/12/2025		101.80473	101.4177998	101.0337482	100.6525462	100.2741621	99.89856473	99.52572326	99.15560739	98.78818722
240509A00012	5/9/2024	5.5	10/10/2024		100.16155	100.133206	100.1048947	100.076615	100.0483669	100.0201505	99.99196547	99.96381194	99.93568981
240509A00022	5/9/2024	4.66	5/9/2028		118.09186	114.2163353	110.4921464	106.9125112	103.470994	100.1614846	96.97817908	93.915563	90.96839491
240509A00023	5/9/2024	4.6	5/9/2029		122.83338	117.7917834	112.992424	108.4222958	104.0691657	99.92152136	95.96852508	92.19996991	88.60623963
240509A00039	5/9/2024	4.87	11/10/2025		105.43787	104.29069	103.1685937	102.0707673	100.9964279	99.94482615	98.91524424	97.90699434	96.919417
240510A00015	5/10/2024	4.91	11/10/2025		105.48291	104.3354579	103.2130955	102.115007	101.0404096	99.98855354	98.95872109	97.95022427	96.96240356
240510A00016	5/10/2024	4.91	11/10/2025		105.48291	104.3354579	103.2130955	102.115007	101.0404096	99.98855354	98.95872109	97.95022427	96.96240356
240510A00020	5/10/2024	4.63	5/10/2027		113.09409	110.3419918	107.6722139	105.0817786	102.567834	100.1276508	97.75861567	95.45822598	93.22408386
240513A00020	5/13/2024	5.23	5/13/2025		102.99227	102.3634349	101.7423102	101.1287542	100.5226288	99.92379922	99.33213393	98.74750458	98.16978586
240513A00022	5/13/2024	4.92	5/13/2026		108.17305	106.5049789	104.8711403	103.270546	101.7022458	100.1653254	98.65890513	97.18213805	95.73420837
240513A00024	5/13/2024	4.74	5/13/2027		113.20392	110.4467489	107.7721372	105.1770921	102.6587493	100.214368	97.84132418	95.5371051	93.29930341
240513A00025	5/13/2024	4.67	5/12/2028		118.17046	114.2849291	110.5513854	106.9630044	103.5133119	100.1961612	97.00571506	93.93642745	90.98302767
240513A00026	5/13/2024	4.6	5/14/2029		122.89793	117.8403684	113.0263823	108.442867	104.0774943	99.91866392	95.95545721	92.17759263	88.57538514
240513A00032	5/13/2024	5.5	11/13/2024		100.59468	100.469641	100.3449233	100.2205239	100.0964416	99.97267521	99.84922336	99.72608486	99.60325847
240513A00041	5/13/2024	5.06	11/13/2025		105.60662	104.4513481	103.3214992	102.2162368	101.1347628	100.0763135	99.04015744	98.02559412	97.031952
240513A00045	5/17/2024	4.73	6/17/2027		113.68283	110.8192069	108.0437454	105.3531447	102.7442552	100.2140679	97.75970725	95.37842367	93.06758738
240514A00049	5/14/2024	4.84	2/5/2026		106.70023	105.3176469	103.9597856	102.6260424	101.3158285	100.0285739	98.76372657	97.52075183	96.29913161
240514A00065	5/14/2024	4.59	5/14/2029		122.85085	117.7943792	112.9814443	108.3989436	104.0345502	99.87666541	95.91437205	92.13738993	88.53603533
240515A00002	5/15/2024	4.4	11/13/2028		119.98218	115.5149723	111.2432607	107.157384	103.2482128	99.50711866	95.92594384	92.49697281	89.21290554
240515A00003	5/15/2024	4.36	5/15/2029		122.19578	117.139109	112.3266504	107.7452308	103.3824652	99.22670193	95.26697471	91.49295864	87.89492895
240515A00014	5/15/2024	4.81	11/17/2025		105.4752	104.3080701	103.1668947	102.0508164	100.9590122	99.8906947	98.8451105	97.82153797	96.81928581
240515A00020	5/15/2024	5.45	1/15/2025		101.43758	101.1318816	100.8280009	100.5259198	100.2256221	99.92709217	99.63031419	99.33527269	99.04195239
240515A00023	5/15/2024	4.51	5/15/2029		122.48688	117.4359389	112.628499	108.0514466	103.6924485	99.53990083	95.5828815	91.81110641	88.21488849
240515A00024	5/15/2024	4.59	5/15/2028		117.91757	114.0280891	110.2910737	106.6996617	103.2473461	99.92795005	96.73560819	93.66474856	90.71007628

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240515A00026	5/15/2024	4.64	5/17/2027		112.99475	110.2291403	107.5466247	104.9441751	102.4188993	99.96802997	97.5889183	95.27902817	93.03593039
240515A00027	5/15/2024	4.5	5/19/2027		112.87504	110.1005395	107.4096347	104.7992753	102.2665434	99.80864767	97.42291669	95.10679307	92.85782754
240515A00034	5/15/2024	5.2	5/15/2025		103.00228	102.3678631	101.7412929	101.1224245	100.5111161	99.9072294	99.31062953	98.72118478	98.13876665
240515A00035	5/15/2024	4.57	5/15/2028		117.84386	113.9557352	110.2200295	106.6298892	103.178809	99.86061323	96.66943784	93.59971209	90.64614227
240515A00036	5/17/2024	4.63	6/17/2027		113.4076	110.5477869	107.7760461	105.0890791	102.483739	99.95701948	97.50604739	95.12807573	92.82047702
240515A00037	5/15/2024	4.5	5/15/2029		122.43977	117.3899229	112.5835355	108.0074988	103.6494811	99.49787998	95.54177498	91.7708833	88.17551916
240515A00038	5/15/2024	4.5	5/15/2029		122.43977	117.3899229	112.5835355	108.0074988	103.6494811	99.49787998	95.54177498	91.77088331	88.17551916
240515A00039	5/15/2024	4.57	5/15/2030		127.14866	120.9021047	115.0116974	109.4550987	104.2114953	99.26148359	94.58696684	90.17105999	85.99800213
240515A00041	7/1/2024	4.69	7/1/2027		113.77477	110.8692969	108.0543115	105.326391	102.6822679	100.1188224	97.63307474	95.22217716	92.8834074
240515A00043	5/15/2024	5.2	5/15/2025		103.00228	102.3678631	101.7412929	101.1224245	100.5111161	99.9072294	99.31062953	98.72118478	98.13876665
240515A00044	5/15/2024	4.97	11/14/2025		105.51977	104.3622125	103.2301892	102.122862	101.0394274	99.9791163	98.94119254	97.92495088	96.92971545
240515A00048	7/1/2024	4.55	7/2/2029		123.29222	118.0808751	113.1266788	108.4154545	103.9338922	99.66948878	95.6104937	91.74585938	88.06519485
240515A00050	7/1/2024	4.55	7/2/2029		123.29222	118.0808751	113.1266788	108.4154545	103.9338922	99.66948878	95.6104937	91.74585938	88.06519485
240515A00052	7/1/2024	4.79	7/3/2034		144.89431	133.5014205	123.15042	113.7389463	105.175253	97.37705796	90.27051887	83.78932526	77.87389226
240515A00064	5/15/2024	5.45	1/15/2025		101.43758	101.1318816	100.8280009	100.5259198	100.2256221	99.92709217	99.63031419	99.33527269	99.04195239
240515A00066	6/28/2024	4.8	6/29/2026		108.67516	106.870392	105.104728	103.3769629	101.6859407	100.0305528	98.40973597	96.82246952	95.26777331
240515A00067	6/28/2024	4.8	6/29/2026		108.67516	106.870392	105.104728	103.3769629	101.6859407	100.0305528	98.40973597	96.82246952	95.26777331
240515A00068	6/28/2024	4.8	6/29/2026		108.67516	106.870392	105.104728	103.3769629	101.6859407	100.0305528	98.40973597	96.82246952	95.26777331
240515A00089	5/15/2024	4.5	5/15/2029		122.43977	117.3899229	112.5835355	108.0074988	103.6494811	99.49787998	95.54177498	91.77088331	88.17551916
240516A00024	5/16/2024	5.29	4/16/2025		102.63866	102.085855	101.5390333	100.9980933	100.4629403	99.93348151	99.40962611	98.89128524	98.37837191
240516A00025	5/17/2024	4.55	10/16/2028		119.86541	115.4924939	111.307845	107.3023125	103.4672383	99.79443083	96.27613759	92.90501898	89.67412393
240516A00026	5/16/2024	5.21	5/20/2025		103.08052	102.4319433	101.7915642	101.159224	100.5347716	99.91805973	99.30894477	98.70728663	98.11294862
240516A00030	5/16/2024	5	11/17/2025		105.59969	104.4332016	103.2926274	102.1771098	101.085828	100.0179966	98.97286376	97.94970972	96.94784479
240516A00038	5/16/2024	4.9	5/18/2026		108.21502	106.5328008	104.8852904	103.2714791	101.690397	100.1411112	98.62272436	97.13437274	95.67522469
240517A00011	5/17/2024	4.61	5/17/2028		118.01888	114.121833	110.3777105	106.7796242	103.32104	99.99575621	96.79788381	93.72182903	90.76227657
240517A00017	5/17/2024	4.4	5/17/2029		122.40979	117.342353	112.5198205	107.9289736	103.5573825	99.39335375	95.42588283	91.64460918	88.03977501
240517A00026	5/17/2024	4.68	5/17/2027		113.10137	110.3343334	107.650419	105.0466027	102.5199913	100.0678163	97.6874282	95.37628993	93.13197142
240517A00033	5/17/2024	5.3	4/17/2025		102.65854	102.1029024	101.5533065	101.009651	100.4718398	99.93977867	99.41337559	98.89254035	98.3771847
240517A00034	5/17/2024	5.02	11/17/2025		105.62259	104.4559589	103.3152475	102.1995948	101.1081799	100.0402174	98.99495542	97.97167415	96.96968384
240517A00038	5/17/2024	5.43	1/22/2025		101.52885	101.2030594	100.8793234	100.5576233	100.23794	99.92025446	99.60454797	99.290802	98.97899826
240520A00010	5/20/2024	5.35	3/20/2025		102.30666	101.8154793	101.3289212	100.8469177	100.369405	99.89632043	99.42760254	98.96319099	98.50302657
240520A00011	5/20/2024	5.25	5/20/2025		103.10624	102.4575748	101.8171038	101.1846726	100.56013	99.94332873	99.33412515	98.73237915	98.13795405
240520A00012	5/20/2024	5.18	7/21/2025		103.9702	103.1456333	102.3342046	101.5356001	100.7495169	99.97566158	99.21374973	98.46350579	97.72466263

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240520A00016	5/20/2024	4.57	8/16/2027		114.31756	111.2692944	108.3197078	105.4650673	102.7018051	100.0265078	97.43590817	94.92687827	92.49642283
240520A00017	5/20/2024	4.94	4/15/2026		107.77925	106.1930316	104.6384462	103.1146216	101.6207144	100.1559116	98.7194294	97.3105118	95.92842925
240520A00018	5/20/2024	4.84	10/15/2026		110.34136	108.2186094	106.1481715	104.1284122	102.1577606	100.2347059	98.35779512	96.52562979	94.73686399
240520A00020	5/20/2024	4.79	1/15/2027		111.58738	109.1916916	106.8602572	104.5909334	102.3816646	100.2304786	98.13548223	96.09485773	94.10685919
240520A00025	5/20/2024	4.75	4/15/2027		112.82171	110.1496547	107.5559389	105.037794	102.5925646	100.2177061	97.91077928	95.6694453	93.49146074
240520A00027	5/20/2024	4.7	10/15/2027		115.29576	112.0664263	108.94665	105.9320814	103.0185699	100.2021541	97.47905151	94.8456499	92.29849812
240520A00031	5/20/2024	4.96	9/19/2025		104.74769	103.7505707	102.7725257	101.8130086	100.8714954	99.94748185	99.04048224	98.1500288	97.27567078
240520A00040	5/20/2024	4.89	11/20/2025		105.61246	104.4360253	103.2859361	102.1613121	101.0613127	99.98513374	98.93200599	97.90119297	96.89198934
240520A00041	5/20/2024	4.83	11/25/2026		110.93202	108.6863872	106.4981382	104.3653938	102.2863549	100.2592954	98.28255857	96.35455387	94.47375351
240521A00005	5/21/2024	5.04	11/21/2025		105.70703	104.5286166	103.3766239	102.2501712	101.1484141	100.0705452	99.01579187	97.98341464	96.97270525
240521A00006	5/21/2024	4.9	5/21/2026		108.25984	106.5689623	104.9130786	103.2911717	101.7022597	100.1453984	98.61967948	97.12422916	95.65820612
240521A00033	5/21/2024	5.48	11/21/2024		100.69489	100.5472084	100.399959	100.2531447	100.1067635	99.96081337	99.81529249	99.67019891	99.52553072
240522A00012	5/22/2024	4.67	5/22/2028		118.31019	114.3934985	110.6309045	107.015452	103.5405386	100.1998987	96.98758373	93.89794444	90.92561358
240522A00027	5/22/2024	4.62	5/21/2027		113.22446	110.4396097	107.7387667	105.1188583	102.5769482	100.1102275	97.71600831	95.39171767	93.13489157
240522A00028	5/22/2024	5.48	12/23/2024		101.12487	100.8856357	100.6475171	100.4105098	100.174606	99.9397981	99.70607831	99.47343907	99.24187285
240522A00037	5/22/2024	5.11	5/22/2025		103.09649	102.441643	101.7951469	101.1568421	100.5265734	99.90418924	99.28954203	98.68248779	98.08288613
240522A00039	5/22/2024	4.76	5/24/2027		113.41545	110.6244907	107.9177973	105.2922872	102.7450107	100.2731468	97.87399609	95.54497471	93.28360853
240523A00021	5/23/2024	4.96	11/24/2025		105.75484	104.5662312	103.4044848	102.2686933	101.1579922	100.0715552	99.00859166	97.9683454	96.95009218
240523A00025	5/23/2024	4.96	11/18/2025		105.66241	104.4913183	103.3463225	102.2265593	101.1311997	100.0594504	99.01055221	97.98377844	96.9784328
240523A00027	5/23/2024	4.49	5/24/2029		122.92514	117.8253634	112.9727401	108.3538909	103.9562355	99.76794205	95.77787782	91.97556387	88.3511329
240523A00033	5/24/2024	4.8	12/24/2027		116.61694	113.1652025	109.8361766	106.6247299	103.5259843	100.535298	97.64825215	94.86063814	92.16844639
240523A00035	5/24/2024	4.78	11/24/2027		116.12166	112.7636839	109.5226645	106.393817	103.3725885	100.454641	97.6358392	94.91223999	92.28008204
240523A00037	5/24/2024	4.78	1/24/2028		116.992	113.4460182	110.028818	106.7350103	103.559465	100.4972941	97.54383918	94.694659	91.94551834
240523A00043	5/24/2024	4.81	2/24/2028		117.55324	113.9049367	110.3921892	107.00923	103.7505675	100.6109721	97.58546234	94.66929188	91.857937
240523A00056	5/23/2024	5.48	11/25/2024		100.74674	100.5876832	100.4291232	100.2710605	100.1134927	99.9564174	99.79983236	99.64373527	99.48812382
240524A00001	5/24/2024	4.98	11/24/2025		105.77813	104.5893837	103.4274953	102.291564	101.1807253	100.0941527	99.0310558	97.99067807	96.97229535
240524A00011	5/24/2024	5.02	5/19/2026		108.42835	106.74155	105.0895824	103.471436	101.8861361	100.3327454	98.81036208	97.31811828	95.85517846
240524A00020	5/24/2024	5.31	5/19/2025		103.13016	102.4841863	101.8463379	101.2164628	100.5944117	99.98003912	99.3732031	98.77376524	98.18159049
240524A00027	5/24/2024	4.82	6/30/2027		114.12328	111.2157191	108.3986043	105.6685094	103.0221676	100.4564601	97.96840822	95.55516558	93.21401141
970806A00017	8/1/1997	7.02	7/23/2026		106.68227	105.683638	104.7037207	103.7419854	102.7979236	101.8710458	100.9608812	100.0669764	99.18889458
970806A00018	8/1/1997	6.7	10/23/2026		107.27643	106.1449013	105.0359671	103.9489756	102.8832996	101.8383353	100.8135019	99.80823971	98.82200969
970806A00059	8/1/1997	8.25	9/22/2025		104.27586	103.7108798	103.1536503	102.6039917	102.0617325	101.5267069	100.9987543	100.477719	99.96345016
ADV1006427	5/28/2024	5.471	10/23/2024		100.31798	100.2528868	100.1878942	100.1229977	100.0581971	99.99349213	99.9288826	99.86436829	99.799949

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1006431	5/28/2024	5.468	10/31/2024		100.41738	100.329575	100.2419211	100.1544161	100.0670598	99.97985166	99.89279138	99.8058786	99.71911295
ADV1006436	5/28/2024	5.272	6/30/2025		103.72639	102.9613442	102.2076156	101.4649564	100.7331237	100.0118818	99.30100167	98.60026108	97.90944391
ADV1006437	5/28/2024	4.799	6/28/2027		114.03566	111.1351321	108.3246865	105.6009209	102.9605868	100.4005826	97.91794566	95.50984489	93.1735737
ADV1006438	5/28/2024	4.644	5/29/2029		123.30109	118.190616	113.3279579	108.6996817	104.2931625	100.0965268	96.09860407	92.28888043	88.65745647
ADV1006450	5/28/2024	5.047	5/28/2026		108.61165	106.8983641	105.2207964	103.5778971	101.9686547	100.3920973	98.8472904	97.33333506	95.84936635
ADV1006451	5/28/2024	5.204	11/28/2025		106.00801	104.8079552	103.6352319	102.4889127	101.3681115	100.2719813	99.1997122	98.15052967	97.12369225
ADV1006454	5/28/2024	5.333	5/28/2025		103.27794	102.6063914	101.943601	101.2894	100.6436219	100.0061045	99.37668991	98.7552241	98.14155695
ADV1006456	5/28/2024	5.456	11/26/2024		100.75475	100.592978	100.4317168	100.2709683	100.1107302	99.95099994	99.79177517	99.63305347	99.47483246
ADV1006457	5/28/2024	5.436	1/28/2025		101.6123	101.269677	100.9293228	100.5912106	100.2553183	99.92162418	99.59010666	99.26074453	98.93351682
ADV1006464	5/28/2024	5.174	5/28/2025		103.22556	102.5535242	101.8902627	101.2356065	100.5893886	99.95144661	99.32162187	98.69975998	98.08571039
ADV1006474	5/28/2024	5.044	5/28/2026		108.60662	106.8933726	105.2158478	103.5729906	101.9637897	100.387273	98.84250601	97.32858994	95.84465984
ADV1006478	5/28/2024	4.775	5/30/2028		118.81384	114.8649116	111.0720024	107.4280341	103.9262933	100.5604103	97.32434003	94.21234274	91.21896686
ADV1006508	5/29/2024	4.746	9/12/2028		120.19276	115.9125041	111.8127305	107.8848455	104.1207102	100.5126153	97.0532553	93.73570545	90.55339991
ADV1006512	5/29/2024	4.762	7/17/2028		119.45339	115.3522929	111.4180922	107.643055	104.0198548	100.5415448	97.20153523	93.99357346	90.91172445
ADV1006529	5/29/2024	5.175	5/29/2025		103.24051	102.5656396	101.8996192	101.2422732	100.5934328	99.95293335	99.32061465	98.69632047	98.07989854
ADV1006531	5/29/2024	5.446	11/29/2024		100.79184	100.6215345	100.4517921	100.2826113	100.1139892	99.945923	99.77841006	99.61144765	99.44503307
ADV1006532	5/29/2024	5.092	2/27/2026		107.29175	105.839976	104.4152	103.016732	101.6439047	100.2960727	98.97261191	97.67291872	96.3964089
ADV1006538	5/29/2024	4.952	11/25/2026		111.19854	108.9499397	106.7587836	104.6231912	102.5413615	100.5115668	98.53214871	96.6015152	94.71813698
ADV1006544	5/29/2024	5.306	5/29/2025		103.27439	102.6000836	101.9346058	101.2777856	100.6294547	99.98944914	99.35760904	98.73377867	98.11780624
ADV1006550	5/29/2024	5.453	11/21/2024		100.68902	100.5415237	100.3944676	100.2478461	100.101657	99.95589857	99.81056876	99.66566569	99.52118745
ADV1006553	5/29/2024	5.471	10/29/2024		100.3925	100.3103907	100.2284162	100.1465765	100.0648712	99.98330007	99.90186271	99.82055884	99.73938814
ADV1006558	5/29/2024	5.422	12/30/2024		101.20348	100.9444789	100.6867765	100.4303623	100.1752268	99.92136049	99.66875392	99.41739777	99.16728279
ADV1006559	5/29/2024	4.894	7/30/2027		114.76775	111.7665392	108.860925	106.0473465	103.3223951	100.6828075	98.12545827	95.64735355	93.24562464
ADV1006562	5/29/2024	4.768	6/29/2029		124.30928	119.0825073	114.1129323	109.3864016	104.8896222	100.6101062	96.53611731	92.65662093	88.9612378
ADV1006570	5/29/2024	4.908	5/28/2027		113.8724	111.0639557	108.3405268	105.6989905	103.1363624	100.6497883	98.23653749	95.89399692	93.61966469
ADV1006582	5/30/2024	5.037	5/29/2026		108.60972	106.8937013	105.2134987	103.5680555	101.9563565	100.3774258	98.83032544	97.31415306	95.82804053
ADV1006583	5/30/2024	4.859	5/28/2027		113.74004	110.9334048	108.2117404	105.5719279	103.0109842	100.5260561	98.11441439	95.77344699	93.50065312
ADV1006584	5/30/2024	5.447	11/27/2024		100.76582	100.6012411	100.4371978	100.2736832	100.1106948	99.94822994	99.78628621	99.62486108	99.46395206
ADV1006588	5/30/2024	5.446	11/29/2024		100.79161	100.6213331	100.4516158	100.2824598	100.1138625	99.94582108	99.77833279	99.61139496	99.44500487
ADV1006589	5/30/2024	5.268	5/30/2025		103.26332	102.5862776	101.9181401	101.2587286	100.6078725	99.96540619	99.33116793	98.70500024	98.08674963
ADV1006595	5/30/2024	5.031	5/29/2026		108.59963	106.8837024	105.2035859	103.5582273	101.9466113	100.3677622	98.82074198	97.30464837	95.81861328
ADV1006596	5/30/2024	4.859	5/28/2027		113.74004	110.9334048	108.2117404	105.5719279	103.0109842	100.5260561	98.11441439	95.77344699	93.50065312
ADV1006597	5/30/2024	5.452	11/21/2024		100.68864	100.5411675	100.3941338	100.2475346	100.1013678	99.95563155	99.81032387	99.66544286	99.52098662

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1006598	5/30/2024	4.783	5/30/2028		118.84321	114.8937342	111.1002977	107.4558183	103.9535819	100.5872182	97.35068147	94.23823154	91.24441631
ADV1006599	5/30/2024	4.695	5/30/2029		123.55607	118.4367479	113.5657097	108.9294971	104.5154571	100.3116906	96.30700273	92.49085727	88.85333396
ADV1006606	5/30/2024	4.579	5/30/2029		120.9625	116.3716662	111.9987987	107.832117	103.8605493	100.0736878	96.46174375	93.01550725	89.72630917
ADV1006609	5/30/2024	5.445	11/29/2024		100.79144	100.6211624	100.4514459	100.2822908	100.1136943	99.94565372	99.77816626	99.61122925	99.44483999
ADV1006611	5/30/2024	5.452	11/21/2024		100.68864	100.5411675	100.3941338	100.2475346	100.1013678	99.95563155	99.81032387	99.66544286	99.52098662
ADV1006633	5/31/2024	4.653	5/28/2027		113.41338	110.6062088	107.8841623	105.2441061	102.6830483	100.1981276	97.78660713	95.44586759	93.17340148
ADV1006634	5/31/2024	4.572	5/31/2028		118.39405	114.4416059	110.6456993	106.9992106	103.4953913	100.1278397	96.89048033	93.77754548	90.78355757
ADV1006649	5/31/2024	5.135	5/30/2025		103.22794	102.5503438	101.8816653	101.2217294	100.5703653	99.92740652	99.29269108	98.66606096	98.0473622
ADV1006650	5/31/2024	4.854	5/29/2026		108.44119	106.7242319	105.0431555	103.3968977	101.7844405	100.2048056	98.65705263	97.14027702	95.65360853
ADV1006651	5/31/2024	5.134	5/30/2025		103.22727	102.5496753	101.8809993	101.2210659	100.5697042	99.92674788	99.29203484	98.6654071	98.04671071
ADV1006652	5/31/2024	4.854	5/29/2026		108.44119	106.7242319	105.0431555	103.3968977	101.7844405	100.2048056	98.65705263	97.14027702	95.65360853
ADV1006656	5/31/2024	4.99	5/29/2026		108.53069	106.8153607	105.1358322	103.4910512	101.8800025	100.3017107	98.75523798	97.23968249	95.75417631
ADV1006657	5/31/2024	4.811	5/28/2027		113.61059	110.8057137	108.0857673	105.4476332	102.8883292	100.4050036	97.99492834	95.65549237	93.38419601
ADV1006659	5/31/2024	4.732	5/31/2028		118.66724	114.7181544	110.9252176	107.2813385	103.7797936	100.4142043	97.17851681	94.06698378	91.07414641
ADV1006680	6/3/2024	4.924	6/3/2026		108.50181	106.7726883	105.0798709	103.4222785	101.7988748	100.2086642	98.65069006	97.12403241	95.62780643
ADV1006681	6/3/2024	4.731	6/3/2027		113.4874	110.6671051	107.9326347	105.2808213	102.7086359	100.2131826	97.79169183	95.44151379	93.16011231
ADV1006683	6/3/2024	4.637	6/5/2028		118.3893	114.4307267	110.6292367	106.9776696	103.4692391	100.0975082	96.85636946	93.74002532	90.74297065
ADV1006697	6/3/2024	5.459	11/4/2024		100.46728	100.3682131	100.2693466	100.1706779	100.0722064	99.97393157	99.87585273	99.7779693	99.68028068
ADV1006698	6/3/2024	5.407	1/3/2025		101.25364	100.9833687	100.7145175	100.447073	100.1810241	99.91635987	99.65306957	99.3911425	99.13056808
ADV1006700	6/3/2024	5.362	3/3/2025		102.06501	101.6243314	101.1873762	100.754102	100.3244626	99.89841235	99.47590647	99.05690085	98.64135216
ADV1006703	6/3/2024	5.223	6/3/2025		103.2981	102.6098195	101.9307413	101.2606789	100.5994533	99.94689035	99.30282037	98.66707808	98.0395025
ADV1006721	6/4/2024	5.207	6/4/2025		103.3016	102.6105213	101.9287226	101.2560135	100.5922128	99.93714405	99.29063557	98.65252007	98.02263459
ADV1006724	6/4/2024	4.536	6/4/2027		113.20215	110.3778292	107.6396556	104.9844449	102.4091506	99.91085995	97.48678797	95.13427017	92.85075657
ADV1006733	6/4/2024	5.194	6/4/2025		103.29268	102.6016394	101.9198744	101.2471987	100.5834311	99.9283952	99.28191921	98.64383588	98.01398229
ADV1006734	6/4/2024	4.987	12/4/2025		105.8496	104.6336559	103.4457996	102.285067	101.1505352	100.0413224	98.95658607	97.89552093	96.85735656
ADV1006742	6/4/2024	4.992	12/4/2025		105.85557	104.6395842	103.4516907	102.2909217	101.1563539	100.0471056	98.9623345	97.90123505	96.86303688
ADV1006757	6/5/2024	4.883	12/5/2025		105.83706	104.6168824	103.4249846	102.2603902	101.1221671	100.0094252	98.92131403	97.85702069	96.81576773
ADV1006758	6/5/2024	5.431	12/5/2024		100.86793	100.6807035	100.4941674	100.308317	100.1231487	99.93865865	99.75484309	99.57169829	99.38922056
ADV1006759	6/5/2024	4.502	6/5/2029		122.72004	117.602562	112.7342936	108.1016798	103.6919771	99.49320388	95.49409051	91.68403266	88.05304821
ADV1006761	6/5/2024	5.463	11/5/2024		100.48026	100.3783883	100.2767256	100.1752732	100.0740306	99.97299712	99.87217201	99.77155464	99.67114435
ADV1006762	6/5/2024	5.197	6/5/2025		103.30866	102.6147834	101.9302538	101.2548877	100.5885016	99.93091696	99.28195986	98.64146106	98.00925566
ADV1006779	6/5/2024	5.052	6/5/2025		103.26404	102.5696222	101.88457	101.2086984	100.5418236	99.88376648	99.23435259	98.59341217	97.96077986
ADV1006780	6/5/2024	4.435	6/1/2029		122.34999	117.2530854	112.4039915	107.7892492	103.396209	99.2129759	95.2283602	91.43183145	87.81347581



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1006781	6/5/2024	4.998	10/31/2025		105.34311	104.2259812	103.1326566	102.0623812	101.0144305	99.98811027	98.9827546	97.99772483	97.03240799
ADV1006782	6/5/2024	5.4	12/19/2024		101.04929	100.8220973	100.595924	100.3707609	100.1466011	99.92343803	99.70126483	99.4800749	99.25986166
ADV1006791	6/6/2024	5.171	6/6/2025		103.30533	102.608678	101.9214542	101.2434676	100.5745327	99.91446872	99.26309964	98.62025416	97.98576546
ADV1006792	6/6/2024	4.967	12/8/2025		105.88558	104.6581254	103.4592894	102.2880791	101.1435456	100.024783	98.93092607	97.86114788	96.81465789
ADV1006793	6/6/2024	4.835	6/8/2026		108.42537	106.6826661	104.9767792	103.3066064	101.6710895	100.069212	98.49999761	96.96250776	95.45584007
ADV1006802	6/6/2024	4.287	6/6/2029		122.12722	117.0079224	112.1385918	107.5055996	103.0961387	98.89816921	94.9003679	91.09208141	87.46328261
ADV1006822	6/7/2024	5.487	10/7/2024		100.11641	100.0966644	100.0769379	100.0572319	100.0375462	100.017881	99.99823604	99.97861141	99.95900704
ADV1006838	6/7/2024	4.941	1/7/2026		106.40764	105.0949022	103.8122509	102.5586484	101.3331061	100.1346804	98.96246989	97.81561304	96.69328597
ADV1006842	6/7/2024	5.458	12/9/2024		100.92668	100.7280744	100.530244	100.333189	100.1369047	99.9413864	99.74662971	99.55263008	99.35938303
ADV1006844	6/7/2024	4.772	6/7/2027		113.65658	110.8223403	108.0746242	105.4102276	102.8260861	100.3192705	97.88698015	95.52653602	93.23537433
ADV1006845	6/7/2024	4.686	6/7/2028		118.60054	114.6321025	110.8213013	107.1609426	103.6442082	100.2646318	97.01607826	93.89272426	90.88904066
ADV1006846	6/7/2024	4.579	6/7/2029		123.11341	117.9807359	113.0981517	108.4520424	104.0296099	99.81882239	95.80836336	91.98758518	88.3464655
ADV1006860	6/10/2024	4.544	6/10/2030		127.80889	121.4493055	115.4565402	109.807325	104.479993	99.45436301	94.71162918	90.23425982	86.00590401
ADV1006862	6/10/2024	4.698	6/12/2028		118.71647	114.731118	110.9045536	107.2295126	103.6991057	100.3068003	97.04639973	93.91202332	90.89808857
ADV1006864	6/10/2024	4.684	6/10/2030		128.09899	121.7491281	115.7648302	110.1229412	104.8018972	99.78161076	95.04336191	90.56969737	86.34433789
ADV1006866	6/10/2024	4.751	6/10/2032		136.49448	127.699774	119.5613403	112.0261699	105.0458223	98.5760067	92.57620481	87.00933046	81.84142124
ADV1006868	6/10/2024	4.737	6/10/2031		132.3979	124.8333035	117.7693554	111.1699574	105.001806	99.23416455	93.83865233	88.78905099	84.0611287
ADV1006872	6/10/2024	4.778	6/10/2027		113.7164	110.8726156	108.11586	105.4429015	102.8506498	100.3361513	97.89658265	95.52924309	93.23154873
ADV1006873	6/10/2024	4.612	6/4/2029		123.23111	118.1046272	113.2275098	108.5862028	104.1679649	99.96081635	95.95348839	92.13537718	88.49650056
ADV1006874	6/11/2024	4.614	6/1/2029		123.20112	118.0842949	113.2159873	108.5827093	104.1717814	99.97128069	95.96999063	92.15735543	88.52343712
ADV1006899	6/11/2024	5.276	5/12/2025		103.01095	102.3847632	101.7662165	101.1551741	100.5514998	99.95506035	99.36572606	98.7833701	98.20786872
ADV1006901	6/11/2024	5.24	6/11/2025		103.42585	102.7148241	102.0136097	101.3220088	100.6398244	99.96686446	99.30294247	98.64787677	98.00149058
ADV1006904	6/11/2024	5.456	11/12/2024		100.5693	100.4476617	100.3263296	100.2053006	100.0845734	99.96414683	99.84401983	99.72419119	99.60465977
ADV1006907	6/11/2024	5.438	12/11/2024		100.94877	100.7445869	100.5412316	100.3386967	100.1369772	99.9360681	99.73596452	99.53666153	99.33815425
ADV1006912	6/11/2024	4.816	6/11/2026		108.57935	106.8242399	105.1063815	103.4246531	101.7779786	100.1653246	98.58569888	97.03814792	95.52175501
ADV1006931	6/12/2024	4.404	6/12/2029		122.33852	117.2091324	112.3305566	107.6890956	103.2718774	99.06680234	95.0624931	91.24824655	87.61399008
ADV1006934	6/12/2024	4.933	12/12/2025		105.90299	104.6641362	103.454433	102.2728577	101.1184356	99.99023628	98.88737149	97.80899282	96.75428939
ADV1006935	6/12/2024	4.796	6/12/2026		108.41683	106.6627965	104.9460023	103.2653243	101.619686	100.0080542	98.42943627	96.88287863	95.36746448
ADV1006936	6/12/2024	4.561	6/14/2027		113.17856	110.3305748	107.5700955	104.8938578	102.2987426	99.78176973	97.34009058	94.97098123	92.67183593
ADV1006937	6/12/2024	4.656	6/12/2026		108.31823	106.5625874	104.8442643	103.1621308	101.5151075	99.90215789	98.32228676	96.77453775	95.25799155
ADV1006940	6/12/2024	5.018	10/1/2025		104.90817	103.8776944	102.8675537	101.8771463	100.9058973	99.95325384	99.01868407	98.10167637	97.20173823
ADV1006942	6/12/2024	4.955	11/28/2025		105.71825	104.5200283	103.3491125	102.2045714	101.0855194	99.99111045	98.92053548	97.87302053	96.84782487
ADV1006943	6/12/2024	5.018	10/1/2025		104.90817	103.8776944	102.8675537	101.8771463	100.9058973	99.95325384	99.01868407	98.10167637	97.20173823

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1006944	6/12/2024	5.018	10/1/2025		104.90817	103.8776944	102.8675537	101.8771463	100.9058973	99.95325384	99.01868407	98.10167637	97.20173823
ADV1006945	6/12/2024	5.018	10/1/2025		104.90817	103.8776944	102.8675537	101.8771463	100.9058973	99.95325384	99.01868407	98.10167637	97.20173823
ADV1006946	6/12/2024	5.143	6/12/2025		103.37103	102.6574449	101.9537522	101.2597454	100.575225	99.89999693	99.2338725	98.57666806	97.92820487
ADV1006947	6/12/2024	5.018	10/1/2025		104.90817	103.8776944	102.8675537	101.8771463	100.9058973	99.95325384	99.01868407	98.10167637	97.20173823
ADV1006948	6/12/2024	4.955	11/28/2025		105.71825	104.5200283	103.3491125	102.2045714	101.0855194	99.99111045	98.92053548	97.87302053	96.84782487
ADV1006949	6/12/2024	4.955	11/28/2025		105.71825	104.5200283	103.3491125	102.2045714	101.0855194	99.99111045	98.92053548	97.87302053	96.84782487
ADV1006950	6/12/2024	4.952	11/28/2025		105.71472	104.5165222	103.345628	102.2011082	101.0820773	99.98768901	98.91713441	97.86963951	96.84446361
ADV1006953	6/12/2024	4.55	6/14/2027		113.14837	110.3008009	107.5407287	104.8648886	102.2701617	99.75356821	97.31225984	94.9435129	92.64472189
ADV1006954	6/12/2024	4.466	6/12/2028		117.84207	113.8730233	110.0622856	106.4026065	102.8871142	99.50929268	96.26296114	93.14225421	90.1416039
ADV1006955	6/12/2024	4.371	6/12/2029		122.18045	117.0547776	112.1797886	107.5417872	103.1279066	98.92605292	94.92485359	91.11361036	87.48225517
ADV1006956	6/12/2024	4.382	6/12/2029		122.23314	117.1062292	112.2300446	107.59089	103.1758969	98.97296939	94.97073343	91.15848909	87.5261668
ADV1006960	6/12/2024	4.668	6/12/2026		108.33889	106.5830673	104.8645638	103.1822532	101.535056	99.92193555	98.34189659	96.79398267	95.27727441
ADV1006962	6/12/2024	4.822	6/12/2026		108.46157	106.7071384	104.989954	103.3088929	101.6628785	100.0508771	98.47189613	96.92498177	95.40921706
ADV1006965	6/17/2024	4.601	7/1/2027		113.52908	110.6270808	107.8154879	105.0908779	102.4499861	99.88969512	97.40702758	94.99913815	92.66330679
ADV1006966	6/12/2024	4.44	6/12/2029		122.51097	117.3775195	112.4950307	107.8497958	103.4289363	99.22034717	95.21264529	91.39512239	87.75770089
ADV1006967	6/12/2024	4.643	6/14/2027		113.40362	110.5525253	107.7890117	105.1098105	102.5118005	99.9919992	97.54755606	95.17574514	92.87395877
ADV1006968	6/12/2024	5.195	6/12/2025		103.40782	102.6940903	101.9902544	101.2961057	100.6114447	99.93607748	99.26981522	98.61247426	97.96387583
ADV1006980	6/13/2024	4.665	6/15/2026		108.37829	106.6135499	104.8864513	103.1958574	101.5406746	99.91985331	98.33238576	96.77730384	95.25367711
ADV1006988	6/13/2024	4.393	6/13/2029		122.29832	117.1668962	112.2865324	107.6435039	103.2249197	99.01866283	95.01333999	91.19823345	87.56325724
ADV1006989	6/13/2024	4.955	12/15/2025		105.97502	104.7272293	103.5089965	102.3192766	101.1570749	100.0214425	98.91147343	97.82630296	96.76510467
ADV1006993	6/13/2024	5.413	12/13/2024		100.97003	100.7602306	100.5512994	100.3432346	100.1360308	99.92968248	99.72418435	99.51953109	99.3157174
ADV1006998	6/13/2024	5.149	6/13/2025		103.38978	102.6733373	101.9668655	101.2701552	100.5830047	99.90521763	99.23660317	98.57697555	97.92615402
ADV1006999	6/13/2024	4.935	12/15/2025		105.95055	104.7029231	103.4848462	102.2952798	101.133229	99.99774502	98.88792216	97.80289557	96.74183892
ADV1007000	6/13/2024	4.793	6/15/2026		108.45657	106.6936277	104.9682494	103.2792981	101.6256837	100.0063597	98.4203213	96.86660313	95.34427738
ADV1007001	6/13/2024	4.268	6/13/2029		120.67062	115.8487048	111.2605522	106.8933995	102.7352543	98.77484386	95.00156807	91.40545533	87.97712164
ADV1007016	6/13/2024	4.324	6/13/2028		117.64647	113.6695997	109.8516978	106.1854686	102.6639992	99.28073515	96.02946008	92.90427539	89.89958206
ADV1007017	6/13/2024	4.543	8/4/2027		113.83024	110.8285266	107.9229312	105.109863	102.3858833	99.74770009	97.19216097	94.71624628	92.31706294
ADV1007019	6/13/2024	4.42	6/14/2027		113.02401	110.1730627	107.4098292	104.7310362	102.1335538	99.61439142	97.17069084	94.79971903	92.49886166
ADV1007020	6/13/2024	4.251	2/2/2029		120.38858	115.6775536	111.1820705	106.8911286	102.7943448	98.88191603	95.14458342	91.57359983	88.1606988
ADV1007052	6/14/2024	4.323	6/14/2029		121.9751	116.8483162	111.9725943	107.3341999	102.9202327	98.71856831	94.71780634	90.9072231	87.2767274
ADV1007058	6/14/2024	5.144	6/16/2025		103.4297	102.7047583	101.9900212	101.2852727	100.5903041	99.90491214	99.22889956	98.56207426	97.90424943
ADV1007059	6/14/2024	5.015	6/16/2025		103.39474	102.6691858	101.9538561	101.2485343	100.5530107	99.86708183	99.19054961	98.52322143	97.86490994
ADV1007060	6/14/2024	4.361	5/21/2029		121.86143	116.8076868	111.9984861	107.42061	103.0616343	98.909872	94.95432527	91.18464063	87.59106767

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007061	6/14/2024	4.959	12/15/2025		105.97991	104.7320906	103.5138265	102.324076	101.1618441	100.0261819	98.91618368	97.83098444	96.76975783
ADV1007063	6/14/2024	4.804	6/15/2026		108.47559	106.712478	104.986933	103.2978181	101.644043	100.0245612	98.43836775	96.88449724	95.36202179
ADV1007066	6/14/2024	4.562	6/14/2027		113.18131	110.3332815	107.5727652	104.8964914	102.3013409	99.7843335	97.34262065	94.97347835	92.67430084
ADV1007068	6/18/2024	4.512	11/1/2027		114.94802	111.6758592	108.5159878	105.463897	102.515283	99.66604114	96.91225505	94.25018673	91.67626734
ADV1007070	6/14/2024	5.406	12/16/2024		101.00851	100.7901786	100.5727923	100.3563429	100.1408242	99.92623025	99.71255493	99.49979231	99.28793649
ADV1007075	6/14/2024	4.422	6/14/2027		113.02951	110.1784821	107.4151744	104.736309	102.1387558	99.61952431	97.17575618	94.80471834	92.50379641
ADV1007076	6/14/2024	4.562	6/14/2027		113.18131	110.3332815	107.5727652	104.8964914	102.3013409	99.7843335	97.34262065	94.97347835	92.67430084
ADV1007096	6/17/2024	4.852	6/17/2026		108.5884	106.8185848	105.0865639	103.3911947	101.7313771	100.1060556	98.51421649	96.95488636	95.42712959
ADV1007098	6/17/2024	4.614	6/17/2027		113.36635	110.5070682	107.735842	105.0493781	102.4445299	99.91829132	97.46778957	95.09027787	92.783129
ADV1007099	6/17/2024	4.522	6/20/2028		118.16303	114.1644355	110.3260837	106.6405975	103.1009874	99.70062836	96.43323775	93.29285568	90.27382603
ADV1007100	6/17/2024	4.415	6/18/2029		122.4661	117.3158447	112.4181689	107.7592298	103.3260279	99.10634687	95.08870179	91.26229064	87.61694975
ADV1007107	6/17/2024	4.278	6/18/2029		122.23145	117.0738504	112.1696178	107.5048533	103.0665004	98.84228977	94.82068772	90.99084717	87.34256279
ADV1007114	6/17/2024	4.74	6/18/2029	6/17/2027	118.8818	114.8597722	111.0200283	107.3529769	103.8495891	100.5013649	97.30029946	94.23885068	91.30991006
ADV1007138	6/18/2024	5.439	12/12/2024		100.96089	100.7540673	100.5480918	100.3429589	100.1386635	99.93520029	99.73256418	99.53075005	99.32975284
ADV1007146	6/18/2024	4.482	6/20/2028		118.01136	114.0156049	110.1800102	106.4972001	102.960188	99.56235184	96.29741179	93.15941058	90.14269465
ADV1007153	6/20/2024	4.502	2/25/2028		116.50423	112.8709526	109.3729433	106.0044421	102.7599617	99.63427699	96.62241113	93.71962235	90.92139155
ADV1007157	6/18/2024	4.969	12/18/2025		106.03688	104.780225	103.5535357	102.3557439	101.1858349	100.0428412	98.92583926	97.83394781	96.76632487
ADV1007158	6/18/2024	5.434	12/18/2024		101.04065	100.8167107	100.5937594	100.3717925	100.1508033	99.93078523	99.71173195	99.49363701	99.27649406
ADV1007159	6/18/2024	5.336	3/18/2025		102.26538	101.782108	101.3033274	100.8289782	100.358999	99.89332961	99.43191073	98.97468431	98.52159329
ADV1007160	6/18/2024	4.638	1/19/2027		111.29283	108.8894444	106.5507851	104.2747072	102.0591484	99.9021289	97.80174748	95.75617752	93.76366368
ADV1007162	6/18/2024	5.159	6/18/2025		103.46884	102.7381766	102.0178761	101.307717	100.6074856	99.91697436	99.23598139	98.56431043	97.90177056
ADV1007163	6/18/2024	5.032	6/18/2025		103.43509	102.7038092	101.9829052	101.2721621	100.5713655	99.88030725	99.19878491	98.52660162	97.86356589
ADV1007164	6/18/2024	5.032	6/18/2025		103.43509	102.7038092	101.9829052	101.2721621	100.5713655	99.88030725	99.19878491	98.52660162	97.86356589
ADV1007166	6/18/2024	4.965	12/18/2025		106.03195	104.7753314	103.5486737	102.350913	101.1810346	100.0380709	98.92109859	97.82923627	96.76164201
ADV1007167	6/18/2024	4.805	6/18/2026		108.52166	106.7495891	105.0154128	103.3179794	101.6561847	100.028969	98.43531502	96.87424555	95.34482163
ADV1007168	6/18/2024	4.556	6/18/2027		113.22056	110.3603991	107.5884096	104.9012902	102.2958871	99.76918792	97.31831342	94.94051113	92.63314844
ADV1007170	6/18/2024	5.434	12/18/2024		101.04065	100.8167107	100.5937594	100.3717925	100.1508033	99.93078523	99.71173195	99.49363701	99.27649406
ADV1007171	6/18/2024	5.265	4/18/2025		102.65639	102.0979163	101.5455382	100.9991603	100.4586849	99.9240164	99.39506139	98.87172836	98.35392779
ADV1007173	6/18/2024	4.389	6/20/2034		123.78988	117.9258936	112.454616	107.3452366	102.5696273	98.10209077	93.91913275	89.99925718	86.32278146
ADV1007194	6/20/2024	5.425	12/20/2024		101.06508	100.8355029	100.6069647	100.379459	100.1529786	99.92751667	99.70306619	99.47962034	99.25717232
ADV1007195	6/20/2024	5.331	3/20/2025		102.29121	101.8022601	101.3179137	100.8381013	100.3627592	99.89182506	99.42523781	98.96293732	98.50486465
ADV1007196	6/20/2024	5.165	6/20/2025		103.50157	102.7652306	102.039406	101.3238755	100.6184206	99.92282915	99.23689485	98.56041717	97.89320108
ADV1007211	6/20/2024	4.562	9/27/2027		114.62502	111.4571354	108.3954812	105.4358916	102.5743917	99.807185	97.13064393	94.54130158	92.03584348

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007218	6/20/2024	4.777	8/20/2026		109.39236	107.4370923	105.5269436	103.6606042	101.8368088	100.0543367	98.31201025	96.60869293	94.94328762
ADV1007219	6/20/2024	4.682	12/21/2026		110.98309	108.6639994	106.4056606	104.2060287	102.063146	99.97513749	97.94020611	95.95662892	94.02275331
ADV1007220	6/20/2024	4.59	6/21/2027		113.35617	110.4854317	107.7034003	105.006745	102.3922849	99.85698191	97.39793305	95.01236334	92.69761902
ADV1007227	6/20/2024	4.835	6/22/2026		108.63345	106.8489813	105.1028574	103.3939035	101.7209965	100.0830588	98.4790563	96.90799583	95.36892334
ADV1007228	6/20/2024	4.588	6/21/2027		113.35064	110.4799807	107.6980243	105.0014423	102.3870538	99.85182073	97.39284019	95.00733724	92.69265819
ADV1007229	6/20/2024	5.328	3/20/2025		102.28977	101.8008377	101.3165019	100.8366999	100.3613682	99.8904444	99.42386735	98.96157697	98.50351432
ADV1007230	6/20/2024	4.494	6/20/2028		118.05619	114.0595822	110.2231589	106.539545	103.0017529	99.60315963	96.33748452	93.19876949	90.18136016
ADV1007240	6/20/2024	5.424	12/20/2024		101.06485	100.8352753	100.6067382	100.3792336	100.1527544	99.92729355	99.70284418	99.47939943	99.25695251
ADV1007258	6/21/2024	5.154	6/23/2025		103.53711	102.7922843	102.0582191	101.3346776	100.6214342	99.91826976	99.22497131	98.54133187	97.8671502
ADV1007267	6/21/2024	4.49	6/21/2028		118.05478	114.0552489	110.2161252	106.5300154	102.9899182	99.58919744	96.32156057	93.18103828	90.16196585
ADV1007272	6/21/2024	5.405	12/23/2024		101.10044	100.8623458	100.625369	100.3894982	100.1547256	99.92104365	99.68844458	99.45692087	99.22646505
ADV1007273	6/21/2024	5.309	3/21/2025		102.29473	101.8030174	101.3159579	100.8334831	100.3555285	99.8820305	99.41292709	98.94815717	98.48766084
ADV1007274	6/21/2024	5.144	6/23/2025		103.52973	102.7849374	102.050902	101.3273901	100.6141759	99.91104035	99.21777056	98.53415948	97.86000589
ADV1007298	6/24/2024	5.409	12/23/2024		101.10073	100.862736	100.6258583	100.3900863	100.155412	99.92182778	99.68932607	99.45789927	99.22753991
ADV1007299	6/24/2024	5.141	6/24/2025		103.5413	102.7936735	102.056886	101.330699	100.6148844	99.90922092	99.21349319	98.5274921	97.85101431
ADV1007300	6/24/2024	5.141	6/24/2025		103.5413	102.7936735	102.056886	101.330699	100.6148844	99.90922092	99.21349319	98.5274921	97.85101431
ADV1007302	6/24/2024	5.252	4/24/2025		102.7333	102.1579605	101.5890807	101.0265561	100.4702802	99.92014937	99.37606184	98.83791829	98.30562149
ADV1007304	6/24/2024	5.409	12/24/2024		101.11412	100.8732738	100.6335648	100.3949862	100.1575301	99.92118855	99.68595364	99.45181759	99.21877268
ADV1007305	6/24/2024	5.316	3/24/2025		102.34024	101.8399781	101.3445227	100.8538075	100.3677649	99.88632835	99.40943249	98.93701334	98.46900804
ADV1007306	6/24/2024	5.14	6/24/2025		103.54056	102.7929362	102.0561517	101.3299676	100.6141561	99.90849545	99.21277061	98.52677237	97.85029741
ADV1007310	6/24/2024	5.207	5/27/2025		103.18067	102.5122636	101.8525389	101.2013316	100.5584773	99.92381586	99.29719104	98.67845069	98.06744645
ADV1007317	6/25/2024	4.989	12/26/2025		106.18146	104.9013034	103.6521993	102.4330222	101.2427038	100.0802259	98.94461786	97.8349539	96.75035022
ADV1007325	6/25/2024	5.406	12/18/2024		101.03286	100.8091767	100.5864844	100.3647752	100.1440427	99.92428018	99.70548131	99.48763967	99.27074891
ADV1007326	6/25/2024	5.271	4/15/2025		102.63148	102.0672202	101.5090602	100.956903	100.4106521	99.87021306	99.33549339	98.80640259	98.28285206
ADV1007329	6/25/2024	4.377	6/25/2029		122.36893	117.200145	112.2857862	107.611863	103.1652352	98.93355791	94.9052279	91.06933467	87.41561494
ADV1007332	6/25/2024	5.15	6/25/2025		103.56223	102.8117465	102.0721761	101.3432835	100.6248383	99.91661679	99.21840138	98.52998076	97.85114951
ADV1007335	6/25/2024	5.154	6/25/2025		103.5652	102.8147066	102.075124	101.3462194	100.6277624	99.91952917	99.22130214	98.53287001	97.85402738
ADV1007336	6/25/2024	5.155	6/25/2025		103.56595	102.8154466	102.075861	101.3469534	100.6284935	99.92025726	99.22202733	98.53359233	97.85474685
ADV1007342	6/25/2024	4.995	12/26/2025		106.18898	104.9087734	103.6596203	102.4403951	101.2500292	100.0875047	98.95185081	97.84214171	96.75749361
ADV1007349	6/25/2024	5.141	6/25/2025		103.55554	102.8050864	102.0655432	101.3366776	100.6182591	99.91006396	99.21187468	98.52347993	97.8446743
ADV1007351	6/25/2024	4.983	12/26/2025		106.17394	104.8938333	103.6447783	102.4256494	101.2353783	100.072947	98.93738492	97.82776609	96.74320684
ADV1007352	6/25/2024	4.827	6/25/2026		108.66377	106.8704761	105.115857	103.3987217	101.7179329	100.0723998	98.46107574	96.88295572	95.33707453
ADV1007353	6/25/2024	4.575	6/25/2027		113.37044	110.4879076	107.6947475	104.9875872	102.3632112	99.81854873	97.35066645	94.95676071	92.63415091

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007354	6/25/2024	5.395	12/26/2024		101.13726	100.8907491	100.6454286	100.4012888	100.158321	99.9165167	99.67586768	99.43636559	99.19800225
ADV1007355	6/25/2024	5.31	3/25/2025		102.35135	101.8482599	101.3500363	100.856605	100.367897	99.88384476	99.40438199	98.92944362	98.45896583
ADV1007356	6/25/2024	5.141	6/25/2025		103.55554	102.8050864	102.0655432	101.3366776	100.6182591	99.91006396	99.21187468	98.52347993	97.8446743
ADV1007378	6/26/2024	4.529	6/26/2030		127.36914	120.9920252	114.9849063	109.3241666	103.9878334	98.95545014	94.20796317	89.72761748	85.49786105
ADV1007379	6/26/2024	4.573	6/26/2031		131.44248	123.8615813	116.7859462	110.1789019	104.0066406	98.2379769	92.84413082	87.79852891	83.0766236
ADV1007380	6/26/2024	4.622	6/28/2032		135.67119	126.853654	118.6985275	111.1519785	104.1648381	97.69217528	91.69290941	86.12946036	80.96743217
ADV1007385	6/26/2024	4.302	6/26/2029		122.44492	117.2583654	112.3275842	107.6384869	103.1778437	98.93322628	94.89295442	91.04604637	87.38217282
ADV1007401	6/27/2024	5.164	6/27/2025		103.60102	102.8448323	102.0997185	101.3654375	100.6417538	99.92843899	99.22527102	98.53203417	97.84851882
ADV1007406	6/27/2024	4.515	6/27/2028		118.23088	114.2103816	110.3517075	106.6473758	103.0902977	99.67375551	96.39138092	93.23713423	90.20528511
ADV1007409	6/27/2024	5.168	6/27/2025		103.60401	102.8478137	102.1026877	101.3683946	100.6446989	99.93137222	99.22819248	98.53494399	97.85141711
ADV1007410	6/27/2024	4.998	12/29/2025		106.23771	104.9487246	103.6912009	102.4639928	101.2660116	100.0962201	98.95362973	97.83729778	96.74632461
ADV1007413	6/27/2024	4.827	6/29/2026		108.72335	106.9181294	105.1520246	103.4238265	101.7323789	100.0765732	98.45534569	96.86767564	95.31258269
ADV1007414	6/27/2024	4.997	12/29/2025		106.23645	104.9474715	103.689956	102.4627561	101.2647829	100.0949992	98.95241664	97.8360923	96.74512662
ADV1007421	7/1/2024	4.411	6/18/2029		122.45005	117.300321	112.4031521	107.7447007	103.3119686	99.09274029	95.07553169	91.24954161	87.60460716
ADV1007425	6/27/2024	4.798	7/31/2026		109.13954	107.2420509	105.3872651	103.5739701	101.8009975	100.0672193	98.37154595	96.71292499	95.09033949
ADV1007426	6/27/2024	4.473	6/28/2027		113.36454	110.4681821	107.6619565	104.9424505	102.3064095	99.75072615	97.27243272	94.86869322	92.53679667
ADV1007429	6/27/2024	4.826	6/29/2026		108.72158	106.9163781	105.150289	103.4221065	101.7306741	100.0748833	98.45367055	96.86601494	95.31093618
ADV1007430	6/27/2024	5.403	12/27/2024		101.15216	100.9028559	100.6547658	100.4078814	100.1621938	99.91769443	99.67437457	99.43222573	99.19123947
ADV1007432	6/27/2024	5.316	3/27/2025		102.3824	101.8736019	101.3697776	100.8708503	100.3767491	99.88740409	99.40274696	98.92271062	98.44722924
ADV1007433	6/27/2024	5.178	6/27/2025		103.6115	102.8552675	102.1101108	101.3757873	100.6520617	99.93870528	99.23549614	98.54221853	97.85866283
ADV1007447	6/28/2024	4.576	6/28/2027		113.41501	110.5231708	107.7212058	105.0057208	102.3734738	99.82136912	97.34645013	94.94589133	92.61699156
ADV1007449	6/28/2024	4.391	6/28/2029		122.47334	117.2931591	112.3683242	107.6847736	103.2293017	98.98950307	94.95371878	91.1109872	87.4509979
ADV1007450	6/28/2024	5.396	12/30/2024		101.19028	100.9324462	100.675905	100.4206462	100.1666604	99.91393797	99.66246966	99.41224612	99.16325817
ADV1007452	6/28/2024	4.403	6/28/2029		122.53136	117.349796	112.4236331	107.738802	103.282095	99.04110462	95.00417015	91.16032811	87.49926637
ADV1007454	6/28/2024	5.506	10/4/2024		100.07392	100.0626734	100.0514388	100.0402148	100.0290015	100.017799	100.006607	99.99542573	99.98425506
ADV1007460	6/28/2024	5.027	6/30/2025		103.60195	102.8366173	102.0826212	101.3397117	100.6076454	99.88618593	99.17510373	98.47417585	97.78318568
ADV1007484	6/28/2024	5.035	6/30/2025		103.60801	102.8426482	102.088627	101.3456928	100.613602	99.89211823	99.181012	98.48006034	97.78904662
ADV1007487	6/28/2024	5.085	9/30/2025		104.95782	103.9298686	102.9221393	101.9340407	100.9650024	100.014476	99.08193378	98.16686814	97.2687903
ADV1007489	6/28/2024	4.799	8/14/2026		109.34543	107.4072641	105.513493	103.6628338	101.8540503	100.0859501	98.35738222	96.66723567	95.01443762
ADV1007492	6/28/2024	5.473	10/28/2024		100.37307	100.2941544	100.2153651	100.1367032	100.0581683	99.97976017	99.9014785	99.823323	99.74529335
ADV1007493	6/28/2024	5.371	1/28/2025		101.5838	101.2428597	100.9041686	100.5677086	100.2334577	99.90139424	99.57149672	99.24374405	98.91811538
ADV1007511	7/1/2024	5.51	10/1/2024		100.03543	100.0326247	100.029818	100.0270137	100.0242118	100.0214124	100.0186155	100.0158209	100.0130288
ADV1007515	7/1/2024	5.041	1/2/2026		106.35852	105.0587422	103.7902156	102.5518157	101.342473	100.1611681	99.00692926	97.87882903	96.77598215



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007518	7/1/2024	5.194	7/1/2025		103.68873	102.9210781	102.1648265	101.4197242	100.6855256	99.96199229	99.24889293	98.54600268	97.85310316
ADV1007520	7/1/2024	5.064	7/1/2025		103.65103	102.8827287	102.1258474	101.3801365	100.6453498	99.92124823	99.20759967	98.50417867	97.81076623
ADV1007522	7/1/2024	4.894	7/1/2026		108.87787	107.0656937	105.2928692	103.5581877	101.8604875	100.1986546	98.57162026	96.97835826	95.41788316
ADV1007529	7/1/2024	5.509	10/1/2024		100.03543	100.0326178	100.0298111	100.0270068	100.024205	100.0214056	100.0186086	100.015814	100.0130219
ADV1007536	7/1/2024	5.393	1/2/2025		101.22996	100.9636669	100.6987572	100.4352172	100.1730362	99.91220388	99.65270978	99.39454364	99.13769529
ADV1007539	7/1/2024	5.39	1/2/2025		101.22916	100.9628782	100.6979724	100.4344363	100.1722593	99.91143089	99.65194069	99.39377842	99.13693392
ADV1007540	7/1/2024	5.318	4/1/2025		102.45405	101.930959	101.4131157	100.900439	100.3928519	99.89027906	99.3926465	98.89988177	98.41191382
ADV1007541	7/1/2024	5.18	7/1/2025		103.67808	102.9104717	102.1542642	101.4092055	100.6750501	99.95155959	99.23850253	98.53565415	97.84279608
ADV1007543	7/1/2024	5.329	3/14/2025		102.20224	101.7315104	101.2650544	100.802816	100.344738	99.89076419	99.44083963	98.99491016	98.55292263
ADV1007544	7/1/2024	5.286	4/18/2025		102.67215	102.1137146	101.5613804	101.0150453	100.4746117	99.93998394	99.41106867	98.88777442	98.37001168
ADV1007585	7/2/2024	4.518	7/2/2029		123.14292	117.9352458	112.9845881	108.2767759	103.7985047	99.53727673	95.48134646	91.6196711	87.94186422
ADV1007586	7/2/2024	4.518	7/2/2029		123.14292	117.9352458	112.9845881	108.2767759	103.7985047	99.53727673	95.48134646	91.6196711	87.94186422
ADV1007610	7/3/2024	4.582	7/6/2027		113.54754	110.6313014	107.8062885	105.0690556	102.4163158	99.84492976	97.35189713	94.93434966	92.58954421
ADV1007622	7/3/2024	4.58	7/6/2027		113.54192	110.6257672	107.8008315	105.063674	102.4110079	99.83969374	97.34673137	94.92925255	92.58451418
ADV1007623	7/8/2024	4.946	1/8/2026		106.32344	105.010728	103.7277776	102.4735761	101.2471551	100.0475898	98.87399606	97.72552889	96.60137974
ADV1007628	7/3/2024	5.518	10/4/2024		100.07285	100.0616177	100.0503912	100.0391753	100.0279702	100.0167757	100.0055918	99.99441862	99.98325603
ADV1007640	7/5/2024	5.39	12/26/2024		101.13386	100.8877116	100.6427547	100.3989767	100.1563689	99.91492296	99.67463055	99.43548339	99.19747328
ADV1007642	7/5/2024	5.34	2/5/2025		101.68323	101.3196908	100.9587104	100.6002665	100.2443323	99.8908816	99.53988841	99.19132715	98.84517257
ADV1007648	7/5/2024	4.367	7/5/2029		121.46136	116.4816515	111.7476373	107.2457842	102.9633774	98.88846503	95.00980835	91.31683569	87.79959948
ADV1007651	7/5/2024	4.224	7/5/2029		122.17939	116.9728955	112.0244157	107.3196924	102.8453391	98.58878098	94.5382013	90.68249067	87.01120081
ADV1007655	7/5/2024	5.505	10/7/2024		100.10992	100.0902501	100.0706054	100.050981	100.0313769	100.0117932	99.99222964	99.97268632	99.95316319
ADV1007656	7/5/2024	5.374	1/6/2025		101.27936	101.0018168	100.7257824	100.4512421	100.1781838	99.90659542	99.63646512	99.36778111	99.10053176
ADV1007657	7/5/2024	5.262	4/7/2025		102.51032	101.9702451	101.4357756	100.9068206	100.383295	99.86511552	99.3522005	98.84447004	98.34184579
ADV1007658	7/5/2024	5.098	7/7/2025		103.70263	102.918186	102.1456514	101.3847599	100.6352493	99.89686515	99.16936043	98.45249551	97.74603775
ADV1007660	7/5/2024	4.343	7/6/2029		122.34099	117.1408752	112.1981668	107.4986582	103.029008	98.77668258	94.72990278	90.87759363	87.20933829
ADV1007672	7/5/2024	5.503	10/7/2024		100.10987	100.0902035	100.0705589	100.0509346	100.0313306	100.011747	99.99218353	99.97264032	99.95311728
ADV1007673	7/5/2024	4.194	7/5/2029		122.03345	116.830439	111.8853166	107.18383	102.7125981	98.4590512	94.41137737	90.5584718	86.88989054
ADV1007693	7/8/2024	4.357	4/9/2029		121.32001	116.4017025	111.7166775	107.2525805	102.9977798	98.94131874	95.07287271	91.38270945	87.86165181
ADV1007695	7/8/2024	4.378	1/10/2029		120.27338	115.6424086	111.2203592	106.9966252	102.9611975	99.10463025	95.41800517	91.8928993	88.52135436
ADV1007696	7/8/2024	4.411	9/13/2028		118.86283	114.6061475	110.529365	106.623905	102.8816439	99.29488646	95.85634143	92.55909795	89.3966037
ADV1007702	7/8/2024	4.744	1/8/2026		106.16791	104.8546102	103.5711191	102.3164207	101.0895444	99.88956311	98.71559087	97.56678062	96.44232204
ADV1007703	7/8/2024	4.366	7/8/2027		113.20489	110.2825469	107.4519079	104.7095166	102.0520679	99.47640415	96.97950749	94.5584924	92.21059894
ADV1007706	7/8/2024	4.973	7/8/2025		103.6824	102.8944115	102.11845	101.3542374	100.6015078	99.86000321	99.12947337	98.40967542	97.70037364

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007707	7/8/2024	4.973	7/8/2025		103.6824	102.8944115	102.11845	101.3542374	100.6015078	99.86000321	99.12947337	98.40967542	97.70037364
ADV1007720	7/9/2024	4.76	1/9/2026		106.20265	104.8869164	103.6007513	102.3431543	101.1131716	99.90989182	98.73244378	97.57999417	96.45174553
ADV1007722	7/9/2024	4.984	7/9/2025		103.70538	102.9145069	102.1357427	101.3688115	100.6134444	99.8693807	99.13636755	98.41415954	97.70251849
ADV1007723	7/9/2024	4.593	7/9/2026		108.60312	106.7687131	104.9745858	103.2195224	101.5023581	99.82197387	98.17729418	96.56728493	94.99095135
ADV1007728	7/9/2024	5.472	10/30/2024		100.39533	100.310896	100.2266041	100.142453	100.0584426	99.97457233	99.89084199	99.80725119	99.7237996
ADV1007732	7/9/2024	4.894	1/9/2026		106.27057	104.9560243	103.6709893	102.414469	101.185512	99.98320953	98.8066925	97.65512976	96.52772587
ADV1007736	7/9/2024	4.517	7/9/2027		113.4045	110.481828	107.6508146	104.9080116	102.2501206	99.67399004	97.17660738	94.7550918	92.4066875
ADV1007750	7/10/2024	5.273	4/10/2025		102.55803	102.0095415	101.4668378	100.9298236	100.3984098	99.87250902	99.35203571	98.83690614	98.32703828
ADV1007757	7/10/2024	4.96	7/10/2025		103.70093	102.9072854	102.1258358	101.356302	100.5984124	99.85190355	99.11651992	98.39201359	97.67814397
ADV1007760	7/10/2024	5.365	1/14/2025		101.38617	101.085965	100.7875283	100.4908427	100.1958928	99.90266322	99.61113883	99.32130473	99.03314613
ADV1007761	7/10/2024	4.57	7/10/2026		108.57577	106.7388499	104.9423155	103.18495	101.4655885	99.7831117	98.13644364	96.52454952	94.94643377
ADV1007763	7/10/2024	5.37	1/10/2025		101.33242	101.0436539	100.7565216	100.4710102	100.1871058	99.90479484	99.62406383	99.34489945	99.06728853
ADV1007764	7/10/2024	5.327	2/12/2025		101.77552	101.3921141	101.011568	100.6338454	100.2589151	99.88674606	99.51730777	99.15057018	98.7865037
ADV1007765	7/10/2024	5.275	4/9/2025		102.54478	101.9992083	101.459353	100.9251276	100.3964444	99.87321741	99.35536242	98.84279697	98.33544029
ADV1007766	7/10/2024	5.108	7/9/2025		103.73921	102.9490279	102.1709364	101.4046551	100.6499161	99.90645933	99.17403267	98.45239144	97.74129814
ADV1007768	7/10/2024	5.511	10/10/2024		100.14662	100.1185378	100.0904877	100.0624689	100.0344815	100.0065254	99.97860046	99.95070671	99.92284406
ADV1007770	7/10/2024	4.353	7/12/2027		113.22121	110.2874031	107.44596	104.6934071	102.0264215	99.4418273	96.93658794	94.50779917	92.15268222
ADV1007771	7/10/2024	4.96	7/10/2025		103.70093	102.9072854	102.1258358	101.356302	100.5984124	99.85190355	99.11651992	98.39201359	97.67814397
ADV1007782	7/11/2024	5.492	10/16/2024		100.22105	100.1761002	100.1312068	100.086371	100.0415928	99.99687208	99.95220867	99.90760249	99.8630534
ADV1007783	7/11/2024	5.432	11/13/2024		100.57235	100.4484403	100.3248447	100.2015646	100.0785987	99.95594576	99.83360462	99.71157401	99.5898527
ADV1007784	7/11/2024	5.301	1/15/2025		101.38056	101.0776368	100.7765125	100.4771715	100.1795978	99.88377579	99.58968983	99.29732461	99.00666497
ADV1007786	7/11/2024	4.084	7/11/2029		121.56571	116.3565876	111.406582	106.7013534	102.2274371	97.97218411	93.92370681	90.07082871	86.40303796
ADV1007787	7/11/2024	4.357	7/12/2027		112.99302	110.0677648	107.2345244	104.4898357	101.8303913	99.25303038	96.75473051	94.33260083	91.98387524
ADV1007788	7/11/2024	4.292	7/11/2028		117.56524	113.5173276	109.6339068	105.9073552	102.3304467	98.89633127	95.59851308	92.43082989	89.38743382
ADV1007789	7/11/2024	4.221	7/11/2029		121.80493	116.6032451	111.6598594	106.960499	102.4917586	98.24104395	94.19651794	90.34705077	86.68217372
ADV1007791	7/11/2024	4.996	7/11/2025		103.68021	102.8847138	102.1014707	101.3302012	100.5706317	99.82249678	99.08553913	98.35950902	97.64416417
ADV1007793	7/11/2024	4.233	5/9/2029		121.11442	116.1125308	111.3514766	106.8183154	102.5008722	98.3876898	94.46798264	90.73159349	87.16895332
ADV1007797	7/11/2024	4.612	6/30/2026		108.36136	106.5566355	104.7910688	103.0634514	101.3726243	99.717476	98.09694033	96.50999401	94.95565448
ADV1007801	7/11/2024	4.829	11/28/2025		105.57094	104.373651	103.2036485	102.0600061	100.941839	99.84830118	98.77858404	97.73191395	96.7075505
ADV1007810	7/12/2024	4.851	7/14/2025		103.67124	102.8665758	102.074447	101.2945663	100.5266504	99.77042498	99.02562391	98.29198914	97.56927032
ADV1007814	7/12/2024	4.764	1/12/2026		106.14343	104.8231853	103.5317039	102.2680398	101.0312932	99.82060311	98.63514559	97.47413141	96.33680442
ADV1007817	7/12/2024	4.381	7/9/2027		113.0205	110.1032479	107.2775327	104.5399012	101.8870589	99.31585838	96.82329063	94.40647849	92.06266962
ADV1007818	7/12/2024	5.52	10/11/2024		100.15903	100.1281491	100.0973	100.0664863	100.0357079	100.0049647	99.97425677	99.94358391	99.9129461

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007820	7/12/2024	5.519	10/11/2024		100.159	100.128115	100.097266	100.0664524	100.0356741	100.004931	99.9742231	99.94355032	99.91291259
ADV1007822	7/12/2024	4.567	7/13/2026		108.46221	106.6207349	104.8198433	103.0583314	101.3350385	99.64884859	97.99868784	96.383523	94.80235926
ADV1007825	7/12/2024	5.512	10/15/2024		100.20917	100.1670345	100.1249545	100.0829274	100.0409531	99.99903144	99.95716243	99.9153459	99.87358176
ADV1007826	7/12/2024	5.512	10/15/2024		100.20917	100.1670345	100.1249545	100.0829274	100.0409531	99.99903144	99.95716243	99.9153459	99.87358176
ADV1007827	7/12/2024	4.093	7/12/2029		121.62028	116.4069696	111.4530923	106.7442918	102.2670848	98.0088042	93.95754544	90.10211586	86.43198835
ADV1007828	7/12/2024	4.233	7/12/2029		121.87414	116.6679245	111.7203388	107.0170892	102.5447511	98.290712	94.24311737	90.3908209	86.7233382
ADV1007829	7/12/2024	4.234	7/12/2029		121.87902	116.6726824	111.7249843	107.0216262	102.5491837	98.29504376	94.24735187	90.39496151	86.72738815
ADV1007830	7/12/2024	4.234	7/12/2029		121.87902	116.6726824	111.7249843	107.0216262	102.5491837	98.29504376	94.24735187	90.39496151	86.72738815
ADV1007832	7/12/2024	5.388	12/12/2024		100.94505	100.7389976	100.533793	100.3294278	100.125897	99.92319531	99.7213176	99.5202588	99.32001385
ADV1007834	7/12/2024	4.965	7/14/2025		103.69794	102.8940105	102.1025985	101.3234109	100.5561653	99.80058816	99.05641403	98.32338564	97.60125335
ADV1007837	7/12/2024	5.512	10/15/2024		100.20917	100.1670345	100.1249545	100.0829274	100.0409531	99.99903144	99.95716243	99.9153459	99.87358176
ADV1007838	7/12/2024	5.308	1/13/2025		101.35518	101.0580048	100.7625667	100.468846	100.1768275	99.88649644	99.59783807	99.31083789	99.02548154
ADV1007857	7/15/2024	4.945	7/15/2025		103.69631	102.8896043	102.0954975	101.3136987	100.5439226	99.78589297	99.0393417	98.30400894	97.57964258
ADV1007863	7/15/2024	5.479	10/15/2024		100.20695	100.1648351	100.1227776	100.080773	100.0388212	99.99692208	99.9550755	99.91328138	99.87153962
ADV1007865	7/15/2024	4.703	1/15/2026		106.1058	104.7792506	103.4807148	102.2093081	100.9641825	99.74452538	98.54955777	97.37853276	96.23073373
ADV1007874	7/15/2024	4.332	7/15/2027		112.96073	110.0275235	107.1868125	104.4351204	101.769127	99.18565795	96.68167727	94.25428038	91.90068742
ADV1007889	7/15/2024	4.252	3/12/2027		111.30414	108.7434509	106.2557483	103.8385319	101.4894018	99.20605458	96.98627899	94.82795145	92.72903209
ADV1007906	7/16/2024	4.081	7/16/2029		121.60686	116.3823595	111.4183733	106.7004745	102.2151125	97.94955658	93.89184136	90.03071666	86.35560086
ADV1007913	7/16/2024	4.594	1/16/2026		106.08331	104.7530554	103.4506262	102.1751551	100.9258089	99.70178864	98.50232853	97.32669367	96.17417874
ADV1007923	7/16/2024	4.075	7/16/2029		121.57749	116.3536931	111.3903867	106.6731431	102.1884129	97.92346636	93.86633906	90.00578179	86.33121381
ADV1007924	7/16/2024	4.075	7/16/2029		121.57749	116.3536931	111.3903867	106.6731431	102.1884129	97.92346636	93.86633906	90.00578179	86.33121381
ADV1007925	7/16/2024	4.545	7/16/2026		108.46393	106.6141651	104.8053161	103.0361767	101.3055857	99.61242574	97.95562116	96.33413624	94.74697318
ADV1007926	7/16/2024	4.942	7/16/2025		103.70798	102.8984366	102.1015817	101.3171192	100.5447608	99.78422739	99.03524826	98.29756095	97.57091091
ADV1007927	7/16/2024	4.54	7/16/2026		108.45485	106.6051731	104.7964074	103.0273497	101.2968389	99.60375757	97.9470303	96.3256213	94.73853282
ADV1007928	7/16/2024	4.295	1/18/2028		115.28272	111.7823596	108.4088463	105.1568646	102.021354	98.99749486	96.0806956	93.26658023	90.55097701
ADV1007933	7/16/2024	4.933	7/16/2025		103.70077	102.8912534	102.09443	101.3099985	100.5376708	99.7771678	99.02821874	98.29056118	97.56394057
ADV1007936	7/16/2024	5.46	10/16/2024		100.2183	100.1733902	100.1285342	100.0837357	100.0389948	99.99431126	99.94968502	99.90511596	99.86060395
ADV1007937	7/16/2024	5.265	1/16/2025		101.38224	101.0767272	100.7730472	100.4711819	100.1711151	99.87283047	99.57631221	99.28154453	98.98851185
ADV1007938	7/16/2024	4.927	7/16/2025		103.69596	102.8864646	102.0896621	101.3052513	100.5329442	99.77246141	99.02353239	98.28589466	97.55929367
ADV1007939	7/16/2024	4.527	7/16/2026		108.43125	106.5817941	104.7732447	103.0043993	101.274097	99.58122034	97.92469405	96.30348246	94.7165879
ADV1007941	7/16/2024	4.12	7/17/2028		117.30978	113.2408289	109.3381168	105.5939222	102.0009308	98.5522075	95.24117505	92.06159283	89.00753793
ADV1007944	7/16/2024	4.512	7/16/2026		108.40402	106.5548184	104.7465186	102.9779182	101.2478563	99.55521584	97.89892146	96.27793764	94.69126684
ADV1007956	7/17/2024	5.476	10/16/2024		100.21883	100.173917	100.1290659	100.0842723	100.0395363	99.99485769	99.95023635	99.90567218	99.86116506

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1007957	7/17/2024	4.221	7/19/2027		112.93751	109.9880749	107.1320615	104.3659648	101.6864334	99.09026184	96.57438376	94.13586444	91.77189449
ADV1007960	7/17/2024	5.478	10/17/2024		100.23143	100.1837073	100.1360488	100.0884528	100.0409193	99.99344807	99.94603901	99.89869201	99.85140692
ADV1007971	7/17/2024	4.949	7/17/2025		103.72768	102.915261	102.1156234	101.3284628	100.5534883	99.7904179	99.03897811	98.29890394	97.56993834
ADV1007972	7/17/2024	5.47	10/21/2024		100.28096	100.2219819	100.1630917	100.1042852	100.0455623	99.98692286	99.9283667	99.86989362	99.81150344
ADV1007973	7/17/2024	5.491	10/10/2024		100.14427	100.1162181	100.0881989	100.060211	100.0322545	100.0043292	99.97643511	99.94857213	99.92074023
ADV1007974	7/17/2024	5.488	10/11/2024		100.15671	100.1258556	100.0950321	100.0642441	100.0334913	100.0027737	99.97209124	99.94144389	99.91083156
ADV1007993	7/18/2024	5.471	10/18/2024		100.24332	100.1927944	100.1423368	100.0919469	100.0416243	99.99136917	99.94118121	99.89106031	99.84100633
ADV1007994	7/18/2024	5.471	10/18/2024		100.24332	100.1927944	100.1423368	100.0919469	100.0416243	99.99136917	99.94118121	99.89106031	99.84100633
ADV1007997	7/18/2024	5.335	12/18/2024		101.01203	100.7891621	100.5672846	100.3463867	100.1264618	99.90750336	99.68950505	99.47246047	99.25636329
ADV1008000	7/23/2024	4.195	7/2/2029		121.57337	116.4029579	111.4882062	106.8150108	102.3701246	98.14110389	94.11625484	90.28458351	86.63574986
ADV1008001	7/18/2024	4.526	7/20/2026		108.48438	106.6234158	104.8038127	103.0243631	101.2839049	99.58131872	97.91552636	96.28548849	94.69020312
ADV1008003	7/18/2024	5.471	10/18/2024		100.24332	100.1927944	100.1423368	100.0919469	100.0416243	99.99136917	99.94118121	99.89106031	99.84100633
ADV1008005	7/18/2024	5.26	1/21/2025		101.44782	101.1281097	100.8103953	100.4946627	100.1808934	99.86906916	99.55917174	99.25118328	98.94508611
ADV1008006	7/18/2024	4.957	7/18/2025		103.74822	102.9329269	102.1305028	101.3406408	100.5630469	99.79743628	99.04353286	98.30106899	97.56978513
ADV1008008	7/18/2024	5.337	12/18/2024		101.01247	100.7896045	100.5677251	100.3468253	100.1268986	99.90793834	99.68993822	99.47289183	99.25679285
ADV1008009	7/18/2024	4.713	1/20/2026		106.18794	104.8498958	103.5386491	102.2534069	100.9934072	99.75791804	98.54623612	97.35768516	96.19161469
ADV1008011	7/18/2024	4.532	7/20/2026		108.49534	106.6342712	104.8145671	103.0350183	101.2944628	99.59178107	97.92589487	96.29576484	94.70038894
ADV1008012	7/18/2024	5.261	1/21/2025		101.44814	101.1284242	100.8107082	100.494974	100.1812032	99.86937732	99.55947833	99.25148832	98.9453896
ADV1008029	7/19/2024	5.485	10/7/2024		100.10599	100.0863684	100.0667659	100.0471838	100.027622	100.0080804	99.98855903	99.96905782	99.94957674
ADV1008030	7/19/2024	5.261	1/21/2025		101.44793	101.1282616	100.8105907	100.4949015	100.1811753	99.86939376	99.55953886	99.25159265	98.94553748
ADV1008031	7/19/2024	4.252	7/19/2027		113.02496	110.0742635	107.2170236	104.4497298	101.7690299	99.17171739	96.65472508	94.2151174	91.85008413
ADV1008032	7/19/2024	4.839	7/21/2025		103.75997	102.935391	102.1239697	101.3253901	100.5393484	99.76555047	99.00371119	98.25355432	97.51481208
ADV1008037	7/19/2024	5.459	10/21/2024		100.2798	100.2208435	100.1619725	100.1031853	100.0444817	99.98586147	99.9273245	99.86887059	99.81049955
ADV1008039	7/19/2024	5.463	10/18/2024		100.24265	100.1921356	100.1416865	100.0913051	100.0409911	99.9907445	99.94056506	99.89045267	99.84040719
ADV1008040	7/19/2024	5.463	10/18/2024		100.24265	100.1921356	100.1416865	100.0913051	100.0409911	99.9907445	99.94056506	99.89045267	99.84040719
ADV1008041	7/19/2024	4.968	7/21/2025		103.7995	102.9756329	102.1648952	101.3669751	100.5815695	99.80838513	99.0471378	98.29755199	97.55936065
ADV1008042	7/19/2024	4.77	1/20/2026		106.2627	104.9241339	103.6123715	102.3266224	101.0661243	99.83014515	98.61798128	97.42895623	96.26241935
ADV1008048	7/19/2024	5.459	10/21/2024		100.2798	100.2208435	100.1619725	100.1031853	100.0444817	99.98586147	99.9273245	99.86887059	99.81049955
ADV1008082	7/22/2024	5.349	12/20/2024		101.04074	100.8123082	100.5849134	100.3585459	100.1331986	99.90886466	99.68553711	99.46320917	99.24187406
ADV1008099	7/23/2024	4.563	7/23/2026		108.59275	106.7224922	104.8939483	103.1059089	101.3572106	99.64673232	97.97339309	96.33615046	94.73399879
ADV1008100	7/23/2024	4.955	7/23/2025		103.8171	102.9875896	102.1713839	101.3681658	100.5776265	99.79946694	99.03339735	98.27913703	97.53641389
ADV1008102	7/23/2024	4.373	7/23/2027		113.18033	110.221597	107.3567463	104.5822671	101.8948006	99.29113309	96.76818897	94.32302355	91.95281688
ADV1008103	7/23/2024	4.746	1/23/2026		106.27261	104.9274108	103.6082804	102.3144847	101.045314	99.80008521	98.57814067	97.37884699	96.20159389

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008104	7/23/2024	4.563	7/23/2026		108.59275	106.7224922	104.8939483	103.1059089	101.3572106	99.64673232	97.97339309	96.33615046	94.73399879
ADV1008109	7/23/2024	4.252	7/23/2029		120.55473	115.6715096	111.0293896	106.6150338	102.4159126	98.42025309	94.61698941	90.99571646	87.54664712
ADV1008134	7/24/2024	4.357	7/24/2026		108.38001	106.5062786	104.6744397	102.883282	101.1316388	99.41838541	97.74243756	96.10274923	94.49831124
ADV1008141	7/24/2024	5.438	10/23/2024		100.3021	100.2375687	100.173132	100.1087906	100.0445442	99.98039271	99.9163358	99.85237332	99.78850503
ADV1008142	7/24/2024	5.379	11/20/2024		100.65247	100.5090612	100.3660657	100.2234859	100.0813199	99.9395661	99.79822249	99.65728733	99.5167588
ADV1008144	7/24/2024	5.322	12/18/2024		101.00784	100.7851796	100.5635065	100.3428121	100.1230898	99.90433313	99.68653568	99.46969107	99.25379299
ADV1008145	7/24/2024	4.328	7/26/2027		113.09077	110.1249356	107.2534481	104.4727833	101.7795696	99.17058014	96.64272583	94.19304847	91.81871446
ADV1008146	7/24/2024	4.302	11/29/2027		114.65952	111.3103667	108.0784658	104.9590044	101.9473981	99.03927997	96.23048828	93.5170555	90.89519787
ADV1008164	7/25/2024	4.773	10/24/2025		104.99055	103.8950819	102.822574	101.7723104	100.7436029	99.73579158	98.74824324	97.78035003	96.83152823
ADV1008166	7/25/2024	4.782	7/25/2025		103.76889	102.933132	102.1108806	101.301811	100.5056074	99.72196426	98.95058551	98.19118437	97.44348293
ADV1008174	7/25/2024	5.444	10/25/2024		100.32708	100.2569348	100.186893	100.1169586	100.0471314	99.97741111	99.9077975	99.83829033	99.76888936
ADV1008179	7/25/2024	5.445	10/25/2024		100.32716	100.2570069	100.186965	100.1170304	100.047203	99.97748255	99.90786877	99.83836143	99.76896028
ADV1008180	7/25/2024	5.445	10/25/2024		100.32716	100.2570069	100.186965	100.1170304	100.047203	99.97748255	99.90786877	99.83836143	99.76896028
ADV1008181	7/25/2024	4.945	6/26/2025		103.42384	102.6711541	101.9294536	101.1985017	100.4780656	99.76791925	99.06784305	98.37762355	97.69705336
ADV1008182	7/25/2024	4.912	7/25/2025		103.80978	102.9747323	102.1531714	101.3447676	100.5492059	99.76618168	98.99539969	98.23657395	97.48942733
ADV1008183	7/25/2024	4.912	7/25/2025		103.80978	102.9747323	102.1531714	101.3447676	100.5492059	99.76618168	98.99539969	98.23657395	97.48942733
ADV1008184	7/25/2024	4.912	7/25/2025		103.80978	102.9747323	102.1531714	101.3447676	100.5492059	99.76618168	98.99539969	98.23657395	97.48942733
ADV1008185	7/25/2024	4.918	7/25/2025		103.81473	102.979667	102.158084	101.3496582	100.5540749	99.77102922	99.00022604	98.24137935	97.49421199
ADV1008186	7/25/2024	4.918	7/25/2025		103.81473	102.979667	102.158084	101.3496582	100.5540749	99.77102922	99.00022604	98.24137935	97.49421199
ADV1008192	7/25/2024	4.92	7/25/2025		103.81638	102.9813119	102.1597215	101.3512884	100.5556979	99.77264507	99.00183483	98.24298114	97.49580688
ADV1008195	7/25/2024	4.41	7/26/2027		113.32523	110.3560207	107.4812413	104.6973638	102.0010141	99.38896295	96.8581189	94.40552146	92.02833487
ADV1008196	7/25/2024	4.232	7/26/2027		113.05822	110.0874056	107.2112168	104.4261119	101.728706	99.1157595	96.58417139	94.13097212	91.75331737
ADV1008198	7/25/2024	4.133	7/25/2029		121.96315	116.7041629	111.7084676	106.9614645	102.4494364	98.15949408	94.07952154	90.1981259	86.50459042
ADV1008199	7/25/2024	4.931	7/25/2025		103.82547	102.9903589	102.1687279	101.3602546	100.5646243	99.78153224	99.01068315	98.25179104	97.50457877
ADV1008208	7/26/2024	4.678	1/26/2026		106.22255	104.8711536	103.5450933	102.2436859	100.9662745	99.71222554	98.48092769	97.27179105	96.08424609
ADV1008213	7/26/2024	5.436	10/28/2024		100.36343	100.2848494	100.2063968	100.1280711	100.0498719	99.9717989	99.89385182	99.81603036	99.73833421
ADV1008214	7/26/2024	4.775	7/28/2025		103.80461	102.9603321	102.1298322	101.3127721	100.5088268	99.7176822	98.93903377	98.17258676	97.41805558
ADV1008216	7/26/2024	4.284	7/26/2029		121.02807	115.9802364	111.1824368	106.6208141	102.2823564	98.15483828	94.22676924	90.48734553	86.92640568
ADV1008218	7/26/2024	4.53	7/26/2033		138.92493	128.816561	119.5583164	111.0733375	103.292115	96.15175078	89.59529697	83.57116447	78.03259294
ADV1008219	7/26/2024	4.588	7/26/2035		146.64929	134.0236784	122.6619012	112.4285557	103.2034782	94.87995776	87.36316493	80.56877112	74.42173467
ADV1008220	7/26/2024	4.464	7/26/2032		134.70036	125.8390211	117.6499849	110.0782128	103.0734586	96.58982412	90.58536185	85.02171579	79.86379681
ADV1008221	7/26/2024	4.2	7/26/2029		121.87065	116.6243733	111.6405373	106.9046013	102.4029047	98.12260969	94.05164814	90.17867101	86.49300204
ADV1008222	7/26/2024	4.478	7/27/2026		108.49061	106.6103215	104.772167	102.9749437	101.2174877	99.49867608	97.81742552	96.17269024	94.56346059



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008223	7/26/2024	4.252	7/26/2028		117.59771	113.5065772	109.583233	105.8198994	102.2091978	98.74412926	95.41805308	92.2246663	89.15798475
ADV1008224	7/26/2024	4.252	7/26/2028		117.59771	113.5065772	109.583233	105.8198994	102.2091978	98.74412926	95.41805308	92.2246663	89.15798475
ADV1008225	7/26/2024	4.588	7/26/2035		146.64929	134.0236784	122.6619012	112.4285557	103.2034782	94.87995776	87.36316493	80.56877112	74.42173467
ADV1008226	7/26/2024	4.2	7/26/2029		121.87065	116.6243733	111.6405373	106.9046013	102.4029047	98.12260969	94.05164814	90.17867101	86.49300204
ADV1008228	7/26/2024	4.498	7/26/2034		131.81357	123.5905607	116.0433514	109.1094573	102.7326269	96.86218501	91.45244572	86.46219088	81.85420544
ADV1008229	7/26/2024	4.903	7/28/2025		103.84421	103.0006714	102.1708777	101.3544985	100.5512097	99.76069812	98.98266008	98.21680164	97.46283801
ADV1008230	7/26/2024	5.439	10/25/2024		100.32648	100.2563469	100.1863164	100.1163933	100.0465774	99.97686839	99.90726603	99.8377701	99.76838034
ADV1008231	7/26/2024	4.099	11/26/2029		123.18764	117.5347624	112.1820591	107.1119005	102.3077909	97.75428819	93.4369312	89.34217137	85.45731032
ADV1008232	7/26/2024	4.673	1/26/2026		106.21585	104.8645045	103.5384905	102.2371287	100.9597621	99.70575719	98.47450268	97.26540866	96.07790563
ADV1008233	7/26/2024	4.475	7/27/2026		108.48508	106.6048377	104.7667348	102.9695621	101.2121557	99.49339284	97.81219014	96.16750185	94.55831836
ADV1008242	7/29/2024	5.444	10/28/2024		100.36336	100.2848178	100.2063987	100.1281064	100.0499406	99.97190087	99.89398705	99.8161988	99.73853581
ADV1008245	7/29/2024	4.292	7/29/2027		113.0255	110.0522177	107.1737514	104.3865691	101.687286	99.0726618	96.53959351	94.08510901	91.70636069
ADV1008247	7/29/2024	4.465	7/29/2026		108.49376	106.607931	104.7644645	102.9621529	101.1998316	99.47637679	97.79070339	96.14176375	94.52854594
ADV1008249	7/29/2024	4.664	1/29/2026		106.245	104.8868842	103.5533699	102.2438332	100.9576701	99.69429702	98.45314937	97.23368104	96.03536363
ADV1008250	7/29/2024	4.466	7/29/2026		108.49561	106.6097644	104.7662805	102.963952	101.2016141	99.4781429	97.79245347	96.14349807	94.53026479
ADV1008251	7/29/2024	4.752	7/29/2026		104.48798	103.5082856	102.5469672	101.6035096	100.6774139	99.76820025	98.87540671	97.99858842	97.13731682
ADV1008257	7/29/2024	4.184	7/30/2029		121.83732	116.5803952	111.5869757	106.8424509	102.333093	98.04600054	93.96904485	90.0908195	86.40059394
ADV1008260	7/29/2024	4.444	7/29/2032		134.57007	125.7051261	117.513478	109.9399724	102.9342509	96.45031462	90.44612582	84.88324783	79.72651947
ADV1008263	7/31/2024	4.308	5/25/2027		112.21489	109.4373605	106.7438762	104.1313515	101.5968407	99.13752635	96.75071296	94.4338205	92.18437859
ADV1008265	7/29/2024	5.444	10/29/2024		100.37577	100.2944125	100.2131862	100.1320935	100.0511339	99.97030725	99.88961318	99.80905138	99.72862153
ADV1008274	7/30/2024	5.442	10/17/2024		100.22648	100.1788528	100.131291	100.0837916	100.0363545	99.98897959	99.94166672	99.89441577	99.84722661
ADV1008275	7/30/2024	4.123	7/31/2028		117.49422	113.3818785	109.4389599	105.657598	102.0303308	98.55007925	95.21012585	92.00409406	88.92592939
ADV1008280	7/30/2024	5.421	10/31/2024		100.39831	100.3113402	100.224516	100.1378394	100.05131	99.96492739	99.87869123	99.79260118	99.70665686
ADV1008281	7/30/2024	5.355	11/29/2024		100.76242	100.5937218	100.4255794	100.2579931	100.0909603	99.92447816	99.75854407	99.59315533	99.42830925
ADV1008282	7/30/2024	5.22	1/31/2025		101.56662	101.2189244	100.8735743	100.5305488	100.1898247	99.85137898	99.51518883	99.18123186	98.84948592
ADV1008284	7/30/2024	5.177	2/14/2025		101.74204	101.3543081	100.9695026	100.5875941	100.2085499	99.83233781	99.45892609	99.08828348	98.72037918
ADV1008287	7/30/2024	5.062	3/31/2025		102.30401	101.7868525	101.2748453	100.7679168	100.2659917	99.76899658	99.27685906	98.78950835	98.30687502
ADV1008291	7/30/2024	5.352	11/29/2024		100.76192	100.5932165	100.4250757	100.2574911	100.0904599	99.9239795	99.75804708	99.59265998	99.42781555
ADV1008320	7/31/2024	4.126	7/30/2027		112.80433	109.8259757	106.9428165	104.1513017	101.4480302	98.8297461	96.29333152	93.83579986	91.45428962
ADV1008323	7/31/2024	4.191	7/31/2028		117.42251	113.3205682	109.38742	105.6152306	101.996574	98.52440471	95.1920366	91.99312264	88.92163593
ADV1008345	8/1/2024	5.399	11/1/2024		100.40878	100.3190304	100.2294392	100.1400074	100.0507346	99.96162032	99.87266421	99.78386582	99.69522476
ADV1008348	8/1/2024	4.031	2/1/2029		119.01836	114.3515658	109.8982226	105.6474504	101.5889756	97.7130979	94.01065491	90.4729899	87.09192126
ADV1008352	8/1/2024	4.511	2/2/2026		106.10069	104.733233	103.3900731	102.0706149	100.7742837	99.50052322	98.24879436	97.01857489	95.80935866

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008361	8/1/2024	4.307	8/3/2026		108.27286	106.3754288	104.5208969	102.7080402	100.9356805	99.20268041	97.5079416	95.85040321	94.22904033
ADV1008365	8/1/2024	5.386	10/31/2024		100.39474	100.3078026	100.2210118	100.1343685	100.0478723	99.96152289	99.87531987	99.7892629	99.70335161
ADV1008370	8/1/2024	4.912	5/1/2025		102.63766	102.0432756	101.4557879	100.8750749	100.3010199	99.73350875	99.17242997	98.61767458	98.06913604
ADV1008374	8/1/2024	4.355	2/2/2026		105.99915	104.6306782	103.2865412	101.9661479	100.6689223	99.39430654	98.14176016	96.91075966	95.70079767
ADV1008382	8/2/2024	4.49	8/4/2025		103.5973	102.7354385	101.8879498	101.0544805	100.2346845	99.42822676	98.63478331	97.85404053	97.08569481
ADV1008383	8/2/2024	3.807	8/2/2029		120.01616	114.7948229	109.8362001	105.1256932	100.6495848	96.39498449	92.34977477	88.50256109	84.84262509
ADV1008385	8/2/2024	5.45	10/3/2024		100.05198	100.0435955	100.0352154	100.0268431	100.0184786	100.0101217	100.0017726	99.99343123	99.98509753
ADV1008387	8/2/2024	3.946	8/3/2026		107.75278	105.8575392	104.0052069	102.1945642	100.424431	98.69366857	97.00117705	95.34589425	93.72679402
ADV1008388	8/2/2024	4.208	2/2/2026		105.68845	104.3239193	102.9836378	101.6670089	100.3734596	99.10243475	97.85339651	96.62582386	95.41921181
ADV1008389	8/2/2024	3.794	8/2/2029		119.95202	114.7322316	109.7751046	105.0660391	100.5913201	96.33805949	92.29414206	88.44817532	84.78944288
ADV1008391	8/2/2024	3.99	9/16/2026		108.22696	106.2076062	104.2365839	102.3124387	100.4337669	98.5992169	96.80748638	95.0573202	93.34750843
ADV1008393	8/2/2024	4.823	3/3/2025		101.82135	101.3857993	100.9539355	100.5257098	100.1010765	99.6799906	99.26240774	98.84828436	98.43757762
ADV1008394	8/2/2024	4.446	8/4/2025		103.55969	102.6979957	101.8506798	101.0173814	100.1977542	99.39146342	98.598185	97.81760538	97.049421
ADV1008395	8/2/2024	5.326	11/1/2024		100.40188	100.3121575	100.2225958	100.1331935	100.0439502	99.95486532	99.86593856	99.77716948	99.68855766
ADV1008396	8/2/2024	3.86	8/2/2028		116.15915	112.0760669	108.1614755	104.4075447	100.8068472	97.35233706	94.03732818	90.85547422	87.80074948
ADV1008397	8/2/2024	5.326	11/1/2024		100.40188	100.3121575	100.2225958	100.1331935	100.0439502	99.95486532	99.86593856	99.77716948	99.68855766
ADV1008398	8/2/2024	3.791	8/2/2029		119.93722	114.7177875	109.7610056	105.0522727	100.5778744	96.32492295	92.28130374	88.43562476	84.77717006
ADV1008399	8/2/2024	4.399	8/4/2025		103.58815	102.72539	101.8770326	101.0427228	100.2221133	99.41486824	98.6206626	97.83918188	97.07012163
ADV1008404	8/2/2024	3.886	8/2/2027		111.91212	108.9438066	106.0705901	103.2889231	100.5954062	97.98678424	95.45994024	93.0118882	90.63976711
ADV1008405	8/2/2024	4.049	8/3/2026		107.79121	105.8983862	104.0483688	102.2399421	100.4719304	98.74319851	97.05265022	95.3992268	93.78190538
ADV1008406	8/2/2024	4.505	8/4/2025		103.61013	102.7482032	101.9006555	101.067128	100.2472744	99.44075972	98.64726001	97.8664616	97.09806088
ADV1008407	8/2/2024	3.891	8/2/2027		111.92654	108.9580095	106.0845897	103.3027244	100.6090137	98.00020275	95.47317413	93.0249418	90.65264459
ADV1008409	8/2/2024	4.031	8/3/2026		107.75762	105.8651181	104.0154163	102.2072993	100.4395915	98.71115791	97.02090252	95.36776673	93.75072779
ADV1008410	8/2/2024	3.883	8/2/2027		111.90348	108.9352848	106.0621903	103.2806424	100.5872416	97.97873314	95.4519999	93.00405604	90.63204062
ADV1008411	8/2/2024	3.804	8/2/2029		120.00136	114.7803788	109.8221011	105.1119269	100.6361391	96.38184795	92.33693645	88.49001053	84.83035227
ADV1008412	8/2/2024	4.943	2/3/2025		101.50975	101.1541117	100.8009363	100.4502014	100.1018818	99.75595245	99.41238898	99.07116713	98.73226303
ADV1008413	8/2/2024	4.029	8/3/2026		107.75389	105.8614216	104.0117549	102.2036723	100.4359983	98.70759784	97.017375	95.36427117	93.74726362
ADV1008414	8/2/2024	4.946	2/3/2025		101.51081	101.1551609	100.8019802	100.45124	100.1029151	99.75698063	99.41341199	99.07218501	98.73327582
ADV1008415	8/2/2024	4.033	8/3/2026		107.76135	105.8688145	104.0190777	102.2109263	100.4431847	98.71471798	97.02443005	95.3712623	93.75419197
ADV1008416	8/2/2024	3.874	8/2/2027		111.87754	108.9097195	106.036991	103.2558002	100.562748	97.95457982	95.42817888	92.98055955	90.60886115
ADV1008417	8/2/2024	3.857	8/2/2028		116.14743	112.0645693	108.1501978	104.3964804	100.7959899	97.34168053	94.02686655	90.84520179	87.79066077
ADV1008418	8/2/2024	3.791	8/2/2029		119.93722	114.7177875	109.7610056	105.0522727	100.5778744	96.32492295	92.28130374	88.43562476	84.77717006
ADV1008419	8/2/2024	3.865	8/2/2027		111.8516	108.8841542	106.0117916	103.230958	100.5382544	97.93042651	95.40435786	92.95706307	90.58568169

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008420	8/2/2024	4.48	8/4/2025		103.58876	102.7269288	101.8794794	101.0460489	100.2262912	99.41987145	98.62646551	97.84575981	97.07745076
ADV1008424	8/2/2024	3.748	8/2/2028		116.05662	111.9665028	108.0454168	104.285491	100.6792659	97.2196655	93.89997586	90.71382437	87.65516083
ADV1008425	8/2/2024	4.221	2/2/2026		105.70612	104.3414717	103.0010662	101.6843156	100.3906465	99.11950383	97.87034975	96.64266315	95.43593898
ADV1008426	8/2/2024	3.679	8/2/2029		119.81461	114.5847789	109.618537	104.9012154	100.4190339	96.1590441	92.10907514	88.25768302	84.59410369
ADV1008432	8/5/2024	3.693	8/5/2027		111.3886	108.4194836	105.5458009	102.7639737	100.0705813	97.46234924	94.93614183	92.48895583	90.11791398
ADV1008433	8/5/2024	5.203	12/5/2024		100.81198	100.6265745	100.441849	100.2578028	100.0744319	99.89173275	99.70970153	99.52833455	99.34762817
ADV1008436	8/5/2024	5.06	1/15/2025		101.30328	101.00176	100.7020341	100.4040832	100.1078914	99.81344316	99.5207229	99.22971539	98.94040553
ADV1008437	8/5/2024	4.732	5/5/2025		102.5821	101.9768117	101.3786807	100.787582	100.2033921	99.62599004	99.05525788	98.49108034	97.93334478
ADV1008438	8/5/2024	4.458	8/12/2025		103.67475	102.7902348	101.9208603	101.066239	100.2259971	99.39977302	98.5872176	97.78799299	97.00177248
ADV1008439	8/5/2024	3.887	8/6/2029		110.45955	107.8069674	105.2519573	102.7900863	100.4171591	98.12920076	95.92244307	93.79331275	91.73841984
ADV1008441	8/5/2024	3.734	8/6/2029		119.69516	114.4701637	109.5087116	104.7961262	100.3186181	96.06323076	92.01778663	88.17083601	84.51161014
ADV1008442	8/5/2024	3.826	8/7/2028		116.08255	111.9867747	108.0605794	104.2960514	100.6856927	97.22239177	93.89940137	90.71031824	87.64906371
ADV1008443	8/5/2024	3.838	9/7/2027		112.19191	109.1184646	106.1465415	103.2722336	100.4918028	97.80167558	95.19843463	92.67881123	90.23967779
ADV1008444	8/5/2024	3.836	10/5/2027		112.51532	109.3569537	106.3053953	103.3564274	100.5060248	97.7503445	95.08571588	92.50863203	90.01574146
ADV1008448	8/5/2024	3.892	8/5/2027		111.96379	108.9863385	106.1045177	103.3147493	100.6136062	97.99780771	95.46421237	93.00981128	90.63172177
ADV1008449	8/5/2024	3.821	8/6/2029		120.12539	114.8899558	109.9184492	105.1961757	100.7093294	96.44493812	92.39080949	88.53547977	84.86816686
ADV1008450	8/5/2024	3.892	8/5/2027		111.96379	108.9863385	106.1045177	103.3147493	100.6136062	97.99780771	95.46421237	93.00981128	90.63172177
ADV1008451	8/5/2024	4.008	8/5/2031		127.90915	120.3319957	113.2693334	106.6833417	100.5391699	94.80468867	89.45026524	84.44855703	79.77432401
ADV1008452	8/5/2024	3.976	8/5/2026		107.83295	105.9314102	104.0730335	102.2565859	100.4808776	98.74476031	97.04712526	95.3869017	93.7630553
ADV1008453	8/5/2024	5.41	11/5/2024		100.46053	100.3595866	100.258857	100.1583359	100.0580226	99.95791652	99.85801689	99.7583231	99.65883448
ADV1008462	8/7/2024	3.893	8/2/2027		111.93142	108.9628112	106.0893118	103.3073679	100.6135796	98.00469193	95.47758751	93.02928027	90.65690904
ADV1008468	8/5/2024	4.047	8/5/2026		107.81153	105.9129923	104.0575051	102.2438369	100.4708024	98.73725738	97.04209705	95.38425438	93.7626986
ADV1008469	8/5/2024	4.42	8/5/2025		103.61846	102.752747	101.9015352	101.0644638	100.2411821	99.43135091	98.63464207	97.85073805	97.07933147
ADV1008470	8/5/2024	5.396	11/5/2024		100.45909	100.3581578	100.2574318	100.1569142	100.0566045	99.95650188	99.85660578	99.75691551	99.6574304
ADV1008471	8/5/2024	4.406	8/5/2025		103.60645	102.7407938	101.8896374	101.0526208	100.2293933	99.41961567	98.62295977	97.83910808	97.06775325
ADV1008472	8/5/2024	3.867	8/5/2027		111.89153	108.9151255	106.0343272	103.2455564	100.545387	97.93053906	95.39787185	92.94437718	90.56717305
ADV1008476	8/5/2024	4.474	8/5/2025		103.59588	102.7312187	101.8810252	101.0449422	100.22262	99.41372035	98.61791614	97.83489076	97.06433773
ADV1008490	8/6/2024	4.968	2/6/2025		101.55678	101.1927222	100.8312486	100.4723358	100.1159565	99.76208404	99.41069188	99.06175402	98.71524479
ADV1008499	8/6/2024	5.015	2/6/2025		101.57369	101.209541	100.8479828	100.4889859	100.1325231	99.77856771	99.42709323	99.07807363	98.73148321
ADV1008502	8/6/2024	4.121	8/6/2026		107.9627	106.0599621	104.2004152	102.3828267	100.6060059	98.86880341	97.1701093	95.50885183	93.88399567
ADV1008505	8/6/2024	4.334	2/6/2026		105.91557	104.5373492	103.1838044	101.8543253	100.5483244	99.2652324	98.00449839	96.76558849	95.54798549
ADV1008507	8/6/2024	5.011	2/6/2025		101.57225	101.2081097	100.8465586	100.4875689	100.1311132	99.77716485	99.42569737	99.07668473	98.73010122
ADV1008508	8/6/2024	4.559	8/6/2025		103.68228	102.8144206	101.9611333	101.1220521	100.2968239	99.48510703	98.6865712	97.9008967	97.12777411

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008509	8/6/2024	4.127	8/6/2026		107.97395	106.0710993	104.2114462	102.3937536	100.6168307	98.87952782	97.18073522	95.51938104	93.8944299
ADV1008510	8/6/2024	3.806	8/6/2029		120.48351	115.2259443	110.233685	105.4919458	100.9868358	96.70530448	92.63508602	88.76464859	85.08314672
ADV1008511	8/6/2024	3.955	8/6/2027		112.15782	109.1747548	106.2875647	103.4926556	100.7865895	98.16607508	95.62796093	93.16922873	90.78698689
ADV1008512	8/6/2024	3.806	8/6/2029		120.48351	115.2259443	110.233685	105.4919458	100.9868358	96.70530448	92.63508602	88.76464859	85.08314672
ADV1008516	8/6/2024	5.401	10/7/2024		100.09971	100.0801386	100.0605921	100.0410659	100.0215598	100.002074	99.98260827	99.96316268	99.94373718
ADV1008517	8/6/2024	4.462	8/6/2025		103.66795	102.7992149	101.9450758	101.105171	100.2791463	99.46665917	98.66737823	97.88098291	97.10716292
ADV1008522	8/6/2024	4.109	8/7/2026		107.95287	106.0474682	104.1853789	102.3653594	100.586214	98.84678879	97.14596976	95.48268101	93.85588335
ADV1008523	8/6/2024	3.939	8/6/2027		112.11153	109.129135	106.2426005	103.4483311	100.7428893	98.12298439	95.58546533	93.12731429	90.74564011
ADV1008531	8/7/2024	4.353	2/9/2026		105.98433	104.5965849	103.2338195	101.8954192	100.5807856	99.28933948	98.02051993	96.77378382	95.54860496
ADV1008533	8/7/2024	5.337	11/7/2024		100.47803	100.3715173	100.2652414	100.1591994	100.0533905	99.94781388	99.84246878	99.73735438	99.63246991
ADV1008545	8/7/2024	4.577	8/7/2025		103.71132	102.8405371	101.9844196	101.142601	100.3147246	99.50044563	98.69943045	97.91135635	97.13591103
ADV1008546	8/7/2024	4.17	8/7/2026		108.06736	106.1608628	104.2976915	102.4766102	100.6964228	98.95597474	97.25415154	95.58987678	93.96211077
ADV1008547	8/7/2024	3.99	8/9/2027		112.29516	109.3017227	106.4047261	103.6005447	100.8857119	98.25690945	95.71096064	93.24482321	90.85558297
ADV1008548	8/7/2024	5.438	10/7/2024		100.10027	100.0807064	100.0611616	100.041637	100.0221327	100.0026485	99.98318451	99.96374061	99.94431678
ADV1008550	8/7/2024	5.339	11/7/2024		100.47824	100.3717323	100.2654559	100.1594133	100.0536039	99.94802674	99.84268111	99.73756618	99.63268118
ADV1008553	8/7/2024	5.324	11/6/2024		100.46395	100.3602513	100.2567762	100.1535221	100.0504883	99.94767414	99.84507883	99.74270166	99.64054191
ADV1008557	8/7/2024	4.096	8/7/2026		107.92846	106.0233021	104.1614434	102.3416502	100.5627269	98.82351966	97.12291463	95.45983601	93.83324472
ADV1008558	8/7/2024	5.446	10/2/2024		100.03827	100.0326812	100.0270992	100.0215222	100.0159502	100.0103831	100.0048211	99.99926408	99.99371201
ADV1008570	8/8/2024	3.887	8/8/2029		120.90609	115.6324883	110.6251376	105.8691849	101.3506806	97.05651933	92.97438471	89.09269785	85.40056962
ADV1008574	8/8/2024	5.34	11/8/2024		100.49085	100.3815388	100.2724801	100.1636684	100.0551026	99.94678188	99.83870544	99.73087238	99.62328186
ADV1008575	8/8/2024	5.037	2/10/2025		101.634	101.2584745	100.8857063	100.515663	100.1483146	99.78363177	99.42158548	99.06214714	98.70528858
ADV1008577	8/8/2024	4.076	8/10/2026		108.08404	106.1663028	104.2923638	102.4609646	100.6708902	98.92096849	97.21006781	95.53709567	93.90099699
ADV1008586	8/9/2024	5.434	10/9/2024		100.1245	100.0993431	100.0742176	100.0491196	100.0240489	99.9990056	99.97398955	99.94900073	99.92403908
ADV1008595	8/9/2024	3.986	8/9/2027		112.28319	109.2899154	106.3930714	103.589039	100.8743518	98.24569168	95.69988205	93.23388069	90.84477352
ADV1008596	8/9/2024	4.59	8/11/2025		103.77649	102.8942619	102.0270807	101.1745673	100.3363511	99.51207391	98.70138944	97.90396284	97.11947018
ADV1008597	8/9/2024	4.591	8/11/2025		103.77737	102.8951318	102.0279465	101.1754291	100.3372088	99.51292766	98.70223928	97.90480881	97.12031232
ADV1008598	8/9/2024	4.551	9/19/2025		104.27136	103.2778784	102.3033988	101.3473767	100.4092905	99.4886379	98.58493533	97.69771695	96.82653388
ADV1008604	8/12/2024	5.344	11/12/2024		100.54131	100.4208214	100.3006374	100.1807535	100.0611686	99.94188148	99.8228911	99.70419626	99.58579583
ADV1008605	8/12/2024	5.344	11/12/2024		100.54131	100.4208214	100.3006374	100.1807535	100.0611686	99.94188148	99.8228911	99.70419626	99.58579583
ADV1008606	8/12/2024	5.344	11/12/2024		100.54131	100.4208214	100.3006374	100.1807535	100.0611686	99.94188148	99.8228911	99.70419626	99.58579583
ADV1008611	8/12/2024	5.055	2/12/2025		101.66637	101.2853034	100.9070703	100.5316436	100.1589922	99.7890852	99.4218924	99.0573839	98.69553026
ADV1008612	8/12/2024	4.364	2/12/2026		106.04074	104.6435229	103.2715994	101.9243407	100.6011376	99.30140063	98.02455912	96.7700605	95.53736958
ADV1008616	8/12/2024	4.385	8/12/2026		104.24007	103.2573562	102.293287	101.3473364	100.4189971	99.50778086	98.61321783	97.73485539	96.87225747

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008617	8/12/2024	4.497	8/12/2025		103.7778	102.8917971	102.0209714	101.1649353	100.3233136	99.49574387	98.68187558	97.88136984	97.09389888
ADV1008618	8/12/2024	4.287	2/12/2026		106.04706	104.6479951	103.2742848	101.9252967	100.6004198	99.29906272	98.02065296	96.76463626	95.5304758
ADV1008632	8/13/2024	5.337	11/13/2024		100.55294	100.4296658	100.3067036	100.1840554	100.0617197	99.93969549	99.8179814	99.69657624	99.57547881
ADV1008646	8/13/2024	3.838	8/13/2029		120.28019	115.0209554	110.0277543	105.2857164	100.7808813	96.5001348	92.43115372	88.56235387	84.88284226
ADV1008647	8/13/2024	3.885	8/13/2027		112.03601	109.0351577	106.1313398	103.3208991	100.6003359	97.96630073	95.4155873	92.94512569	90.55197562
ADV1008648	8/15/2024	3.881	8/16/2027		112.05953	109.049955	106.1379459	103.3198121	100.592026	97.95121239	95.3941405	92.91771735	90.51898096
ADV1008651	8/13/2024	5.34	11/12/2024		100.54059	100.4201275	100.2999622	100.180097	100.0605308	99.94126241	99.82229064	99.70361437	99.58523245
ADV1008656	8/13/2024	5.338	11/13/2024		100.55307	100.4297896	100.3068271	100.1841786	100.0618426	99.93981807	99.81810367	99.69669821	99.57560047
ADV1008666	8/14/2024	4.249	2/17/2026		105.95101	104.5393686	103.1535244	101.7928252	100.4566443	99.14437569	97.85543263	96.58924728	95.34526982
ADV1008670	8/14/2024	4.054	8/14/2026		107.93566	106.0111761	104.1308218	102.2933269	100.4974625	98.74204275	97.02592337	95.34799957	93.70720462
ADV1008673	8/14/2024	5.336	11/14/2024		100.5653	100.4392315	100.3134898	100.1880759	100.0629884	99.93822597	99.81378732	99.68967116	99.56587618
ADV1008677	8/14/2024	4.411	8/14/2025		103.72904	102.8376804	101.9616889	101.1006688	100.2542379	99.42202701	98.60367926	97.79884969	97.0072047
ADV1008678	8/14/2024	4.496	8/14/2025		103.73311	102.8427115	101.9676492	101.107528	100.261967	99.43059788	98.61306498	97.80902424	97.01814301
ADV1008686	8/14/2024	3.893	8/16/2027		112.09458	109.0844916	106.1719816	103.3533591	100.6250961	97.9838169	95.42629056	92.94942367	90.55025391
ADV1008693	8/15/2024	5.345	11/15/2024		100.57895	100.4500845	100.3215605	100.1933782	100.0655363	99.93803325	99.8108678	99.68403852	99.55754404
ADV1008705	8/15/2024	5.059	2/18/2025		101.74684	101.3487449	100.9537486	100.5618098	100.1728933	99.7869641	99.40398778	99.02393051	98.64675895
ADV1008713	8/15/2024	3.965	8/15/2029		119.92657	114.8903986	110.1081399	105.5655141	101.2491173	97.1463672	93.24544869	89.53526274	86.00537941
ADV1008716	8/15/2024	4.461	12/18/2025		105.41191	104.1593534	102.9366886	101.7428546	100.5768387	99.4376749	98.3244416	97.23625902	96.17228682
ADV1008717	8/15/2024	4.437	1/15/2026		105.75753	104.4333782	103.1372045	101.86812	100.6252777	99.40786596	98.21510704	97.04625494	95.900594
ADV1008720	8/15/2024	4.228	8/17/2026		108.30455	106.3682176	104.4764457	102.6279415	100.8214597	99.05579882	97.32979973	95.64234344	93.99234967
ADV1008726	8/15/2024	5.257	12/19/2024		101.0017	100.7769654	100.5532417	100.3305172	100.1087852	99.88803904	99.66827208	99.44947774	99.23164951
ADV1008732	8/16/2024	5.356	11/18/2024		100.61844	100.4811521	100.3442476	100.2077278	100.0715912	99.9358361	99.80046085	99.66546383	99.53084342
ADV1008743	8/16/2024	4.747	6/17/2025		103.1576	102.4309652	101.7146057	101.0082994	100.3118355	99.6250087	98.94761963	98.2794743	97.62038401
ADV1008752	8/19/2024	5.264	12/20/2024		101.01541	100.7879776	100.5615727	100.3361906	100.1118243	99.88846686	99.66611148	99.44475134	99.22437972
ADV1008753	8/19/2024	5.169	1/16/2025		101.34623	101.0423176	100.7402264	100.4399404	100.1414434	99.84471936	99.5497524	99.25652686	98.96502724
ADV1008754	8/19/2024	5.074	2/13/2025		101.68543	101.3018344	100.9211131	100.5432375	100.1681756	99.79589606	99.42636795	99.05956075	98.69544441
ADV1008766	8/26/2024	4.144	8/26/2026		108.25689	106.2962592	104.3812593	102.5105517	100.6828472	98.89690292	97.15151972	95.44554084	93.77784993
ADV1008768	8/26/2024	3.971	8/26/2027		112.4398	109.396696	106.4530355	103.6050249	100.8490406	98.18161659	95.59943694	93.09932804	90.67825191
ADV1008771	8/19/2024	3.982	8/19/2027		112.38946	109.3666646	106.4420698	103.6119565	100.8727659	98.22109334	95.65368044	93.16740795	90.75928911
ADV1008800	8/20/2024	3.845	8/20/2029		120.38614	115.1043039	110.090558	105.3298707	100.8081282	96.51207507	92.42925809	88.54797355	84.8572184
ADV1008811	8/20/2024	5.381	10/21/2024		100.26743	100.2087621	100.1501806	100.0916824	100.0332674	99.97493543	99.91668627	99.85851976	99.80043571
ADV1008812	8/20/2024	5.291	11/20/2024		100.63376	100.490945	100.3485479	100.2065647	100.0649937	99.92383308	99.78308096	99.64273557	99.50279511
ADV1008813	8/20/2024	5.226	12/20/2024		101.0066	100.7792268	100.552883	100.3275618	100.1032561	99.87995901	99.65766369	99.43636336	99.21605127



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008819	8/20/2024	4.106	8/20/2026		108.10902	106.1663401	104.2685412	102.4143178	100.6024112	98.83160688	97.10073342	95.40866008	93.75429539
ADV1008823	8/21/2024	4.976	2/21/2025		101.75218	101.345998	100.9430375	100.543259	100.1466249	99.75309819	99.36264239	98.97522166	98.59080067
ADV1008825	8/21/2024	4.509	8/21/2025		103.83693	102.926526	102.0321366	101.1533423	100.2897371	99.44092891	98.60653918	97.7862021	96.97956417
ADV1008826	8/21/2024	4.509	8/21/2025		103.83693	102.926526	102.0321366	101.1533423	100.2897371	99.44092891	98.60653918	97.7862021	96.97956417
ADV1008827	8/21/2024	4.231	2/23/2026		106.00807	104.5779261	103.1742006	101.7962218	100.4433415	99.11493245	97.81038813	96.52912155	95.27056459
ADV1008829	8/21/2024	4.056	8/21/2026		108.0259	106.0812828	104.1816503	102.3256931	100.5121477	98.73979554	97.00746107	95.31400975	93.65834643
ADV1008832	8/21/2024	3.867	8/23/2027		112.09936	109.0696646	106.1387609	103.302893	100.558469	97.90205278	95.33035639	92.84023291	90.42866946
ADV1008835	8/21/2024	4.973	2/21/2025		101.75098	101.3448023	100.9418478	100.5420753	100.1454472	99.75192631	99.36147636	98.97406142	98.58964618
ADV1008837	8/21/2024	4.507	8/21/2025		103.83513	102.9247324	102.0303517	101.151566	100.2879693	99.43916955	98.60478811	97.78445923	96.97782941
ADV1008838	8/21/2024	5.285	11/21/2024		100.64524	100.4996403	100.3544683	100.2097252	100.065409	99.92151792	99.77805	99.63500334	99.49237608
ADV1008840	8/21/2024	5.28	11/21/2024		100.64451	100.4989124	100.3537422	100.2090009	100.0646866	99.92079733	99.77733121	99.63428636	99.4916609
ADV1008841	8/21/2024	4.884	3/21/2025		102.07909	101.5928182	101.1111425	100.6340008	100.1613292	99.6930651	99.22914695	98.7695144	98.31410819
ADV1008842	8/21/2024	4.074	8/21/2026		108.06038	106.1154207	104.215456	102.3591728	100.5453075	98.77264154	97.03999898	95.34624519	93.69028488
ADV1008843	8/21/2024	4.244	2/23/2026		106.02649	104.5962151	103.1923552	101.8142444	100.4612342	99.13269749	97.82802762	96.54663755	95.2879591
ADV1008846	8/21/2024	4.493	8/21/2025		103.82251	102.9121773	102.0178576	101.1391322	100.275595	99.42685399	98.59253065	97.77225917	96.96568607
ADV1008855	8/22/2024	4.962	2/24/2025		101.78534	101.3706634	100.9593338	100.5513151	100.1465674	99.74505141	99.34672865	98.95156113	98.55951147
ADV1008861	8/22/2024	4.111	8/24/2026		108.16904	106.2147704	104.3058754	102.441026	100.6189434	98.83839438	97.09818931	95.39718031	93.73425951
ADV1008862	8/22/2024	3.953	8/23/2027		112.35204	109.3186099	106.3840673	103.54465	100.7967628	98.13696688	95.56197169	93.06862768	90.65391949
ADV1008863	8/22/2024	5.278	11/21/2024		100.644	100.4984205	100.353272	100.2085524	100.0642597	99.92039192	99.77694728	99.63392384	99.49131973
ADV1008865	8/22/2024	5.166	12/20/2024		100.9926	100.7653401	100.5391054	100.3138927	100.0896951	99.86650555	99.64431734	99.42312363	99.20291769
ADV1008866	8/22/2024	4.983	2/21/2025		101.75479	101.3486492	100.9457291	100.5459906	100.1493962	99.75590887	99.36549216	98.97811021	98.59372769
ADV1008867	8/22/2024	4.765	5/21/2025		102.80923	102.1588061	101.5166381	100.8825687	100.2564452	99.6381185	99.02744331	98.42427795	97.82848419
ADV1008869	8/22/2024	5.389	10/22/2024		100.27971	100.2182573	100.1568986	100.095629	100.0344481	99.97335587	99.91235206	99.85143649	99.79060896
ADV1008875	8/22/2024	4.288	2/23/2026		106.08867	104.6579208	103.2536038	101.8750438	100.5215921	99.19262131	97.8875247	96.605715	95.34662383
ADV1008895	8/23/2024	4.498	8/25/2025		103.87996	102.9582124	102.052869	101.1634962	100.2896733	99.43099466	98.58706833	97.75751596	96.941972
ADV1008903	8/23/2024	4.418	8/25/2025		103.88037	102.9575944	102.0512574	101.1609236	100.2861711	99.42659289	98.58179611	97.75140124	96.93504172
ADV1008904	8/23/2024	5.308	11/4/2024		100.43335	100.3354988	100.2378485	100.1403936	100.0431335	99.9460676	99.84919529	99.752516	99.65602911
ADV1008905	8/23/2024	3.952	8/24/2026		108.02173	106.0660024	104.155732	102.2895932	100.4663032	98.68462532	96.94336632	95.24137509	93.57754067
ADV1008907	8/26/2024	5.046	1/16/2025		101.3078	101.0043317	100.7026822	100.4028353	100.1047747	99.80848454	99.51394888	99.22115208	98.93007869
ADV1008938	8/26/2024	3.994	8/26/2026		107.96754	106.0097745	104.0975812	102.2296268	100.4046237	98.62133037	96.8785491	95.17512445	93.50994137
ADV1008945	8/26/2024	3.761	8/26/2027		112.06903	109.0257377	106.0820519	103.234175	100.4784727	97.81146896	95.22983839	92.7303986	90.31010331
ADV1008946	8/26/2024	3.841	8/26/2027		112.05652	109.0190916	106.0809583	103.2383393	100.4876155	97.82532516	95.24815631	92.7529393	90.33663993
ADV1008967	8/26/2024	4.397	8/26/2025		103.87349	102.9479657	102.0389828	101.1460961	100.2688804	99.40692512	98.55983402	97.72722445	96.90872686

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008968	8/26/2024	4.95	2/26/2025		101.80558	101.3854263	100.9687092	100.5553879	100.1454213	99.73876846	99.33538957	98.9352452	98.5382966
ADV1008970	8/26/2024	4.476	8/26/2025		103.87215	102.9476648	102.0396841	101.1477668	100.2714889	99.41044106	98.5642281	97.73246851	96.91479375
ADV1008974	8/26/2024	4.187	2/26/2026		105.98571	104.5467072	103.1344277	101.7481916	100.3873397	99.05123457	97.73925964	96.45081843	95.18533373
ADV1009003	8/26/2024	3.951	8/26/2026		108.04381	106.0823568	104.1666149	102.2952394	100.4669378	98.68046356	96.93461464	95.22823123	93.56019411
ADV1009012	8/26/2024	4.489	8/26/2025		103.88404	102.9594975	102.0514586	101.1594839	100.2831492	99.42204523	98.57577687	97.74396255	96.92623371
ADV1009013	8/26/2024	4.034	8/26/2026		108.0447	106.0861704	104.1732287	102.3045401	100.4788167	98.69481638	96.95134126	95.24723549	93.58138366
ADV1009014	8/26/2024	3.869	8/26/2027		112.13907	109.1004218	106.161098	103.3173177	100.5654609	97.90206485	95.32381675	92.82754611	90.41021789
ADV1009023	8/26/2024	4.492	8/26/2025		103.88678	102.9622281	102.0541758	101.1621878	100.28584	99.42472312	98.57844198	97.74661502	96.9288737
ADV1009026	8/26/2024	4.206	2/26/2026		106.01279	104.5735874	103.1611094	101.7746782	100.4136345	99.07734074	97.76518034	96.47655672	95.21089257
ADV1009074	8/27/2024	3.885	8/27/2027		112.19798	109.1556623	106.2128684	103.3658038	100.6108386	97.94450059	95.36346821	92.86456261	90.44474088
ADV1009082	8/27/2024	4.187	8/26/2033		136.12587	126.0494133	116.8305254	108.3908991	100.6597795	93.57320112	87.07330402	81.10772184	75.6290342
ADV1009083	8/27/2024	4.027	8/27/2026		108.04363	106.0823548	104.1667912	102.2955962	100.4674767	98.68118595	96.9355216	95.22932353	93.56147225
ADV1009084	8/27/2024	3.811	8/27/2029		120.28706	114.9876476	109.9582077	105.1835503	100.6494149	96.3424116	92.2499638	88.3602544	84.66217625
ADV1009085	8/27/2024	3.854	8/25/2028		116.39581	112.2429499	108.2639454	104.4505949	100.7951298	97.29018664	93.9287835	90.70429852	87.61044929
ADV1009086	8/27/2024	3.817	8/1/2029		118.58781	113.7426871	109.1381937	104.7609448	100.5983751	96.63868198	92.87077482	89.28422865	85.86924061
ADV1009092	8/27/2024	4.029	8/27/2026		108.04749	106.0861801	104.170579	102.2993471	100.4711915	98.68486531	96.93916617	95.23293395	93.56504913
ADV1009097	8/27/2024	3.831	8/28/2028		116.33879	112.1785549	108.1928241	104.373353	100.7123298	97.20235087	93.83639698	90.60781151	87.51027972
ADV1009119	8/28/2024	5.04	1/28/2025		101.46039	101.1229182	100.7876759	100.4546419	100.1237946	99.7951123	99.46857396	99.14415863	98.82184568
ADV1009120	8/28/2024	4.918	2/26/2025		101.79194	101.3719689	100.9554293	100.5422841	100.1324921	99.72601253	99.32280547	98.92283156	98.52605207
ADV1009121	8/28/2024	4.836	3/26/2025		102.1195	101.6194328	101.1242269	100.6338093	100.1481108	99.66706368	99.19060125	98.71865826	98.25117064
ADV1009134	8/28/2024	3.914	8/28/2026		107.99708	106.0305761	104.1100131	102.2340399	100.4013541	98.61069995	96.86086659	95.15068584	93.47903053
ADV1009135	8/28/2024	4.91	2/28/2025		101.81432	101.388641	100.9664864	100.5478137	100.1325801	99.72074349	99.31226233	98.90709586	98.50520393
ADV1009139	8/28/2024	3.999	8/28/2026		108.00189	106.0382781	104.1204882	102.2471747	100.41704	98.62883277	96.88134628	95.17341637	93.50391966
ADV1009152	8/29/2024	4.198	2/27/2026		106.01502	104.5727811	103.1573803	101.7681269	100.4043577	99.06543172	97.750729	96.45964972	95.19161351
ADV1009154	8/29/2024	3.884	8/30/2027		112.23004	109.1788758	106.2277734	103.3729066	100.6106172	97.93740662	95.34992822	92.84497958	90.4194956
ADV1009155	8/29/2024	3.862	8/29/2028		116.47352	112.3078004	108.3168986	104.4925484	100.8269202	97.31259332	93.94253311	90.71006826	87.60887038
ADV1009156	8/29/2024	3.808	8/29/2029		120.2923	114.9870489	109.9523406	105.1729372	100.6345351	96.32370443	92.22783204	88.33506718	84.63427181
ADV1009157	8/29/2024	5.236	11/29/2024		100.73578	100.567869	100.4005138	100.2337121	100.0674613	99.90175856	99.73660133	99.57198687	99.40791254
ADV1009159	8/29/2024	5.237	11/29/2024		100.73595	100.5680364	100.4006807	100.2338786	100.0676273	99.90192422	99.73676657	99.5721517	99.40807696
ADV1009168	8/29/2024	4.039	8/31/2026		108.11647	106.1434804	104.2167028	102.3347698	100.4963682	98.70023189	96.94514018	95.22991545	93.55342156
ADV1009169	8/29/2024	3.827	8/29/2029		120.38747	115.0798787	110.0429188	105.2613469	100.7208553	96.40801089	92.31019689	88.41555942	84.71295739
ADV1009175	8/29/2024	5.419	10/4/2024		100.05738	100.0462429	100.0351142	100.023996	100.0128885	100.0017915	99.99070512	99.97962925	99.9685639
ADV1009179	8/29/2024	5.245	11/27/2024		100.71238	100.5500935	100.3883293	100.2270865	100.0663625	99.90615485	99.74646106	99.58727865	99.4286052

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009197	8/30/2024	5.123	12/30/2024		101.10739	100.8521588	100.5982056	100.345522	100.0940985	99.84392567	99.59499427	99.3472951	99.10081904
ADV1009198	8/30/2024	4.425	8/29/2025		103.9388	103.0045813	102.0872017	101.1862048	100.3011543	99.43162893	98.57722244	97.73754252	96.91221036
ADV1009199	8/30/2024	4.049	8/31/2026		108.13571	106.1625302	104.2355643	102.3534468	100.5148644	98.7185509	96.96328541	95.24789027	93.57122924
ADV1009202	8/30/2024	3.898	8/30/2027		112.27129	109.2195113	106.2678114	103.412362	100.6495045	97.97573989	95.38772092	92.88224481	90.45624603
ADV1009204	8/30/2024	5.336	11/1/2024		100.39634	100.3069842	100.2177871	100.1287487	100.0398685	99.95114628	99.86258146	99.77417368	99.68592253
ADV1009205	8/30/2024	4.755	4/30/2025		102.52535	101.9340933	101.3496659	100.7719461	100.2008186	99.63617122	99.07789399	98.52587956	97.98002294
ADV1009206	8/30/2024	4.054	8/31/2026		108.14542	106.1721475	104.2450868	102.3628763	100.5242026	98.72779949	96.97244609	95.25696466	93.58021891
ADV1009207	8/30/2024	5.34	10/30/2024		100.37184	100.288077	100.2044586	100.1209799	100.0376408	99.95444069	99.87137938	99.78845651	99.70567173
230406A00044	9/30/2024	3.16	9/30/2026		106.71573	104.6722827	102.6787448	100.7335777	98.83530534	96.98250729	95.17381591	93.40791417	91.68353334
230914A00125	9/16/2024	4.46	9/16/2031		131.48431	123.6628456	116.3783797	109.5909208	103.2636619	97.36271051	91.85684393	86.71728558	81.91750155
ADV1009971	9/30/2024	3.7	11/10/2028		116.64453	112.2654773	108.0782809	104.073462	100.2420675	96.57563476	93.06616208	89.70608069	86.48822884
ADV1009392	9/10/2024	4.128	10/10/2025		104.11993	103.0685889	102.0385303	101.0291165	100.0397305	99.06977963	98.11869441	97.18592748	96.27095247
ADV1009975	9/30/2024	3.7	11/17/2028		116.72355	112.3224426	108.1148916	104.0912974	100.2425943	96.56021568	93.03606341	89.66247934	86.43221888
ADV1009228	9/3/2024	3.768	9/3/2027		112.18778	109.120145	106.1536016	103.284264	100.5084194	97.82251818	95.22316534	92.7071131	90.27125354
ADV1009812	9/24/2024	5.021	10/8/2024		100.09157	100.0693757	100.047201	100.0250499	100.0029223	99.98081826	99.95873768	99.93668052	99.91464674
ADV1009802	9/24/2024	4.015	9/24/2025		103.80299	102.7980183	101.8125401	100.8459955	99.89784192	98.96755758	98.05464017	97.15860605	96.27898945
ADV1009959	9/30/2024	5.085	10/31/2024		100.35487	100.2687227	100.1827228	100.0968689	100.0111609	99.92559829	99.84018073	99.75490789	99.66977941
ADV1009793	9/24/2024	3.611	3/24/2027		109.6366	107.0680785	104.5737437	102.1510187	99.79743524	97.51062535	95.28831704	93.12832953	91.02856906
ADV1009347	9/9/2024	5.331	11/8/2024		100.48255	100.3737595	100.2652132	100.1569126	100.0488568	99.94104493	99.83347618	99.72614968	99.61906457
ADV1009233	9/3/2024	5.424	10/3/2024		100.04383	100.0354845	100.0271449	100.0188129	100.0104887	100.0021721	99.99386328	99.98556209	99.97726856
ADV1009832	9/25/2024	5.015	10/9/2024		100.10247	100.0774976	100.0525528	100.0276353	100.0027449	99.97788165	99.9530455	99.92823637	99.90345423
ADV1009675	9/19/2024	3.692	11/19/2026		108.37871	106.1784793	104.0342961	101.9443398	99.90686213	97.9201853	95.98269852	94.09285475	92.24916765
ADV1009354	9/9/2024	3.541	9/10/2029		119.51121	114.1765168	109.1162819	104.3149169	99.75780055	95.43121222	91.32227205	87.41888508	83.7096894
ADV1009762	9/23/2024	4.22	7/16/2025		103.12783	102.320869	101.5265692	100.7446331	99.97477308	99.21671043	98.47017502	97.73490488	97.01064594
ADV1009520	9/16/2024	5.255	10/16/2024		100.19406	100.1495657	100.1051332	100.0607577	100.0164393	99.97217765	99.9279728	99.88382457	99.83973287
ADV1009957	9/30/2024	4.527	3/31/2025		102.02223	101.5107752	101.0044225	100.5030923	100.0067104	99.51520391	99.02850141	98.54653287	98.0692296
ADV1009485	9/13/2024	4.158	9/15/2025		103.83403	102.8539684	101.892453	100.9489629	100.022994	99.11406067	98.22169522	97.34544691	96.48488124
ADV1009947	9/30/2024	5.087	10/29/2024		100.33216	100.2515825	100.1711425	100.0908347	100.0106588	99.93061456	99.8507016	99.77091963	99.69126834
ADV1009554	9/16/2024	4.127	9/16/2025		103.81622	102.8334611	101.8693552	100.9233741	99.99500941	99.08377156	98.18918906	97.31080758	96.4481892
ADV1009853	9/25/2024	3.941	9/25/2025		103.82149	102.8124728	101.8231039	100.8528105	99.90104437	98.96727796	98.05100361	97.15173263	96.26899438
ADV1009298	9/5/2024	3.617	9/5/2029		119.84552	114.5172296	109.4622169	104.6650066	100.1110801	95.78681041	91.67940326	87.77684175	84.06783529
ADV1009871	9/26/2024	5.011	10/28/2024		100.31568	100.2378506	100.1601514	100.0825779	100.0051297	99.92780646	99.85060794	99.77353384	99.69658385
ADV1009578	9/17/2024	4.818	2/13/2025		101.58308	101.2014078	100.8225981	100.4466197	100.073441	99.70303073	99.33535801	98.97039253	98.60810441

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009531	9/16/2024	5.26	10/15/2024		100.18235	100.1406481	100.0989956	100.0573956	100.0158477	99.97435207	99.93290847	99.89151682	99.85017702
ADV1009928	9/27/2024	4.767	12/27/2024		100.97685	100.731287	100.4869191	100.2437388	100.0017373	99.7609062	99.52123693	99.28272112	99.04535044
ADV1009552	9/16/2024	3.676	9/16/2026		107.60022	105.5871497	103.6222945	101.7041979	99.83145981	98.0027316	96.21671404	94.47215496	92.76784726
ADV1009908	9/27/2024	3.634	9/27/2027		111.80448	108.6794953	105.6596557	102.740834	99.91909019	97.19066081	94.55195033	91.99952246	89.53009214
ADV1009976	9/30/2024	5.096	10/31/2024		100.35582	100.2696684	100.1836676	100.097813	100.0121041	99.92654068	99.84112232	99.75584868	99.67071939
ADV1009752	9/23/2024	3.597	9/23/2027		111.64841	108.5372421	105.530403	102.6238119	99.81357223	97.09596182	94.46742372	91.92455801	89.46411384
ADV1009876	9/26/2024	3.64	9/28/2026		107.83231	105.7798072	103.7773025	101.8232587	99.91619984	98.05470535	96.23740757	94.46298931	92.73018161
ADV1009506	9/13/2024	3.587	6/14/2027		110.50531	107.6942353	104.9697981	102.3287608	99.76803094	97.28465383	94.87580548	92.53878552	90.27101089
ADV1009495	9/13/2024	4.158	9/15/2025		103.83403	102.8539684	101.892453	100.9489629	100.022994	99.11406067	98.22169522	97.34544691	96.48488124
ADV1009533	9/16/2024	5.259	10/16/2024		100.19424	100.1497457	100.1053131	100.0609375	100.0166189	99.9723571	99.9281521	99.88400373	99.83991188
ADV1009590	9/17/2024	3.63	9/17/2026		107.68418	105.6643621	103.6930381	101.7687373	99.89004836	98.05561199	96.2641188	94.51430697	92.8049602
ADV1009647	9/19/2024	5.102	10/21/2024		100.24393	100.1855363	100.1272294	100.0690055	100.0108644	99.95280596	99.89482991	99.83693612	99.77912442
ADV1009249	9/3/2024	3.843	12/15/2027		113.37408	110.0007725	106.7470873	103.6080539	100.5789381	97.65523307	94.83264734	92.10709235	89.47467158
ADV1009455	9/12/2024	5.234	10/15/2024		100.18218	100.1404559	100.0987802	100.0571568	100.0155858	99.974067	99.93260026	99.8911855	99.84982262
ADV1009863	9/26/2024	5.012	10/28/2024		100.31575	100.2379284	100.1602292	100.0826556	100.0052073	99.92788401	99.85068543	99.77361125	99.69666119
ADV1009994	9/30/2024	5.124	10/7/2024		100.08095	100.0615415	100.0421558	100.0227902	100.0034447	99.9841192	99.96481368	99.94552811	99.92626245
ADV1009843	9/25/2024	5.013	10/2/2024		100.02365	100.0181068	100.0125662	100.0070307	100.0015001	99.99597446	99.99045378	99.98493805	99.97942725
ADV1009301	9/5/2024	5.225	12/5/2024		100.80937	100.6247689	100.4408466	100.2576006	100.0750271	99.89312229	99.71188255	99.53130417	99.35138351
ADV1009394	9/10/2024	3.563	9/10/2029		119.18328	113.8705337	108.830837	104.0486944	99.50957291	95.19983444	91.10667546	87.21807196	83.522728
ADV1009523	9/16/2024	5.263	10/15/2024		100.18248	100.1407748	100.0991223	100.0575221	100.0159742	99.97447839	99.93303468	99.89164294	99.85030304
ADV1009303	9/5/2024	5.419	10/7/2024		100.09278	100.0733013	100.0538417	100.0344022	100.0149829	99.99558359	99.97620439	99.95684521	99.93750602
ADV1009713	9/20/2024	4.657	2/20/2025		101.60682	101.2056609	100.8076648	100.4127909	100.0210027	99.63226395	99.24653921	98.86379346	98.48399223
ADV1009358	9/9/2024	5.411	10/8/2024		100.10399	100.0817403	100.0595123	100.037308	100.0151273	99.9929702	99.97083659	99.94872646	99.92663977
ADV1009273	9/4/2024	5.445	10/2/2024		100.03134	100.0257766	100.0202181	100.0146645	100.0091159	100.0035722	99.99803359	99.99249989	99.98697115
ADV1009872	9/26/2024	3.719	9/28/2026		107.82525	105.7759562	103.7765288	101.8254349	99.92120384	98.0624203	96.2477214	94.47579455	92.74537519
ADV1009987	9/30/2024	3.6	9/30/2027		111.99082	108.8484242	105.8121471	102.8778068	100.0414126	97.29915372	94.64738989	92.08264272	89.60158752
ADV1009333	9/6/2024	5.371	11/8/2024		100.48761	100.3787584	100.2701567	100.1618009	100.05369	99.94582323	99.83819965	99.73081844	99.62367875
ADV1009635	9/18/2024	5.111	10/2/2024		100.02584	100.0202917	100.0147456	100.0092044	100.0036682	99.99813699	99.99261073	99.98708942	99.98157305
ADV1009953	9/30/2024	5.154	10/4/2024		100.04659	100.0355073	100.0244322	100.0133677	100.0023137	99.9912702	99.98023723	99.96921475	99.95820274
ADV1009248	9/3/2024	3.937	12/16/2026		109.24514	106.9598539	104.7342546	102.5663401	100.4541957	98.39598672	96.38995453	94.43441258	92.52774277
ADV1009893	9/26/2024	5.012	10/28/2024		100.31575	100.2379284	100.1602292	100.0826556	100.0052073	99.92788401	99.85068543	99.77361125	99.69666119
ADV1009938	9/27/2024	3.676	9/29/2028		116.07973	111.8319776	107.766308	103.8739265	100.146513	96.57619169	93.15550537	89.87739053	86.73515448
ADV1009327	9/6/2024	4.029	3/6/2026		105.86452	104.4040932	102.9711861	101.5650839	100.1850987	98.8305655	97.50084156	96.19530526	94.91335539

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009667	9/19/2024	5.103	10/21/2024		100.24399	100.185595	100.1272881	100.0690642	100.010923	99.95286448	99.89488839	99.83699455	99.77918279
ADV1009546	9/16/2024	3.542	9/16/2027		111.40628	108.3188051	105.3342491	102.4486111	99.65806991	96.95897448	94.34783459	91.82131314	89.37621839
ADV1009661	9/19/2024	5.05	11/8/2024		100.44973	100.3411369	100.2327919	100.1246921	100.0168367	99.9092248	99.80185555	99.6947281	99.5878416
ADV1009499	9/13/2024	5.304	10/15/2024		100.18492	100.1431952	100.1015229	100.059903	100.0183355	99.97682006	99.93535675	99.89394543	99.85258597
ADV1009259	9/4/2024	5.435	10/4/2024		100.05611	100.0449784	100.0338595	100.0227512	100.0116535	100.0005663	99.98948974	99.97842367	99.96736812
ADV1009397	9/10/2024	4.2	9/10/2025		103.8124	102.8463961	101.8984124	100.9679514	100.0545298	99.15768182	98.27695877	97.41192788	96.56217181
ADV1009641	9/18/2024	3.641	9/18/2026		107.71775	105.6947599	103.7203995	101.7931962	99.91173263	98.074644	96.28061552	94.52838028	92.81671716
ADV1009500	9/13/2024	5.304	10/15/2024		100.18492	100.1431952	100.1015229	100.059903	100.0183355	99.97682006	99.93535675	99.89394543	99.85258597
ADV1009262	9/4/2024	5.37	10/17/2024		100.21432	100.166957	100.119655	100.0724151	100.0252371	99.978121	99.93106659	99.88407376	99.83714238
ADV1009924	9/27/2024	5.002	10/28/2024		100.31476	100.2369435	100.1592557	100.0816936	100.0042567	99.92694476	99.84975753	99.7726947	99.69575597
ADV1009242	9/3/2024	5.004	2/3/2025		101.52492	101.1707096	100.8189583	100.4696375	100.1227223	99.77818785	99.43600967	99.09616366	98.75862606
ADV1009589	9/17/2024	3.82	3/17/2026		105.8091	104.3171885	102.8539701	101.4186848	100.0106018	98.62901481	97.27324189	95.94262393	94.63652383
ADV1009445	9/12/2024	4.26	9/12/2025		103.89454	102.9225313	101.9687661	101.0327288	100.1139275	99.21188875	98.32615598	97.45628925	96.60186428
ADV1009984	9/30/2024	4.102	9/30/2025		103.96286	102.9403157	101.9379197	100.9550816	99.99123251	99.04582566	98.118335	97.20825431	96.31509633
ADV1009470	9/12/2024	5.124	11/26/2024		100.67764	100.5185231	100.3599154	100.2018119	100.0442104	99.88710836	99.73050351	99.57439346	99.41877585
ADV1009792	9/24/2024	4.101	8/25/2025		103.51763	102.5976726	101.6940968	100.8064697	99.93437124	99.07739597	98.23515251	97.40726287	96.59336193
ADV1009927	9/27/2024	4.059	9/26/2025		103.8706	102.8597116	101.8685332	100.8964965	99.94305022	99.00766432	98.08982857	97.18905187	96.30486129
ADV1009352	9/9/2024	5.41	10/9/2024		100.11631	100.0912791	100.0662706	100.0412895	100.0163355	99.99140882	99.96650926	99.94163679	99.91679138
ADV1009972	9/30/2024	5.096	10/31/2024		100.35582	100.2696684	100.1836676	100.097813	100.0121041	99.92654068	99.84112232	99.75584868	99.67071939
ADV1009583	9/17/2024	4.14	9/17/2025		103.84119	102.8555148	101.8885972	100.9399068	100.0089311	99.09517634	98.19816729	97.31744591	96.4525708
ADV1009542	9/16/2024	5.262	10/16/2024		100.19437	100.1498808	100.105448	100.0610723	100.0167536	99.97249169	99.92828658	99.8841381	99.84004614
ADV1009271	9/4/2024	4.291	9/4/2025		103.89876	102.9479881	102.0146615	101.0983004	100.1984448	99.31465099	98.44649131	97.593553	96.75543778
ADV1009350	9/9/2024	5.416	10/7/2024		100.09174	100.0722761	100.0528281	100.0334003	100.0139927	99.99460507	99.97523753	99.95588999	99.93656244
ADV1009292	9/5/2024	5.2	12/10/2024		100.86897	100.6703111	100.4724456	100.2753671	100.0790708	99.88355203	99.68880602	99.49482817	99.30161388
ADV1009657	9/19/2024	4.642	3/19/2025		101.93343	101.4553131	100.9816672	100.5124301	100.0475406	99.58693813	99.13056365	98.67835902	98.23026719
ADV1009801	9/24/2024	4.252	6/24/2025		102.88313	102.1382101	101.4040934	100.68055	99.96735226	99.26427913	98.57111587	97.88765374	97.21368985
ADV1009937	9/27/2024	3.522	9/27/2027		111.71978	108.5901376	105.5659338	102.6430276	99.81746342	97.08546341	94.44341831	91.88787895	89.41554814
ADV1009519	9/16/2024	5.255	10/15/2024		100.18214	100.1404369	100.0987846	100.0571847	100.015637	99.97414155	99.93269811	99.89130663	99.849967
ADV1009227	9/3/2024	5.434	10/1/2024		100.0191	100.0163154	100.013536	100.010759	100.0079843	100.0052121	100.0024423	99.99967493	99.99690994
ADV1009890	9/26/2024	4.987	11/4/2024		100.39435	100.2970201	100.1998878	100.1029497	100.0062055	99.90965438	99.81329587	99.71712933	99.62115419
ADV1009597	9/17/2024	4.391	6/17/2025		102.90061	102.1750035	101.459658	100.7543557	100.0588859	99.37304362	98.69662948	98.02944969	97.37131572
ADV1009738	9/23/2024	5.045	10/15/2024		100.1717	100.1300386	100.0884341	100.0468818	100.0053817	99.96393374	99.92253777	99.88119369	99.8399014
ADV1009867	9/26/2024	3.668	9/26/2029		119.86823	114.4917937	109.3938001	104.5583226	99.97042794	95.61611007	91.48222743	87.5564453	83.82718208



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009561	9/17/2024	4.119	9/17/2025		103.82069	102.8351218	101.8683106	100.9197254	99.98885331	99.07520096	98.17829295	97.29767133	96.43289472
ADV1009847	9/25/2024	4.773	12/24/2024		100.94374	100.7065381	100.4704598	100.235495	100.0016356	99.7688738	99.53720193	99.30661229	99.07709726
ADV1009225	9/3/2024	5.428	10/2/2024		100.03147	100.0259077	100.0203484	100.0147941	100.0092447	100.0037003	99.9981609	99.99262644	99.98709694
ADV1009314	9/5/2024	3.781	1/5/2028		113.41155	109.9788228	106.6696369	103.4787953	100.401357	97.43262073	94.56811081	91.80356519	89.13492351
ADV1009260	9/4/2024	5.337	11/4/2024		100.43345	100.335775	100.2382908	100.1410018	100.0439072	99.94700651	99.85029907	99.75378431	99.65746163
ADV1009621	9/18/2024	3.762	9/18/2026		107.79468	105.773977	103.8017904	101.8766536	99.99715415	98.16193163	96.36967545	94.61912273	92.90905614
ADV1009663	9/19/2024	3.613	9/20/2027		111.66366	108.5608572	105.5618188	102.6625008	99.85903789	97.14773689	94.5250683	91.9876579	89.53227905
ADV1009332	9/6/2024	4.267	9/8/2025		103.8514	102.8907781	101.9479762	101.0224997	100.1138736	99.2216399	98.34535735	97.48460027	96.63895809
ADV1009849	9/25/2024	4.448	4/25/2025		102.28577	101.7091249	101.1389927	100.5752632	100.0178287	99.46658428	98.92142697	98.38225625	97.84897376
ADV1009855	9/25/2024	4.534	3/25/2025		101.95405	101.4594119	100.9695561	100.4844121	100.0039121	99.52798966	99.05657959	98.58961793	98.12704193
ADV1009539	9/16/2024	4.402	6/16/2025		102.89631	102.1734916	101.4608569	100.7581901	100.0652827	99.38193184	98.70794057	98.04311713	97.387275
ADV1009360	9/9/2024	5.4	10/11/2024		100.14069	100.1100843	100.0795137	100.0489782	100.0184777	99.98801205	99.95758129	99.92718533	99.8968241
ADV1009355	9/9/2024	3.541	9/10/2029		119.51121	114.1765168	109.1162819	104.3149169	99.75780055	95.43121222	91.32227205	87.41888508	83.7096894
ADV1009978	9/30/2024	4.85	12/31/2024		101.04399	100.7872291	100.5317623	100.2775843	100.0246854	99.77305597	99.52268657	99.27356777	99.02569026
ADV1009813	9/24/2024	3.936	9/24/2025		103.8045	102.7983673	101.8117704	100.844146	99.89494992	98.96365881	98.04976895	97.15279538	96.27227102
ADV1009960	9/30/2024	5.086	10/31/2024		100.35496	100.2688087	100.1828087	100.0969548	100.0112467	99.92568396	99.84026633	99.75499342	99.66986486
ADV1009678	9/19/2024	3.707	10/19/2026		108.04602	105.93645	103.8791543	101.8724957	99.91489648	98.00483968	96.14086649	94.32157345	92.54560995
ADV1009940	9/27/2024	5.023	10/4/2024		100.04582	100.0347292	100.0236496	100.0125806	100.0015221	99.9904742	99.97943677	99.96840984	99.95739338
ADV1009803	9/24/2024	4.522	3/24/2025		101.93631	101.4444928	100.9574086	100.4749848	99.99715445	99.52385234	99.05501424	98.59057719	98.13047943
ADV1009696	9/19/2024	4.827	1/21/2025		101.2989	100.9825182	100.6681118	100.3556666	100.0451643	99.73658674	99.42991596	99.12513426	98.82222416
ADV1009662	9/19/2024	3.613	9/20/2027		111.66366	108.5608572	105.5618188	102.6625008	99.85903789	97.14773689	94.5250683	91.9876579	89.53227905
ADV1009909	9/27/2024	4.996	10/25/2024		100.28071	100.2112586	100.1419094	100.0726666	100.0035299	99.93449912	99.86557393	99.79675412	99.72803946
ADV1009857	9/25/2024	3.597	9/25/2026		107.71072	105.667975	103.6747932	101.7296624	99.83112499	97.97777768	96.16826922	94.40129804	92.67561004
ADV1009390	9/10/2024	3.564	9/10/2029		119.18832	113.8754524	108.8356357	104.0533774	99.51414463	95.20429885	91.11103642	87.22233318	83.526893
ADV1009409	9/10/2024	3.95	9/10/2026		108.07137	106.0705118	104.1171656	102.2099095	100.347375	98.52824315	96.75124313	95.01514966	93.3187812
ADV1009880	9/26/2024	3.727	9/28/2026		107.84141	105.7919565	103.7923653	101.8411108	99.93672229	98.07778426	96.2629338	94.49085824	92.76029294
ADV1009754	9/23/2024	4.94	11/25/2024		100.63452	100.4785016	100.3229744	100.1679349	100.0133808	99.85930989	99.70571982	99.55260836	99.39997326
ADV1009787	9/24/2024	5.016	10/24/2024		100.27151	100.2048149	100.1382157	100.0717167	100.0053179	99.93901883	99.87281942	99.80671941	99.74071857
ADV1009952	9/30/2024	5.083	10/30/2024		100.34327	100.2599064	100.1766868	100.0936063	100.0106646	99.92786137	99.84519621	99.76266882	99.68027888
ADV1009653	9/19/2024	5.092	10/3/2024		100.03697	100.0286411	100.0203225	100.0120116	100.0037084	99.9954129	99.98712505	99.97884485	99.97057229
ADV1009240	9/3/2024	3.792	9/4/2029		120.27794	114.955739	109.9058109	105.112772	100.5621843	96.24049472	92.13497705	88.23367675	84.5253605
ADV1009795	9/24/2024	4.726	1/15/2025		101.19408	100.8949423	100.5975829	100.3019844	100.0081311	99.71600759	99.42559844	99.13688852	98.84986285
ADV1009942	9/27/2024	3.674	9/8/2028		115.83648	111.6545108	107.6493578	103.812599	100.1362617	96.61279295	93.23503519	89.99620337	86.8898636

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009619	9/18/2024	4.172	9/18/2025		103.88484	102.8961409	101.9263141	100.9748185	100.0411371	99.12477231	98.2252448	97.34209292	96.47487171
ADV1009692	9/19/2024	5.017	11/19/2024		100.57635	100.4370203	100.2980922	100.1595613	100.021426	99.88368446	99.746335	99.60937592	99.47280551
ADV1009860	9/26/2024	5.007	10/17/2024		100.19189	100.1446922	100.0975544	100.0504784	100.0034643	99.95651168	99.9096206	99.86279089	99.81602241
ADV1009547	9/16/2024	3.57	9/18/2028		115.53032	111.3254838	107.2996962	103.444372	99.75138399	96.21303598	92.82203753	89.57148035	86.45481624
ADV1009845	9/25/2024	4.533	3/25/2025		101.95356	101.4589265	100.9690732	100.4839315	100.0034339	99.52751377	99.05610601	98.58914664	98.12657292
ADV1009840	9/25/2024	3.701	3/25/2026		105.7242	104.2111778	102.7276535	101.272841	99.84597902	98.4463327	97.07319242	95.7258728	94.40371164
ADV1009907	9/27/2024	4.769	12/27/2024		100.97734	100.731774	100.4874049	100.2442233	100.0022207	99.76138835	99.52171788	99.28320087	99.04582901
ADV1009883	9/26/2024	5.009	10/17/2024		100.19199	100.1447869	100.097649	100.050573	100.0035588	99.95660616	99.90971503	99.86288526	99.81611673
ADV1009881	9/26/2024	5.012	10/28/2024		100.31575	100.2379284	100.1602292	100.0826556	100.0052073	99.92788401	99.85068543	99.77361125	99.69666119
ADV1009765	9/23/2024	5.045	10/23/2024		100.26235	100.1984221	100.1345919	100.0708561	100.0072145	99.94366676	99.88021279	99.81685235	99.75358523
ADV1009652	9/19/2024	5.092	10/3/2024		100.03697	100.0286411	100.0203225	100.0120116	100.0037084	99.9954129	99.98712505	99.97884485	99.97057229
ADV1009989	9/30/2024	3.6	9/30/2027		111.99082	108.8484242	105.8121471	102.8778068	100.0414126	97.29915372	94.64738989	92.08264272	89.60158752
ADV1009631	9/18/2024	3.804	3/18/2026		105.7971	104.3025631	102.8368143	101.3990955	99.98867187	98.60483371	97.24689558	95.91419514	94.6060922
ADV1009312	9/5/2024	3.873	9/8/2026		107.89563	105.9022187	103.9560216	102.0556291	100.1996849	98.38688162	96.6159595	94.88570374	93.19494282
ADV1009232	9/3/2024	5.424	10/3/2024		100.04383	100.0354845	100.0271449	100.0188129	100.0104887	100.0021721	99.99386328	99.98556209	99.97726856
ADV1009550	9/16/2024	3.67	9/16/2026		107.58829	105.5753429	103.6106067	101.6926268	99.82000309	97.99138717	96.20547978	94.46102883	92.75682726
ADV1009797	9/24/2024	5.015	10/1/2024		100.01263	100.0098583	100.0070879	100.0043198	100.0015542	99.99879094	99.9960301	99.99327167	99.99051563
ADV1009302	9/5/2024	5.419	10/7/2024		100.09278	100.0733013	100.0538417	100.0344022	100.0149829	99.99558359	99.97620439	99.95684521	99.93750602
ADV1009656	9/19/2024	4.077	9/19/2025		103.8036	102.8125616	101.8404871	100.8868389	99.95109576	99.03275629	98.13133747	97.24637408	96.37741784
ADV1009395	9/10/2024	4.122	10/10/2025		104.11369	103.0623817	102.0323574	101.0229775	100.0336248	99.06370684	98.11265408	97.17991917	96.26497575
ADV1009579	9/17/2024	3.902	3/24/2026		105.89286	104.3832739	102.9030367	101.4513666	100.0275078	98.63073103	97.26033182	95.91562975	94.59596734
ADV1009594	9/17/2024	5.213	10/23/2024		100.2745	100.2105072	100.1466129	100.0828131	100.0191075	99.95549595	99.89197824	99.82855414	99.76522346
ADV1009728	9/20/2024	3.503	9/20/2027		111.58533	108.4778221	105.4743767	102.5709293	99.76359918	97.04867897	94.42262569	91.88205244	89.4237206
ADV1009757	9/23/2024	4.841	12/23/2024		100.94833	100.7138354	100.4804414	100.2481367	100.0169136	99.78676458	99.55768213	99.32965878	99.10268717
ADV1009488	9/13/2024	5.308	10/15/2024		100.18509	100.1433646	100.1016922	100.0600722	100.0185045	99.97698895	99.93552549	99.89411402	99.85275442
ADV1009854	9/25/2024	4.768	12/26/2024		100.96584	100.7230222	100.4813758	100.2408923	100.0015633	99.76338048	99.52633555	99.29042039	99.05562692
ADV1009897	9/26/2024	3.687	9/26/2028		116.0908	111.8515312	107.7936178	103.9083174	100.1873588	96.62291185	93.20756153	89.93428353	86.79642159
ADV1009788	9/24/2024	4.798	12/23/2024		100.9381	100.7036697	100.4703314	100.2380822	100.0069144	99.77682042	99.54779272	99.31982388	99.09290653
ADV1009591	9/17/2024	3.571	9/17/2029		119.28987	113.9540793	108.8935063	104.092481	99.53630425	95.21118488	91.1041792	87.20313447	83.49663656
ADV1009679	9/19/2024	5.091	10/3/2024		100.03696	100.0286322	100.0203137	100.0120028	100.0036996	99.99540409	99.98711624	99.97883605	99.97056349
ADV1009751	9/23/2024	5.024	10/29/2024		100.32861	100.2479631	100.1674488	100.087067	100.0068171	99.92669905	99.84671238	99.76685683	99.68713206
ADV1009405	9/10/2024	3.947	3/10/2026		105.79327	104.322501	102.8796399	101.4639621	100.0747649	98.7113696	97.37312021	96.05938251	94.76954318
ADV1009760	9/23/2024	5.046	10/23/2024		100.26241	100.1984862	100.134656	100.0709201	100.0072784	99.94373065	99.88027663	99.81691614	99.75364896

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009833	9/25/2024	4.031	9/25/2025		103.83094	102.8230288	101.8347246	100.8654577	99.91468139	98.98186957	98.06651602	97.1681334	96.28625234
ADV1009740	9/23/2024	5.045	10/22/2024		100.25102	100.1898784	100.1288278	100.0678658	100.0069922	99.94620673	99.88550926	99.82489957	99.76437749
ADV1009982	9/30/2024	5.131	10/7/2024		100.08108	100.0616775	100.0422918	100.0229262	100.0035807	99.98425515	99.96494961	99.94566401	99.92639832
ADV1009297	9/5/2024	3.631	9/5/2029		119.91607	114.5860428	109.5293528	104.7305273	100.1750447	95.84927548	91.74042279	87.83646735	84.12611625
ADV1009218	9/3/2024	5.43	10/2/2024		100.03149	100.0259213	100.0203619	100.0148076	100.0092582	100.0037138	99.9981744	99.99263994	99.98711043
ADV1009858	9/25/2024	4.893	11/25/2024		100.62679	100.4708322	100.3153596	100.1603745	100.0058747	99.85185787	99.69832172	99.54526401	99.39268249
ADV1009800	9/24/2024	4.43	4/24/2025		102.26366	101.6898456	101.1224871	100.5614715	100.0066926	99.45804678	98.91543256	98.37875072	97.8479042
ADV1009611	9/18/2024	5.2	10/18/2024		100.21464	100.1645938	100.1146163	100.0647058	100.0148621	99.96508512	99.9153747	99.8657307	99.816153
ADV1009790	9/27/2024	4.708	1/23/2025		101.28406	100.9624792	100.6429437	100.3254339	100.0099307	99.69641486	99.38486776	99.07527078	98.7676056
ADV1009601	9/17/2024	4.143	9/17/2025		103.84412	102.8584281	101.8914953	100.9427899	100.0117993	99.09802997	98.20100648	97.32027085	96.45538167
ADV1009747	9/23/2024	4.77	1/23/2025		101.30458	100.9827706	100.6630044	100.3452653	100.0295343	99.7157921	99.40402003	99.0941995	98.78631216
ADV1009887	9/26/2024	5.011	10/28/2024		100.31568	100.2378506	100.1601514	100.0825779	100.0051297	99.92780646	99.85060794	99.77353384	99.69658385
ADV1009220	9/3/2024	5.43	10/2/2024		100.03149	100.0259213	100.0203619	100.0148076	100.0092582	100.0037138	99.9981744	99.99263994	99.98711043
ADV1009807	9/24/2024	4.79	12/24/2024		100.94794	100.7107008	100.4745816	100.239576	100.005676	99.77287388	99.54116183	99.31053218	99.08097733
ADV1009951	9/30/2024	5.082	10/15/2024		100.17167	100.1300509	100.0884863	100.0469741	100.0055139	99.96410586	99.92274974	99.88144546	99.84019292
ADV1009955	9/30/2024	4.846	12/31/2024		101.04297	100.7862114	100.5307472	100.2765718	100.0236754	99.77204855	99.52168168	99.27256539	99.02469039
ADV1009714	9/20/2024	5.028	10/15/2024		100.17165	100.1299785	100.0883569	100.0467877	100.0052708	99.9638059	99.92239306	99.88103214	99.83972303
ADV1009482	9/13/2024	4.294	9/13/2039		156.35816	138.7827451	123.5256262	110.2609199	98.7105086	88.63679768	79.83660672	72.13600928	65.38597002
ADV1009761	9/23/2024	5.045	10/15/2024		100.1717	100.1300386	100.0884341	100.0468818	100.0053817	99.96393374	99.92253777	99.88119369	99.8399014
ADV1009741	9/23/2024	5.045	10/23/2024		100.26235	100.1984221	100.1345919	100.0708561	100.0072145	99.94366676	99.88021279	99.81685235	99.75358523
ADV1009517	9/16/2024	5.255	10/15/2024		100.18214	100.1404369	100.0987846	100.0571847	100.015637	99.97414155	99.93269811	99.89130663	99.849967
ADV1009640	9/18/2024	4.045	9/18/2025		103.8393	102.8497158	101.8790398	100.9267294	99.99226594	99.07515062	98.17490282	97.29105962	96.42317492
ADV1009979	9/30/2024	4.85	12/31/2024		101.04399	100.7872291	100.5317623	100.2775843	100.0246854	99.77305597	99.52268657	99.27356777	99.02569026
ADV1009868	9/26/2024	3.558	9/27/2027		111.82928	108.697966	105.6721363	102.747645	99.92053518	97.18702764	94.5435119	91.98653759	89.51280636
ADV1009377	9/10/2024	5.358	10/10/2024		100.12693	100.099112	100.071328	100.043575	100.015853	99.98816205	99.960502	99.93287282	99.90527445
ADV1009799	9/24/2024	4.608	2/24/2025		101.63471	101.2224806	100.8135786	100.4079679	100.0056088	99.60646249	99.21049051	98.81765515	98.42791926
ADV1009766	9/23/2024	4.848	12/20/2024		100.91437	100.6883049	100.4632643	100.2392404	100.0162262	99.79421478	99.57319938	99.35317322	99.13412962
ADV1009300	9/5/2024	5.42	10/7/2024		100.0928	100.0733219	100.0538622	100.0344227	100.0150034	99.99560407	99.97622485	99.95686565	99.93752645
ADV1009481	9/13/2024	4.073	9/13/2034		138.40577	127.1163898	116.8859607	107.6082623	99.18828392	91.54098946	84.59022259	78.26773702	72.51233709
ADV1009746	9/23/2024	4.057	9/23/2025		103.83271	102.8303573	101.8474008	100.8832783	99.93745158	99.00940281	98.09863354	97.20466379	96.32703127
ADV1009789	9/24/2024	3.584	9/24/2027		111.61998	108.5063856	105.4972938	102.5886172	99.77644943	97.05705868	94.42687919	91.88250267	89.42067044
ADV1009369	9/9/2024	4.827	3/10/2025		101.90633	101.4529252	101.0035343	100.5581081	100.1165942	99.67894097	99.24509799	98.81501553	98.38864476
ADV1009720	9/20/2024	4.844	12/20/2024		100.91406	100.687908	100.4627799	100.2386688	100.0155678	99.79346992	99.57236849	99.35225668	99.13312781

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009664	9/19/2024	5.103	10/21/2024		100.24399	100.185595	100.1272881	100.0690642	100.010923	99.95286448	99.89488839	99.83699455	99.77918279
ADV1009791	9/27/2024	4.625	2/18/2025		101.56874	101.1736721	100.7816696	100.3927016	100.0067329	99.62372882	99.24365527	98.86647865	98.49216587
ADV1009835	9/25/2024	3.941	9/25/2025		103.82149	102.8124728	101.8231039	100.8528105	99.90104437	98.96727796	98.05100361	97.15173263	96.26899438
ADV1009866	9/26/2024	5.007	10/17/2024		100.19189	100.1446922	100.0975544	100.0504784	100.0034643	99.95651168	99.9096206	99.86279089	99.81602241
ADV1009933	9/27/2024	3.522	9/27/2027		111.71978	108.5901376	105.5659338	102.6430276	99.81746342	97.08546341	94.44341831	91.88787895	89.41554814
ADV1009846	9/25/2024	4.769	12/26/2024		100.96608	100.723263	100.481616	100.2411319	100.0018023	99.76361886	99.52657334	99.29065758	99.05586351
ADV1009817	9/24/2024	4.787	12/24/2024		100.94723	100.7099948	100.4738774	100.2388735	100.0049753	99.77217492	99.5404646	99.30983668	99.08028355
ADV1009638	9/18/2024	3.651	9/18/2026		107.7377	105.7145077	103.7399476	101.8125484	99.93089268	98.09361558	96.29940217	94.54698546	92.83514422
ADV1009412	9/11/2024	5.137	12/11/2024		100.8679	100.6666291	100.4661743	100.2665283	100.067686	99.86964267	99.67239331	99.47593311	99.28025727
ADV1009649	9/19/2024	5.1	10/18/2024		100.20936	100.1593289	100.1093626	100.0594633	100.0096308	99.95986494	99.91016566	99.86053278	99.81096618
ADV1009796	9/24/2024	3.931	9/24/2025		103.79952	102.7934152	101.8068447	100.8392463	99.89007585	98.95881003	98.04494515	97.14799622	96.2674962
ADV1009851	9/25/2024	5.011	10/2/2024		100.02364	100.0180952	100.0125547	100.0070191	100.0014885	99.9959629	99.99044223	99.9849265	99.97941571
ADV1009494	9/13/2024	3.577	9/13/2027		111.4785	108.3985337	105.4209443	102.5417689	99.75721667	97.06366447	94.45764866	91.93585701	89.49512119
ADV1009480	9/13/2024	5.299	10/15/2024		100.18471	100.1429833	100.1013112	100.0596916	100.0181242	99.97660896	99.93514583	99.89373469	99.85237542
ADV1009613	9/18/2024	3.635	9/20/2027		111.73056	108.6267547	105.6267374	102.7264649	99.92207071	97.20986116	94.58630593	92.04803012	89.5918064
ADV1009837	9/25/2024	5.011	10/2/2024		100.02364	100.0180952	100.0125547	100.0070191	100.0014885	99.9959629	99.99044223	99.9849265	99.97941571
ADV1009421	9/11/2024	3.91	3/11/2026		105.75101	104.2778379	102.8326742	101.4147852	100.0234651	98.65803162	97.31782548	96.00220939	94.71056708
ADV1009809	9/24/2024	4.519	3/24/2025		101.93485	101.4430448	100.9559678	100.473551	99.99572778	99.52243264	99.05360146	98.58917126	98.12908028
ADV1009244	9/3/2024	3.868	9/3/2027		112.23458	109.1719951	106.2102094	103.3453508	100.5737216	97.89178585	95.29616181	92.78361409	90.35104651
ADV1009507	9/13/2024	3.566	9/13/2027		111.44551	108.3660381	105.3889321	102.5102281	99.72613555	97.03303189	94.42745376	91.90608927	89.46577043
ADV1009805	9/24/2024	3.791	3/24/2026		105.72537	104.217066	102.7380928	101.2876654	99.86502849	98.46945337	97.10023615	95.75669691	94.43817865
ADV1009305	9/5/2024	3.995	3/5/2026		105.92124	104.4611954	103.0286371	101.6228568	100.2431676	98.88890589	97.55942993	96.25411928	94.97237376
ADV1009618	9/18/2024	4.736	3/18/2025		101.96527	101.4897326	101.0186151	100.5518581	100.0894012	99.63118498	99.17715132	98.72724301	98.28140393
ADV1009956	9/30/2024	5.086	10/29/2024		100.33207	100.2515021	100.1710621	100.0907544	100.0105786	99.93053439	99.8506215	99.77083959	99.69118836
ADV1009277	9/4/2024	5.341	11/4/2024		100.43385	100.3361673	100.2386825	100.1413928	100.0442976	99.94739625	99.85068817	99.75417275	99.65784943
ADV1009839	9/25/2024	3.939	9/25/2025		103.81949	102.8104866	101.8211282	100.8508453	99.8990895	98.96533326	98.04906895	97.14980788	96.2670794
ADV1009418	9/11/2024	4.04	12/11/2025		104.80626	103.5772618	102.3771704	101.2049698	100.0596945	98.94042321	97.84627633	96.77641345	95.73003138
ADV1009930	9/27/2024	3.605	9/27/2027		111.71638	108.5927392	105.5742062	102.6566584	99.83615679	97.10893901	94.47141053	91.92013599	89.45183128
ADV1009420	9/11/2024	3.627	3/11/2027		109.53395	107.0025688	104.5433202	102.1537382	99.83145414	97.57419436	95.37977588	93.24610217	91.17115915
ADV1009490	9/13/2024	4.881	2/13/2025		101.60762	101.2256448	100.8465368	100.4702624	100.0967898	99.72608788	99.35812566	98.99287282	98.63029944
ADV1009829	9/25/2024	5.008	10/25/2024		100.28199	100.2125106	100.1431416	100.0738789	100.0047224	99.93567185	99.86672692	99.7978874	99.72915306
ADV1009424	9/11/2024	5.329	10/9/2024		100.11374	100.0887091	100.0637097	100.0387375	100.0137927	99.98887496	99.96398441	99.93912094	99.91428452
ADV1009808	9/24/2024	4.703	1/24/2025		101.29499	100.9704679	100.6480229	100.3276383	100.0092943	99.69297163	99.37865086	99.06631303	98.75593937

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009686	9/19/2024	5.104	10/21/2024		100.24404	100.1856538	100.1273468	100.0691228	100.0109816	99.95292301	99.89494686	99.83705297	99.77924117
ADV1009861	9/26/2024	5.011	10/28/2024		100.31568	100.2378506	100.1601514	100.0825779	100.0051297	99.92780646	99.85060794	99.77353384	99.69658385
ADV1009889	9/26/2024	5.007	10/17/2024		100.19189	100.1446922	100.0975544	100.0504784	100.0034643	99.95651168	99.9096206	99.86279089	99.81602241
ADV1009841	9/25/2024	3.577	9/25/2026		107.67044	105.6281027	103.6353279	101.6905962	99.79245022	97.93948683	96.13035502	94.36375343	92.63842815
ADV1009484	9/13/2024	4.986	1/13/2025		101.24793	100.9537593	100.6613065	100.3705537	100.0814859	99.79408853	99.50834694	99.22424678	98.94177385
ADV1009920	9/27/2024	4.756	12/30/2024		101.00899	100.7549937	100.5022744	100.2508184	100.0006165	99.7516591	99.50393713	99.25744139	99.01216284
ADV1009939	9/27/2024	3.676	9/22/2028		116.00131	111.7754557	107.7299184	103.8560319	100.1455929	96.59083407	93.18439877	89.91931698	86.78898287
ADV1009764	9/23/2024	4.064	9/19/2025		103.79047	102.7995063	101.8275105	100.8739396	99.93827273	99.02000826	98.11866329	97.23377264	96.36488805
ADV1009460	9/12/2024	5.24	10/15/2024		100.18244	100.1407103	100.0990344	100.0574109	100.0158396	99.97432055	99.93285359	99.89143861	99.8500755
ADV1009629	9/18/2024	3.639	9/18/2026		107.71376	105.6908104	103.7164899	101.7893258	99.90790062	98.07084968	96.27685819	94.52465924	92.81303175
ADV1009622	9/18/2024	5.14	11/13/2024		100.52063	100.3980356	100.2757581	100.1537927	100.0321381	99.91079326	99.78975681	99.66902758	99.54860436
ADV1009850	9/25/2024	4.767	12/26/2024		100.9656	100.7227813	100.4811356	100.2406527	100.0013243	99.76314209	99.52609777	99.2901832	99.05539032
ADV1009565	9/17/2024	5.22	10/17/2024		100.20406	100.1567966	100.1095916	100.0624486	100.0153674	99.96834793	99.92139003	99.87449358	99.82765846
ADV1009973	9/30/2024	3.7	11/17/2028		116.72355	112.3224426	108.1148916	104.0912974	100.2425943	96.56021568	93.03606341	89.66247934	86.43221888
ADV1009689	9/19/2024	5.103	10/21/2024		100.24399	100.185595	100.1272881	100.0690642	100.010923	99.95286448	99.89488839	99.83699455	99.77918279
ADV1009261	9/4/2024	4.365	9/4/2025		103.89275	102.9430804	102.010815	101.0954803	100.1966174	99.31378409	98.44655382	97.59451502	96.75727052
ADV1009737	9/23/2024	4.941	11/25/2024		100.63467	100.4786569	100.3231295	100.1680897	100.0135354	99.85946418	99.70587385	99.55276212	99.40012676
ADV1009545	9/16/2024	3.674	9/16/2026		107.59624	105.5832141	103.6183986	101.7003409	99.8276409	97.99895013	96.21296929	94.46844625	92.76417393
ADV1009891	9/26/2024	5.014	10/3/2024		100.03469	100.0263701	100.0180599	100.0097573	100.0014625	99.9931753	99.98489576	99.97662387	99.96835961
ADV1009711	9/20/2024	4.977	11/7/2024		100.42985	100.3240759	100.2185343	100.1132249	100.008147	99.90329977	99.79868247	99.69429429	99.59013444
ADV1009241	9/3/2024	5.331	11/4/2024		100.43309	100.3354014	100.237904	100.1406016	100.0434938	99.94657981	99.84985915	99.7533312	99.65699535
ADV1009690	9/19/2024	5.049	11/8/2024		100.44962	100.3410283	100.2326835	100.1245839	100.0167286	99.90911685	99.80174775	99.69462045	99.58773409
ADV1009739	9/23/2024	5.045	10/23/2024		100.26235	100.1984221	100.1345919	100.0708561	100.0072145	99.94366676	99.88021279	99.81685235	99.75358523
ADV1009478	9/13/2024	5.299	10/15/2024		100.18471	100.1429833	100.1013112	100.0596916	100.0181242	99.97660896	99.93514583	99.89373469	99.85237542
ADV1009888	9/26/2024	5.011	10/28/2024		100.31568	100.2378506	100.1601514	100.0825779	100.0051297	99.92780646	99.85060794	99.77353384	99.69658385
ADV1009616	9/18/2024	5.201	10/23/2024		100.2735	100.2095161	100.1456318	100.0818419	100.0181462	99.95454459	99.89103676	99.82762254	99.76430172
ADV1009965	9/30/2024	4.056	9/30/2025		103.91632	102.8940311	101.8918847	100.9092926	99.94568638	99.00051909	98.07326479	97.16341735	96.27048957
ADV1009463	9/12/2024	3.626	9/12/2028		115.69034	111.4996868	107.4867294	103.6429789	99.9604015	96.43138765	93.04872722	89.80558646	86.69548633
ADV1009595	9/17/2024	5.213	10/23/2024		100.2745	100.2105072	100.1466129	100.0828131	100.0191075	99.95549595	99.89197824	99.82855414	99.76522346
ADV1009885	9/26/2024	5.016	10/10/2024		100.11353	100.0857826	100.0580681	100.0303845	100.002732	99.97511033	99.94751952	99.9199595	99.89243022
ADV1009587	9/17/2024	4.703	3/17/2025		101.93742	101.4647569	100.9964626	100.5324779	100.0727434	99.6172007	99.16579259	98.71846287	98.27515635
ADV1009462	9/12/2024	3.629	9/13/2027		111.63446	108.5521492	105.5722749	102.6908712	99.90414557	97.20847303	94.60038822	92.07657726	89.63387022
ADV1009404	9/10/2024	3.947	3/10/2026		105.79327	104.322501	102.8796399	101.4639621	100.0747649	98.7113696	97.37312021	96.05938251	94.76954318



	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009450	9/12/2024	5.265	10/15/2024		100.1835	100.1417706	100.1000937	100.0584692	100.0168971	99.97537705	99.93390914	99.89249321	99.85112917
ADV1009910	9/27/2024	4.999	10/28/2024		100.31452	100.2367101	100.1590226	100.0814606	100.0040239	99.9267122	99.84952518	99.77246254	99.69552401
ADV1009411	9/11/2024	5.318	10/11/2024		100.13763	100.1070381	100.0764787	100.0459543	100.015465	99.98501051	99.95459091	99.92420609	99.89385599
ADV1009744	9/23/2024	3.597	10/23/2029		120.21306	114.7363185	109.5469953	104.6284339	99.9650326	95.5421718	91.34614652	87.36410449	83.58398849
ADV1009719	9/20/2024	5.029	10/4/2024		100.04748	100.0363784	100.025288	100.0142082	100.0031389	99.99208016	99.98103194	99.96999422	99.95896699
ADV1009654	9/19/2024	5.103	10/21/2024		100.24399	100.185595	100.1272881	100.0690642	100.010923	99.95286448	99.89488839	99.83699455	99.77918279
ADV1009715	9/20/2024	5.028	10/21/2024		100.23936	100.1809771	100.1226821	100.0644701	100.0063409	99.9482943	99.89033011	99.83244817	99.77464829
ADV1009721	9/20/2024	5.03	10/4/2024		100.04749	100.03639	100.0252996	100.0142197	100.0031505	99.9920917	99.98104348	99.97000575	99.95897852
ADV1009493	9/13/2024	3.602	9/13/2028		115.60478	111.4129389	107.3989749	103.5543922	99.87114272	96.34160379	92.95855318	89.71514593	86.60489261
ADV1009804	9/24/2024	4.022	9/24/2025		103.80996	102.8049482	101.8194332	100.8528522	99.90466285	98.97434314	98.0613908	97.16532223	96.28567161
ADV1009620	9/18/2024	3.927	3/18/2026		105.85836	104.3653299	102.9010299	101.4647023	100.0556144	98.67305869	97.31635159	95.98483263	94.6778634
ADV1009609	9/18/2024	5.194	10/18/2024		100.21434	100.164291	100.1143138	100.0644035	100.0145601	99.96478333	99.91507315	99.8654294	99.81585194
ADV1009828	9/25/2024	5.008	10/25/2024		100.28199	100.2125106	100.1431416	100.0738789	100.0047224	99.93567185	99.86672692	99.7978874	99.72915306
ADV1009680	9/19/2024	4.076	9/19/2025		103.80262	102.8115852	101.8395158	100.8858726	99.95013452	99.03179998	98.13038601	97.24542742	96.37647592
ADV1009224	9/3/2024	5.428	10/2/2024		100.03147	100.0259077	100.0203484	100.0147941	100.0092447	100.0037003	99.9981609	99.99262644	99.98709694
ADV1009492	9/13/2024	3.58	9/13/2029		119.29716	113.9728485	108.9225763	104.1307716	99.58282761	95.26503826	91.16453759	87.26924421	83.56780942
ADV1009487	9/13/2024	3.722	9/14/2026		107.66822	105.6601209	103.6999799	101.7863572	99.91786358	98.09316101	96.31096013	94.57001822	92.86913714
ADV1009293	9/5/2024	5.219	12/5/2024		100.80827	100.6236671	100.4397476	100.2565043	100.0739336	99.89203149	99.71079446	99.53021878	99.35030082
ADV1009770	9/23/2024	3.596	9/23/2027		111.64538	108.5342611	105.5274668	102.6209193	99.81072219	97.09315327	94.46465565	91.92182945	89.46142383
ADV1009892	9/26/2024	5.014	10/3/2024		100.03469	100.0263701	100.0180599	100.0097573	100.0014625	99.9931753	99.98489576	99.97662387	99.96835961
ADV1009508	9/13/2024	3.569	12/13/2027		112.45715	109.1042564	105.8702256	102.7501236	99.73925019	96.83313105	94.02750496	91.31831209	88.70168306
ADV1009926	9/27/2024	4.945	11/12/2024		100.48319	100.3635753	100.2442612	100.1252452	100.006526	99.88810253	99.76997357	99.65213802	99.53459473
ADV1009221	9/3/2024	5.424	10/3/2024		100.04383	100.0354845	100.0271449	100.0188129	100.0104887	100.0021721	99.99386328	99.98556209	99.97726856
ADV1009502	9/13/2024	3.563	9/13/2027		111.43652	108.3571757	105.3802015	102.501626	99.71765889	97.02467755	94.41921878	91.8979708	89.45776568
ADV1009914	9/27/2024	5	10/25/2024		100.28099	100.2115365	100.1421871	100.0729441	100.0038072	99.93477616	99.86585076	99.79703074	99.72831587
ADV1009993	9/30/2024	5.124	10/7/2024		100.08095	100.0615415	100.0421558	100.0227902	100.0034447	99.9841192	99.96481368	99.94552811	99.92626245
ADV1009337	9/6/2024	3.786	9/4/2026		107.67664	105.6967476	103.7634996	101.875513	100.0314547	98.23004	96.47003021	94.7502308	93.06948951
ADV1009627	9/18/2024	4.943	12/18/2024		100.91249	100.6918402	100.4721711	100.2534718	100.0357358	99.81895677	99.60312826	99.38824398	99.17429767
ADV1009806	9/24/2024	4.811	12/17/2024		100.87057	100.6529751	100.4363357	100.2206415	100.0058861	99.79206333	99.57916715	99.36719142	99.15613011
ADV1009921	9/27/2024	3.546	9/27/2028		115.87727	111.6297895	107.5644252	103.672384	99.94534474	96.37543041	92.95518252	89.67753634	86.53579799
ADV1009423	9/11/2024	3.892	3/11/2026		105.84411	104.368282	102.9205393	101.5001473	100.1063974	98.73860478	97.39610788	96.07826709	94.78446398
ADV1009563	9/17/2024	5.22	10/17/2024		100.20406	100.1567966	100.1095916	100.0624486	100.0153674	99.96834793	99.92139003	99.87449358	99.82765846
ADV1009483	9/13/2024	4.073	9/15/2025		103.82962	102.8484638	101.8858969	100.9413919	100.0144431	99.10456361	98.21128429	97.3341532	96.47273463

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009958	9/30/2024	4.053	9/30/2025		103.91329	102.8910125	101.8888824	100.9063064	99.94271598	98.99756431	98.07032543	97.1604932	96.26758043
ADV1009610	9/18/2024	4.149	9/18/2025		103.86232	102.8737436	101.9040341	100.9526542	100.019087	99.10283486	98.2034186	97.32037654	96.45326377
ADV1009658	9/19/2024	3.859	3/19/2026		105.76887	104.2738189	102.8075895	101.3694188	99.95857039	98.57433361	97.21602177	95.88297138	94.57454115
ADV1009834	9/25/2024	3.664	9/25/2026		107.67966	105.6403491	103.6504667	101.7085045	99.81301022	97.9625858	96.15588489	94.39161058	92.66851322
ADV1009625	9/18/2024	3.596	9/18/2029		119.42598	114.0838876	109.0174433	104.2109395	99.64964826	95.31975182	91.20828196	87.30306332	83.59266087
ADV1009307	9/5/2024	3.699	9/5/2029		116.68701	112.2128399	107.9581658	103.9107599	100.059145	96.39254654	92.9008452	89.57453364	86.40467605
ADV1009582	9/17/2024	4.388	6/17/2025		102.89845	102.1728484	101.4575114	100.7522177	100.0567563	99.37092232	98.69451643	98.02734481	97.36921893
ADV1009877	9/26/2024	5.011	10/28/2024		100.31568	100.2378506	100.1601514	100.0825779	100.0051297	99.92780646	99.85060794	99.77353384	99.69658385
ADV1009291	9/5/2024	3.683	12/5/2028		116.85602	112.4001253	108.1421262	104.0721152	100.1807351	96.4591497	92.89901151	89.49243146	86.23195106
ADV1009446	9/12/2024	3.779	9/14/2026		107.78123	105.7719772	103.810712	101.8959868	100.0264117	98.20064815	96.41740618	94.67544253	92.97355854
ADV1009916	9/27/2024	3.624	9/27/2029		119.65415	114.2801322	109.184657	104.3517797	99.76655224	95.41495542	91.28383585	87.36084821	83.6344014
ADV1009685	9/19/2024	5.076	11/8/2024		100.45255	100.3439591	100.2356102	100.1275066	100.0196473	99.91203153	99.80465843	99.69752714	99.5906368
ADV1009538	9/16/2024	5.266	10/16/2024		100.19455	100.1500608	100.1056279	100.061252	100.0169332	99.97267114	99.92846588	99.88431725	99.84022515
ADV1009447	9/12/2024	3.644	9/13/2027		111.67945	108.5964614	105.6159279	102.7338815	99.94652891	97.25024473	94.6415631	92.11716964	89.67389397
ADV1009270	9/4/2024	4.291	9/4/2025		103.89876	102.9479881	102.0146615	101.0983004	100.1984448	99.31465099	98.44649131	97.593553	96.75543778
ADV1009816	9/24/2024	5.018	10/1/2024		100.01264	100.0098675	100.007097	100.004329	100.0015633	99.99880008	99.99603925	99.99328081	99.99052476
ADV1009862	9/26/2024	5.011	10/28/2024		100.31568	100.2378506	100.1601514	100.0825779	100.0051297	99.92780646	99.85060794	99.77353384	99.69658385
ADV1009673	9/19/2024	5.017	11/19/2024		100.57635	100.4370203	100.2980922	100.1595613	100.021426	99.88368446	99.746335	99.60937592	99.47280551
ADV1009842	9/25/2024	3.585	9/25/2026		107.68655	105.6440516	103.651114	101.7062227	99.80792013	97.95480317	96.1455207	94.37877127	92.65330091
ADV1009243	9/3/2024	4.931	3/3/2025		101.86158	101.427617	100.9973252	100.5706584	100.1475709	99.72801785	99.31195508	98.8993392	98.49012754
ADV1009575	9/17/2024	5.238	10/1/2024		100.01498	100.0122026	100.0094292	100.0066582	100.0038896	100.0011235	99.99835971	99.99559835	99.99283938
ADV1009963	9/30/2024	4.529	3/31/2025		102.02323	101.5117786	101.0054209	100.5040858	100.007699	99.5161876	99.0294803	98.54750699	98.070199
ADV1009836	9/25/2024	3.705	3/25/2026		105.73021	104.2171368	102.7335662	101.2787083	99.85180175	98.45211156	97.07892816	95.73156614	94.40936327
ADV1009496	9/13/2024	3.583	9/13/2027		111.4965	108.4162586	105.4384055	102.558973	99.77417	97.08037315	94.47411861	91.95209397	89.51113069
ADV1009943	9/27/2024	4.023	9/29/2025		103.87113	102.8518666	101.8526403	100.8728625	99.91196921	98.96941777	98.04468622	97.13727226	96.2466923
ADV1009566	9/17/2024	5.22	10/17/2024		100.20406	100.1567966	100.1095916	100.0624486	100.0153674	99.96834793	99.92139003	99.87449358	99.82765846
ADV1009326	9/6/2024	5.422	10/7/2024		100.0926	100.0731218	100.053665	100.0342284	100.0148119	99.99541551	99.97603916	99.95668283	99.93734649
ADV1009672	9/19/2024	5.103	10/21/2024		100.24399	100.185595	100.1272881	100.0690642	100.010923	99.95286448	99.89488839	99.83699455	99.77918279
ADV1009393	9/10/2024	4.128	10/10/2025		104.11993	103.0685889	102.0385303	101.0291165	100.0397305	99.06977963	98.11869441	97.18592748	96.27095247
ADV1009695	9/19/2024	4.932	12/19/2024		100.92197	100.6985451	100.4761246	100.2546976	100.0342572	99.814797	99.59631025	99.37879046	99.16223115
ADV1009935	9/27/2024	3.525	9/27/2027		111.72891	108.5991233	105.574784	102.6517457	99.82605273	97.09392709	94.45175944	91.89610051	89.42365299
ADV1009786	9/24/2024	5.019	10/1/2024		100.01264	100.0098705	100.0071001	100.004332	100.0015664	99.99880313	99.99604229	99.99328386	99.99052781
ADV1009684	9/19/2024	5.093	10/3/2024		100.03698	100.0286499	100.0203313	100.0120204	100.0037172	99.99542172	99.98713387	99.97885366	99.9705811

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1009505	9/13/2024	5.117	12/13/2024		100.88869	100.6818624	100.4758961	100.270784	100.0665205	99.86310052	99.66051861	99.45876958	99.2578482
ADV1009353	9/9/2024	3.541	9/10/2029		119.51121	114.1765168	109.1162819	104.3149169	99.75780055	95.43121222	91.32227205	87.41888508	83.7096894
ADV1009875	9/26/2024	3.644	9/27/2027		111.83486	108.7094112	105.689121	102.7698601	99.94768792	97.21884074	94.57972268	92.02689711	89.55707865
ADV1009688	9/19/2024	3.858	3/19/2026		105.76739	104.2723463	102.8061282	101.3679686	99.9571311	98.57290505	97.21460374	95.88156372	94.57314368
ADV1009753	9/23/2024	4.842	12/23/2024		100.94856	100.714068	100.4806734	100.2483681	100.0171445	99.78699488	99.55791185	99.32988793	99.10291575
ADV1009219	9/3/2024	5.43	10/2/2024		100.03149	100.0259213	100.0203619	100.0148076	100.0092582	100.0037138	99.9981744	99.99263994	99.98711043
ADV1009874	9/26/2024	5.007	10/16/2024		100.18066	100.1362442	100.0918824	100.0475775	100.0033295	99.95913833	99.91500378	99.87092578	99.8269042
ADV1009759	9/23/2024	5.046	10/22/2024		100.25108	100.1899398	100.1288891	100.0679271	100.0070534	99.94626787	99.88557035	99.82496061	99.76443848
ADV1009486	9/13/2024	3.937	3/13/2026		105.81375	104.3346675	102.8837976	101.4604053	100.0637766	98.69322209	97.34807561	96.02769311	94.73145195
ADV1009659	9/19/2024	5.053	11/7/2024		100.43811	100.332314	100.226747	100.1214123	100.0163092	99.91143681	99.80679439	99.70238114	99.59819628
ADV1009223	9/3/2024	5.428	10/2/2024		100.03147	100.0259077	100.0203484	100.0147941	100.0092447	100.0037003	99.9981609	99.99262644	99.98709694
ADV1009407	9/10/2024	3.95	9/10/2026		108.07137	106.0705118	104.1171656	102.2099095	100.347375	98.52824315	96.75124314	95.01514966	93.3187812
ADV1009406	9/10/2024	3.947	3/10/2026		105.79327	104.322501	102.8796399	101.4639621	100.0747649	98.7113696	97.37312021	96.05938251	94.76954318
ADV1009588	9/17/2024	4.061	9/17/2025		103.84263	102.8558255	101.8878181	100.9380752	100.0060828	99.09134584	98.19338763	97.31174888	96.44598697
ADV1009961	9/30/2024	5.086	10/31/2024		100.35496	100.2688087	100.1828087	100.0969548	100.0112467	99.92568396	99.84026633	99.75499342	99.66986486
ADV1009941	9/27/2024	3.675	9/15/2028		115.91887	111.7149728	107.6896367	103.8343191	100.1409325	96.60181729	93.20971665	89.95775347	86.83940822
ADV1009716	9/20/2024	4.944	11/20/2024		100.57761	100.4355223	100.2938479	100.1525854	100.0117329	99.87128874	99.73125101	99.59161794	99.45238775
ADV1009882	9/26/2024	3.658	9/1/2027		111.36354	108.3682989	105.4728771	102.6733704	99.96604691	97.34734258	94.81385221	92.36232158	89.98963973
ADV1009923	9/27/2024	4.963	11/8/2024		100.43857	100.3301136	100.2219003	100.1139319	100.0062075	99.89872641	99.79148763	99.68449037	99.57773375
ADV1009308	9/5/2024	3.871	9/8/2026		107.8917	105.898326	103.9521676	102.0518133	100.1959063	98.38313971	96.61225353	94.88203305	93.19130676
ADV1009896	9/26/2024	3.656	9/27/2027		111.87131	108.7453103	105.7244794	102.8046914	99.98200519	97.25265666	94.6130495	92.05974668	89.58946246
ADV1009336	9/6/2024	3.698	9/8/2026		107.7135	105.7189119	103.7716289	101.8702343	100.0133675	98.1997179	96.42802192	94.69706152	93.005662
ADV1009628	9/18/2024	3.804	3/18/2026		105.7971	104.3025631	102.8368143	101.3990955	99.98867187	98.60483371	97.24689558	95.91419514	94.6060922
ADV1009231	9/3/2024	5.423	10/3/2024		100.04382	100.035475	100.0271353	100.0188034	100.0104792	100.0021626	99.99385376	99.98555258	99.97725906
ADV1009763	9/23/2024	4.131	8/20/2025		103.48357	102.5776941	101.6877135	100.8132137	99.9537926	99.10906216	98.27864742	97.46218611	96.65932813
ADV1009970	9/30/2024	3.7	11/3/2028		116.56552	112.2084952	108.0416363	104.0555839	100.2414963	96.591014	93.09623112	89.74966751	86.54424367
ADV1009535	9/16/2024	5.261	10/15/2024		100.1824	100.1406903	100.0990379	100.0574377	100.0158899	99.97439418	99.93295054	99.89155886	99.85021903
ADV1009413	9/11/2024	5.317	10/11/2024		100.1376	100.1070067	100.0764473	100.045923	100.0154337	99.98497924	99.95455967	99.92417487	99.8938248
ADV1009743	9/23/2024	5.046	10/23/2024		100.26241	100.1984862	100.134656	100.0709201	100.0072784	99.94373065	99.88027663	99.81691614	99.75364896
ADV1009637	9/18/2024	4.054	9/18/2025		103.84811	102.8584836	101.8877617	100.9354059	100.0008977	99.08373824	98.18344685	97.29956063	96.43163345
ADV1009749	9/23/2024	5.046	10/7/2024		100.08102	100.0615965	100.0421921	100.0228079	100.0034437	99.98409953	99.96477538	99.94547119	99.92618694
130416A00025	4/16/2013	2.27	4/18/2028	10/1/2024	100.11928	100.0224241	99.71853861	98.81487505	97.38178695	95.74544417	94.10651279	92.50936237	90.95605509
150202A00006	2/2/2015	1.92	2/3/2025	10/1/2024	100.08917	99.99605199	99.82318922	99.59026695	99.35483461	99.12069276	98.88784205	98.65627101	98.42596823

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
151223A00007	12/23/2015	3.76	12/23/2030	10/1/2024	100.24087	100.1548176	100.0444159	99.4869286	97.57432968	94.2692535	90.20472676	86.01408259	82.00855067
161012A00020	10/11/2016	2.96	10/14/2031	10/1/2024	100.17865	100.0706342	99.58555906	97.71371979	94.22230652	89.78549397	85.15618385	80.71611549	76.555413
170515A00052	5/15/2017	3.78	5/15/2042	10/1/2024	100.00165	99.99894191	99.8139395	98.19477168	94.384965	89.06384827	83.25053485	77.64484411	72.52252084
170519A00006	5/19/2017	3	5/19/2032	10/1/2024	100.1821	100.0960292	99.89449605	98.91645321	96.74712183	93.78685887	90.61909266	87.53657224	84.6054823
170705A00037	7/5/2017	2.85	7/6/2032	7/6/2027	107.30048	104.7383807	102.078949	99.20879042	96.04662052	92.67286488	89.28278355	86.02601332	82.93928905
170802A00074	8/2/2017	2.92	8/2/2027	10/1/2024	99.992615	99.98997003	99.91811681	99.26466545	97.79381875	95.77218241	93.60134174	91.46481209	89.39161673
170809A00042	8/9/2017	2.35	8/9/2027	10/1/2024	100.12617	100.0356158	99.79216072	99.05657351	97.87773651	96.52306303	95.16232717	93.83146607	92.53197957
171004A00022	10/4/2017	2.74	10/4/2027	10/1/2024	100.15972	100.0736765	99.89585401	99.14918107	97.57937194	95.4858457	93.26598477	91.088696	88.97891925
171005A00047	10/5/2017	3.29	10/5/2032	10/1/2024	100.20705	100.1209609	99.87835998	98.62460764	95.7920408	91.84034033	87.54242734	83.35420293	79.42197628
180105A00005	1/5/2018	3.07	1/5/2028	10/1/2024	100.18812	100.1020472	99.99835772	99.61758563	98.66548577	97.28039326	95.75273174	94.23574577	92.75694349
180105A00006	1/5/2018	3.07	1/5/2028	10/1/2024	100.18812	100.1020472	99.99835772	99.61758563	98.66548577	97.28039326	95.75273174	94.23574577	92.75694349
180130A00087	1/30/2018	2.92	1/31/2028	10/1/2024	100.17521	100.0891514	99.97603769	99.50895199	98.46937144	97.04108859	95.5061106	93.99120884	92.51505157
180302A00003	3/2/2018	3.89	3/2/2033	10/1/2024	100.25868	100.172544	100.0507874	99.36545556	97.07751809	93.21348783	88.52873465	83.7236417	79.17113202
180315A00030	3/15/2018	3.76	3/15/2033	3/17/2025	101.93865	101.3007998	100.5052026	99.08869824	96.32113918	92.16436111	87.34989644	82.52624869	77.9898444
180504A00024	5/4/2018	3.62	5/4/2028	10/1/2024	100.00109	99.99835457	99.99561602	99.76049789	98.62797958	96.48855795	93.74572284	90.87279296	88.07862116
180627A00005	6/27/2018	3.63	6/30/2033	10/1/2024	100.2363	100.1501913	100.0464266	99.56636127	97.8941394	95.04855394	91.62621362	88.15562191	84.84759993
180703A00033	7/3/2018	3.4	7/3/2028	10/1/2024	100.20989	100.1238698	100.0303479	99.74527479	98.85788316	97.40482601	95.69960394	93.97693235	92.29924311
190111A00040	1/11/2019	3.74	1/11/2034	10/1/2024	100.00131	99.99853905	99.93701977	99.02683893	96.40376587	92.40330038	87.81015682	83.23889083	78.94954361
190116A00015	1/16/2019	3.61	1/17/2034	10/1/2024	100.22796	100.1419227	100.0228078	99.37826492	97.41650174	94.27751386	90.64484428	87.01390746	83.57143732
190204A00054	2/4/2019	3.98	2/6/2034	10/1/2024	100.2598	100.1737302	100.0370264	99.20193838	96.63446575	92.4413283	87.45365868	82.38136449	77.60262112
190222A00023	2/22/2019	3.66	2/22/2034	2/22/2026	105.20778	103.5333304	101.5360747	98.83326396	95.00224748	90.08124807	84.68139051	79.37986776	74.44781267
190301A00015	3/1/2019	3.86	3/1/2034	3/2/2026	105.38801	103.8119191	101.9523489	99.44032165	95.85172279	91.12994173	85.78417278	80.44421183	75.44867377
190409A00016	4/9/2019	2.91	4/9/2029	10/1/2024	100.17435	100.0882917	99.9067812	99.0521343	97.10673156	94.3912061	91.43407312	88.52452272	85.73368469
190409A00017	4/9/2019	3.01	4/9/2029	10/1/2024	100.18296	100.0968889	99.92892422	99.09971942	97.09242006	94.18380618	90.95303753	87.75432583	84.68890726
190430A00020	4/30/2019	3.41	4/28/2034	4/28/2026	105.10981	103.2672857	100.9892213	97.87526672	93.56047923	88.26532507	82.66272682	77.27597129	72.29722952
190520A00018	5/20/2019	3.7	5/20/2044	10/1/2024	99.994622	99.98807343	99.55508303	97.22235694	92.73028333	86.91478679	80.81456656	75.05313003	69.84777063
190530A00044	5/30/2019	2.85	5/30/2034	10/1/2024	100.16919	100.0682585	99.64853246	98.00354561	94.99420983	91.26568269	87.44900564	83.80654308	80.38451308
190807A00041	8/7/2019	2.27	8/7/2034	10/1/2024	100.11928	99.89899179	98.78986559	96.18198885	92.50888542	88.5477774	84.70998681	81.10037648	77.71802895
190807A00044	8/7/2019	2.27	8/7/2034	10/1/2024	100.11928	99.89899179	98.78986559	96.18198885	92.50888542	88.5477774	84.70998681	81.10037648	77.71802895
190827A00044	8/27/2019	1.9	8/27/2029	10/1/2024	100.08744	99.93893205	99.29712111	97.81107386	95.75520879	93.55730257	91.40087782	89.31851199	87.30958455
190930A00079	9/30/2019	2.04	10/1/2029	10/1/2024	100.09949	99.98005459	99.42744261	98.03851328	96.01105409	93.78868451	91.59450434	89.47505317	87.43134853
190930A00083	9/30/2019	2.04	10/1/2029	10/1/2024	100.09949	99.98005459	99.42744261	98.03851328	96.01105409	93.78868451	91.59450434	89.47505317	87.43134853
191007A00012	10/7/2019	2	10/5/2029	10/7/2024	100.08944	99.9422489	99.29923939	97.78959862	95.68424319	93.42550772	91.20847669	89.06926845	87.00745117

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191007A00013	10/7/2019	2	10/5/2029	10/7/2024	100.08944	99.9422489	99.29923939	97.78959862	95.68424319	93.42550772	91.20847669	89.06926845	87.00745117
191028A00015	10/28/2019	2.49	10/27/2034	10/28/2024	100.13821	99.99123101	99.13727683	96.81037977	93.27273373	89.29141022	85.37820522	81.68872013	78.233909
191031A00036	10/31/2019	2.9	10/31/2039	10/31/2024	100.16687	99.95066907	98.74528749	95.60186638	90.88374072	85.57665684	80.38905232	75.58986461	71.20961692
191031A00037	10/31/2019	2.59	10/30/2034	10/31/2024	100.1402	99.99697036	99.17663266	96.89102145	93.38088041	89.41239285	85.50366461	81.81644316	78.36329515
191220A00029	12/20/2019	2.57	12/19/2031	12/20/2024	100.63166	100.2560648	99.61120886	98.08762891	95.55080314	92.54746524	89.52548221	86.62829528	83.87089008
200108A00009	1/8/2020	2.4	1/8/2035	1/8/2025	100.71564	100.1107648	98.80643503	96.1277992	92.3272994	88.19664908	84.18917812	80.43146598	76.9257705
200108A00040	1/8/2020	2.52	1/8/2030	1/8/2025	100.7824	100.3050636	99.4868953	97.65667168	94.64232258	91.05653488	87.42696139	83.94570374	80.63882641
200110A00012	1/10/2020	2.57	1/10/2035	1/10/2025	100.77768	100.2293678	99.1149791	96.70286749	93.09209177	89.03981713	85.06301408	81.31812765	77.81592256
200115A00023	1/15/2020	2.16	1/15/2030	1/15/2025	100.62689	100.1731002	99.44638048	97.99707995	95.8730526	93.52769362	91.20934983	88.9733227	86.82136708
200115A00025	1/15/2020	2.1	1/15/2025	10/1/2024	99.990142	99.97525278	99.77549566	99.42933451	99.06587592	98.70476977	98.34627877	97.99037517	97.63703118
200306A00021	3/6/2020	1.16	3/6/2030	3/6/2025	100.31518	99.459426	97.90217829	95.65132867	93.19516905	90.78400332	88.46340972	86.23312902	84.08894994
200309A00013	3/9/2020	1.1	3/8/2030	3/9/2025	100.27418	99.39066938	97.78112385	95.49998518	93.03943898	90.63132959	88.31454955	86.08796834	83.94735125
200316A00030	3/16/2020	1.35	3/15/2030	3/16/2025	100.49166	99.73592866	98.40309059	96.30741401	93.87882461	91.45241252	89.11128012	86.86110834	84.69792268
200316A00032	3/16/2020	1.35	3/15/2030	3/16/2025	100.49166	99.73592866	98.40309059	96.30741401	93.87882461	91.45241252	89.11128012	86.86110834	84.69792268
200318A00015	3/18/2020	1.69	3/18/2030	10/1/2024	99.995844	99.82686304	98.84351937	96.87133134	94.35088807	91.7471188	89.22079662	86.79457613	84.46520511
200326A00035	3/26/2020	1.68	3/26/2030	3/26/2025	100.64893	99.96033245	98.81913281	96.90762374	94.53565186	92.10692784	89.75284163	87.48941453	85.31339996
200423A00008	4/23/2020	1.59	4/23/2030	4/23/2025	100.69487	99.62710318	97.61152663	94.29899101	90.29122266	86.23213039	82.35089082	78.67798391	75.2035298
200423A00009	4/23/2020	1.59	4/23/2030	4/23/2025	100.69487	99.62710318	97.61152663	94.29899101	90.29122266	86.23213039	82.35089082	78.67798391	75.2035298
200423A00010	4/23/2020	1.59	4/23/2030	4/23/2025	100.69487	99.62710318	97.61152663	94.29899101	90.29122266	86.23213039	82.35089082	78.6779839	75.2035298
200430A00021	4/30/2020	1.2	4/30/2030	4/30/2025	100.3398	99.49261128	97.94722263	95.68563088	93.19889059	90.75356262	88.40066006	86.14050074	83.96872876
200505A00010	5/5/2020	0.89	5/6/2030	5/5/2025	100.32035	99.2315431	97.42126836	95.01293555	92.47701369	90.01106056	87.64245773	85.36852036	83.18465413
200512A00023	5/12/2020	1.78	5/11/2035	5/12/2025	100.5639	98.86556695	95.73137514	91.10330043	85.84786341	80.69220411	75.89671994	71.49202669	67.44904923
200609A00003	6/9/2020	1.66	6/8/2035	6/9/2025	100.29241	98.13764805	94.28388377	88.93274283	83.05731952	77.38151183	72.1472267	67.37230188	63.01841804
200612A00001	6/12/2020	0.75	6/12/2030	6/12/2025	100.26352	99.02739972	97.05875323	94.56297496	91.99202271	89.50419775	87.11679618	84.82600519	82.62705931
201022A00008	10/22/2020	1.02	10/22/2035	10/22/2025	100.26229	97.91175745	94.35191733	89.98761465	85.55410568	81.3651676	77.46657927	73.84155239	70.46766292
201029A00008	10/29/2020	0.92	10/29/2030	10/29/2025	100.6772	99.19667994	97.10432611	94.50575636	91.80824927	89.19596047	86.69358243	84.29722662	82.00145003
201030A00025	10/30/2020	2.02	10/28/2050	10/30/2025	100.38155	97.12124164	91.75232605	84.59614916	76.88816237	69.62743217	63.21970853	57.6769119	52.87923107
201116A00019	11/16/2020	1.32	11/15/2030	11/16/2025	101.08472	99.19491496	96.34439203	92.5265274	88.35503269	84.290403	80.44559098	76.82132685	73.40402421
201118A00015	11/18/2020	1.66	11/18/2036	11/18/2027	102.89589	98.3703393	92.81867004	86.43384534	79.81442318	73.52696369	67.80329763	62.65013565	58.01231298
201118A00017	11/18/2020	1.66	11/18/2036	11/18/2027	102.89589	98.3703393	92.81867004	86.43384534	79.81442318	73.52696369	67.80329763	62.65013565	58.01231298
201118A00018	11/18/2020	1.85	11/18/2036	11/18/2027	103.39396	98.97690406	93.55242858	87.27718291	80.69250567	74.38714144	68.62758247	63.43754102	58.76500621
201202A00016	12/2/2020	1.32	12/3/2035	12/2/2025	100.84428	98.56173601	95.17236112	90.89540436	86.41926505	82.14980846	78.17250825	74.47684373	71.03997693
201202A00017	12/2/2020	1.32	12/3/2035	12/2/2025	100.84428	98.56173601	95.17236112	90.89540436	86.41926505	82.14980846	78.17250825	74.47684373	71.03997693





	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
ADV1008367	8/1/2024	0	8/1/2029	8/1/2025	98.745952	95.87806737	91.87891212	87.65977347	83.59602619	79.73550985	76.07024952	72.58953549	69.2832393
ADV1008427	8/2/2024	0	8/2/2029	8/4/2025	98.749023	95.87590491	91.8737023	87.65228493	83.5866426	79.7244537	76.05770593	72.57567322	69.26821256
ADV1008515	8/6/2024	0	8/6/2029	8/6/2025	98.750647	95.86666658	91.85285942	87.62233854	83.54912205	79.6802478	76.0075554	72.52025335	69.20814056
ADV1008530	8/7/2024	0	8/7/2029	8/7/2025	98.75158	95.8643832	91.84764823	87.61485389	83.53974537	79.669201	75.99502372	72.50640568	69.19313129
ADV1008591	8/9/2024	0	8/9/2029	8/11/2025	98.755576	95.85992913	91.83722539	87.59988687	83.52099615	79.64711301	75.96996749	72.47871909	69.16312321
ADV1008654	8/13/2024	0	8/13/2029	8/13/2025	98.757148	95.8506598	91.81637534	87.56996199	83.48351428	79.60295945	75.91988357	72.4233809	69.10314893
ADV1008769	8/19/2024	0	8/20/2029	8/19/2025	98.762497	95.83453775	91.77987594	87.51762508	83.41797429	79.52576256	75.83232818	72.32665119	68.99832809
ADV1008780	8/19/2024	0	8/20/2029	8/19/2025	98.762497	95.83453775	91.77987594	87.51762508	83.41797429	79.52576256	75.83232818	72.32665119	68.99832809
ADV1008881	8/22/2024	0	8/22/2029	8/22/2025	98.7654	95.82999805	91.76944436	87.50267925	83.39926106	79.50372308	75.80733371	72.29904032	68.9684106
ADV1008893	8/23/2024	0	8/23/2029	8/25/2025	98.768452	95.82781398	91.76422847	87.49520758	83.38990652	79.49270614	75.79484003	72.28523924	68.95345708
ADV1008894	8/23/2024	0	8/23/2029	8/25/2025	98.768452	95.82781398	91.76422847	87.49520758	83.38990652	79.49270614	75.79484003	72.28523924	68.95345708
ADV1008939	8/26/2024	0	8/27/2029	8/26/2025	98.768853	95.81842344	91.74336154	87.46532905	83.3525022	79.448657	75.74488903	72.230064	68.89367773
ADV1008940	8/26/2024	0	8/27/2029	8/26/2025	98.768853	95.81842344	91.74336154	87.46532905	83.3525022	79.448657	75.74488903	72.230064	68.89367773
ADV1009099	8/27/2024	0	8/27/2029	8/27/2025	98.769934	95.81848288	91.74336171	87.46532905	83.3525022	79.448657	75.74488903	72.230064	68.89367773
ADV1009133	8/28/2024	0	8/28/2029	8/28/2025	98.770837	95.81617679	91.73814475	87.45786146	83.34315459	79.43764937	75.7324072	72.21627745	68.87874158
ADV1009166	8/29/2024	0	8/29/2029	8/29/2025	98.771663	95.81381769	91.73291917	87.45039402	83.33380834	79.4266436	75.71992774	72.2024938	68.8638089
ADV1009167	8/29/2024	0	8/29/2029	8/29/2025	98.771663	95.81381769	91.73291917	87.45039402	83.33380834	79.4266436	75.71992774	72.2024938	68.8638089
ADV1009212	8/30/2024	0	8/30/2029	8/29/2025	98.771388	95.81138197	91.72768604	87.44292677	83.32446346	79.41563969	75.70745065	72.18871305	68.84887969
ADV1009810	9/24/2024	0	9/24/2029	9/24/2025	98.746245	95.72379006	91.5889741	87.25313807	83.08753057	79.13668842	75.39132267	71.83983118	68.47127663
ADV1009568	9/17/2024	0	9/17/2029	9/17/2025	98.73961	95.74016104	91.62591942	87.30607033	83.15381978	79.21472601	75.47974313	71.93739234	68.57684549
ADV1009878	9/26/2024	0	9/26/2029	9/26/2025	98.748134	95.71910662	91.57841962	87.23802248	83.06860368	79.11440922	75.36608159	71.81198336	68.4411461
211124A00005	11/26/2021	5.21	11/26/2025		100.14634	99.9479072	99.94941832	99.95108383	99.95285454	99.95468516	99.95653422	99.95836366	99.96013861
211124A00006	11/26/2021	5.26	11/25/2026		100.58699	99.8782936	99.89879276	99.9040641	99.89498963	99.87240289	99.83709204	99.78980236	99.73123879
220608A00012	6/8/2022	5.59	6/8/2029		101.44695	100.8766602	100.904614	100.899504	100.8643652	100.8019864	100.7149297	100.6055489	100.4760065
220913A00024	9/13/2022	5.29	5/12/2025		100.08459	100.0803408	100.0760888	100.0705945	100.0638923	100.0560155	100.0469965	100.0368668	100.0256566
220929A00039	9/29/2022	5.63	9/28/2029		101.43585	101.0184569	101.0451093	101.0353079	100.9927407	100.9207609	100.8224174	100.7004826	100.5574773
221017A00025	10/17/2022	5.24	1/6/2025		100.06263	100.0591555	100.0551716	100.0506824	100.0456956	100.0402187	100.0342592	100.0278242	100.0209211
221025A00004	10/25/2022	5.29	10/25/2024		100.03221	100.0294729	100.0267032	100.0239011	100.021067	100.0182008	100.0153028	100.012373	100.0094116
221115A00039	11/15/2022	5.41	11/16/2026		100.6701	100.2004777	100.2170507	100.218566	100.2059014	100.1798863	100.1413044	100.0908969	100.0293645
221118A00020	11/18/2022	5.39	11/18/2024		100.06178	100.0590439	100.0562119	100.0532867	100.0502689	100.0471594	100.0439589	100.0406681	100.0372878
221216A00018	12/16/2022	5.41	12/16/2026		100.70371	100.2005224	100.2189913	100.2220251	100.210511	100.1852882	100.1471506	100.0968494	100.0350958
230215A00013	2/15/2023	5.29	8/21/2025		100.10262	100.0517602	100.0479239	100.0421313	100.0344649	100.0250034	100.0138218	100.000992	99.98658241
230215A00017	2/15/2023	5.27	3/27/2025		100.08617	100.0825271	100.0779829	100.0725554	100.0662651	100.0591317	100.0511745	100.0424126	100.0328643

	Parallel-Shift Sensitivity Analysis												
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230307A00025	3/7/2023	5.41	3/7/2028		101.10735	100.1754409	100.2070741	100.215078	100.2012609	100.167304	100.1147707	100.045115	99.95968995
230313A00111	3/13/2023	5.56	2/13/2026		100.46966	100.3990766	100.4070269	100.4068436	100.398959	100.3837819	100.3616998	100.3330793	100.2982681
230313A00120	3/13/2023	5.56	4/13/2026		100.54096	100.4236233	100.4309991	100.4294978	100.4195664	100.4016293	100.3760896	100.3433303	100.3037158
230313A00124	3/13/2023	5.56	5/13/2026		100.57859	100.4380133	100.4454394	100.4429804	100.4311149	100.4102981	100.3809637	100.3435247	100.2983745
230410A00022	4/10/2023	5.52	4/10/2028		101.21266	100.5572901	100.5839093	100.5864457	100.5667498	100.526542	100.4674229	100.3908813	100.2983022
230511A00058	5/11/2023	5.48	5/11/2028		101.20776	100.4234455	100.4521511	100.4558249	100.4363844	100.3956153	100.3351809	100.2566305	100.1614075
230816A00019	8/16/2023	5.46	8/16/2028		101.25225	100.3569284	100.3901657	100.3951724	100.374342	100.3298846	100.2638413	100.178097	100.0743928
230914A00009	9/14/2023	5.38	9/14/2028		101.21169	100.0437986	100.0843241	100.0954096	100.0796031	100.0392523	99.97652038	99.89340119	99.79173233
230922A00036	9/22/2023	5.35	9/22/2028		101.1967	99.92452464	99.96751872	99.98072981	99.96674895	99.92796188	99.86656588	99.78458468	99.68388257
230928A00034	9/28/2023	5.11	10/15/2024		100.01578	100.0126028	100.0094333	100.0062678	100.0031064	99.99994913	99.99679589	99.9936467	99.99050155
231018A00011	10/18/2023	5.17	11/15/2024		100.02996	100.0263228	100.0225296	100.0185864	100.0144943	100.0102543	100.0058674	100.0013347	99.99665719
231025A00027	10/25/2023	5.38	10/25/2028		101.23302	100.0325877	100.0843663	100.1117205	100.1167764	100.1014925	100.0676745	100.0169861	99.95096128
231106A00009	11/6/2023	5.35	10/15/2026		100.59272	100.0786355	100.0950144	100.0967438	100.0847036	100.0597237	100.0225872	99.9740333	99.91475985
231115A00005	11/15/2023	5.34	11/16/2026		100.62314	100.0513676	100.0696801	100.0728952	100.0618902	100.037494	100.0004903	99.95161991	99.89158362
231130A00028	11/30/2023	4.94	11/29/2024		100.02453	100.0207152	100.016638	100.0123055	100.0077199	100.0028832	99.99779756	99.99246514	99.98688801
231215A00007	12/15/2023	5.33	12/1/2026		100.63605	100.0288583	100.0480477	100.0520055	100.0416195	100.0177279	99.98112332	99.93255487	99.87273086
240111A00009	1/11/2024	5.08	1/13/2025		100.01876	100.0163044	100.0136219	100.0107195	100.0076006	100.0042681	100.0007252	99.99697491	99.99302021
240112A00007	1/12/2024	5.1	1/13/2025		100.02458	100.0221093	100.0194155	100.0165042	100.0133784	100.0100413	100.0064961	100.0027457	99.99879309
240112A00017	1/12/2024	5.4	1/12/2029		101.27415	100.0736011	100.1205189	100.1363033	100.1236407	100.0850085	100.0226925	99.93880108	99.83527953
240116A00030	1/16/2024	5.28	1/15/2027		100.64749	99.89798545	99.9229792	99.9321653	99.92648417	99.90682324	99.87402027	99.82886631	99.7721084
240118A00010	1/18/2024	4.89	1/21/2025		100.00984	100.0069609	100.0038466	100.0004986	99.99692055	99.99311594	99.98908831	99.98484112	99.98037775
240201A00010	2/1/2024	5.07	11/1/2024		100.0136	100.0076166	100.0015672	99.99545064	99.98926724	99.98301729	99.97670116	99.97031918	99.96387168
240206A00016	2/6/2024	4.86	2/6/2025		99.994948	99.99213736	99.98907082	99.98575267	99.9821871	99.97837811	99.97432974	99.97004592	99.96553051
240215A00011	2/15/2024	5.26	2/16/2027		100.67984	99.84596086	99.870024	99.87820692	99.87150895	99.85086995	99.81717429	99.77125425	99.71389327
240227A00010	2/27/2024	5.05	2/27/2025		99.995282	99.9931797	99.99073855	99.98796523	99.98486618	99.98144757	99.97771555	99.9736761	99.96933507
240301A00012	3/1/2024	4.88	3/3/2025		99.993315	99.98943882	99.98637944	99.98301183	99.97934205	99.97537592	99.97111922	99.9665776	99.96175655
240314A00006	3/14/2024	5.36	3/14/2029		101.27377	99.87410184	99.92363161	99.9416695	99.93101221	99.8942304	99.83368756	99.75155679	99.64983636
240315A00011	3/15/2024	5.24	3/15/2027		100.70315	99.79171883	99.81616279	99.82450242	99.81776643	99.79692116	99.76287485	99.71648127	99.65854318
240327A00032	3/27/2024	5.22	3/26/2027		100.70013	99.73542296	99.76180765	99.77188713	99.76670393	99.74723728	99.71440745	99.6690794	99.61206636
240328A00053	3/28/2024	5.35	3/28/2029		101.26479	99.81751999	99.86994303	99.89055696	99.88218816	99.84743386	99.78868131	99.70812484	99.60778177
240415A00006	4/15/2024	5.21	4/15/2027		100.71668	99.70177489	99.72852017	99.7384735	99.73268821	99.71215552	99.67780866	99.63052634	99.5711361
240417A00013	4/17/2024	5.54	4/17/2031		100.18684	99.42372836	99.51330388	99.55473527	99.55345401	99.51433767	99.44176639	99.33967302	99.21158837
240423A00053	4/23/2024	4.88	4/23/2025		99.985003	99.95067107	99.94793525	99.94476558	99.94117338	99.93716955	99.93276475	99.9279693	99.92279324

Parallel-Shift Sensitivity Analysis													
9/30/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240515A00015	5/15/2024	5.2	5/17/2027		100.74381	99.660363	99.68827394	99.69838177	99.69179157	99.66954521	99.63262537	99.58195895	99.51842039
ADV1006428	5/28/2024	5.212	5/28/2027		100.7603	99.68566781	99.71401633	99.7241419	99.71718639	99.69422587	99.65627483	99.60428966	99.53917221
ADV1006699	6/3/2024	5.231	6/3/2027		100.77735	99.73368045	99.76153608	99.77096407	99.76312326	99.73910557	99.69994028	99.64659764	99.57999241
ADV1006738	6/4/2024	4.908	6/4/2025		100.0034	99.92608842	99.92383248	99.92103359	99.91770842	99.91387292	99.90954257	99.90473229	99.89945649
ADV1006870	6/10/2024	5.247	6/10/2027		100.79449	99.774544	99.80178018	99.81037047	99.80149382	99.77626089	99.73571835	99.6808526	99.61259343
ADV1007038	6/14/2024	5.254	6/14/2027		100.80301	99.79236715	99.81933134	99.82752922	99.81815006	99.79231414	99.75107712	99.69543383	99.62632191
ADV1007043	6/14/2024	5.314	6/14/2029		101.23713	99.58700767	99.64585526	99.67034542	99.66358793	99.6284407	99.56753045	99.48327125	99.37788168
ADV1007203	6/20/2024	5.253	6/21/2027		100.8102	99.7879899	99.81502057	99.82304123	99.81326225	99.78682357	99.74479912	99.68820073	99.61798182
ADV1007514	7/1/2024	5.255	7/1/2027		100.8279	99.81824496	99.8449032	99.85219064	99.84135278	99.81356192	99.7699218	99.71147167	99.63919021
ADV1007705	7/8/2024	4.955	7/8/2025		100.04154	99.93066893	99.92878629	99.92630474	99.92324475	99.91962588	99.91546703	99.91078635	99.90560129
ADV1007965	7/17/2024	5.262	7/19/2027		100.83753	99.79925011	99.82722847	99.83535639	99.82498396	99.79737667	99.75372114	99.6951301	99.6226472
ADV1008702	8/15/2024	5.293	8/16/2027		100.87318	99.87213554	99.90071979	99.90856572	99.89715816	99.86788412	99.82203966	99.76083598	99.68540515
ADV1008824	8/21/2024	5.293	8/23/2027		100.87751	99.86883782	99.8979482	99.90606455	99.89470094	99.86527095	99.81909487	99.75740589	99.68135609
ADV1009264	9/4/2024	5.31	9/7/2027		100.89818	99.91282828	99.94182456	99.94932271	99.9368985	99.90602138	99.85806225	99.79430006	99.71592829
ADV1009630	9/18/2024	5.455	9/18/2029	3/18/2025	100.8612	100.363542	100.2458577	100.2229934	100.1737652	100.0807701	99.96307474	99.83906173	99.70159938