

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												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160608A00026	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00031	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00032	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
170406A00031	4/6/2017	3.01	4/6/2027	4/6/2017	107.19843	104.2120746	101.3286308	98.54390804	95.853916	93.25485223	90.74309213	88.3151793	85.96781651
170921A00056	9/21/2017	2.82	9/21/2027	9/21/2017	107.69045	104.308134	101.0560771	97.92847562	94.91982393	92.02489364	89.23871809	86.55657747	83.97398499
180508A00038	5/8/2018	3.57	5/9/2033	5/8/2018	114.44161	109.3426706	104.5672172	100.0910929	95.89215095	91.95007253	88.24620283	84.76340266	81.48591433
231017A00034	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00035	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00033	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00036	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00037	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00039	10/17/2023	5.12	10/16/2026	10/17/2023	111.80921	109.093885	106.4608384	103.9070306	101.4295567	99.02564005	96.69262571	94.4279737	92.22925337
231017A00032	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00029	10/17/2023	4.99	10/17/2028	10/17/2023	120.26032	115.5113263	110.9892497	106.6818655	102.577677	98.66587137	94.93627425	91.3793087	87.98595629
231017A00040	10/17/2023	5.12	10/16/2026	10/17/2023	111.80921	109.093885	106.4608384	103.9070306	101.4295567	99.02564005	96.69262571	94.4279737	92.22925337
230315A00092	3/15/2023	4.61	3/11/2024	3/15/2023	100.09848	100.067929	100.0374106	100.0069272	99.97647871	99.94606507	99.91568623	99.8853421	99.85503263
230315A00083	3/15/2023	4.61	3/11/2024	3/15/2023	100.09848	100.067929	100.0374106	100.0069272	99.97647871	99.94606507	99.91568623	99.8853421	99.85503263
230315A00067	3/15/2023	4.61	3/11/2024	3/15/2023	100.09848	100.067929	100.0374106	100.0069272	99.97647871	99.94606507	99.91568623	99.8853421	99.85503263
230316A00014	3/16/2023	4.86	3/11/2024	3/16/2023	100.10632	100.0757574	100.0452329	100.0147434	99.98428878	99.95386904	99.9234841	99.89313388	99.86281833
230316A00062	3/16/2023	4.86	3/15/2024	3/16/2023	100.14265	100.1009863	100.0593758	100.0178176	99.97631167	99.93485778	99.89345587	99.85210585	99.81080761
230316A00041	3/16/2023	4.86	3/15/2024	3/16/2023	100.14265	100.1009863	100.0593758	100.0178176	99.97631167	99.93485778	99.89345587	99.85210585	99.81080761
230316A00025	3/16/2023	4.86	3/15/2024	3/16/2023	100.14265	100.1009863	100.0593758	100.0178176	99.97631167	99.93485778	99.89345587	99.85210585	99.81080761
230503A00046	5/3/2023	4.96	4/29/2024	5/3/2023	100.57382	100.4074737	100.2416764	100.0764263	99.9117205	99.74755645	99.58393146	99.42084291	99.25828817
230504A00014	5/4/2023	4.98	4/29/2024	5/4/2023	100.57715	100.4107966	100.2449952	100.0797409	99.91503105	99.7508629	99.58723383	99.42414121	99.26158241
230323A00041	3/23/2023	4.99	3/22/2024	3/23/2023	100.21363	100.1525471	100.091554	100.0306492	99.96983254	99.90910393	99.84846312	99.78790992	99.72744415
230324A00056	3/24/2023	4.83	3/22/2024	3/24/2023	100.20381	100.1427381	100.0817528	100.0208558	99.96004698	99.89932617	99.83869314	99.77814772	99.71768971
230328A00008	3/28/2023	5.08	3/22/2024	3/28/2023	100.21915	100.1580647	100.0970671	100.0361579	99.97533692	99.91460392	99.85395873	99.79340116	99.73293102
230420A00030	4/20/2023	5.1	4/19/2024	4/20/2023	100.49759	100.3589563	100.2207169	100.0828719	99.9454194	99.80835783	99.67168545	99.53540057	99.39950152
230331A00028	3/31/2023	5.05	3/29/2024	3/31/2023	100.28435	100.2038612	100.1235043	100.0432793	99.96318603	99.88322407	99.80339313	99.72369291	99.64412309
230508A00003	5/8/2023	4.99	5/2/2024	5/8/2023	100.60801	100.4333703	100.2593348	100.085904	99.91307476	99.74084393	99.56920841	99.39816511	99.22771099
230512A00005	5/12/2023	4.76	5/10/2024	5/12/2023	100.66585	100.468892	100.2727208	100.0773303	99.88271554	99.68887198	99.49579491	99.3034797	99.11192176
230512A00021	5/12/2023	4.99	5/10/2024	5/12/2023	100.68622	100.4894987	100.2935614	100.0984007	99.90401191	99.71039052	99.51753185	99.32543135	99.13408449
230426A00090	4/26/2023	5.08	4/22/2024	4/26/2023	100.52452	100.3775689	100.2310601	100.0849898	99.93935611	99.79415702	99.64939055	99.50505476	99.3611477

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230427A00029	4/27/2023	4.87	4/26/2024	4/27/2023	100.55092	100.3926812	100.2349475	100.0777164	99.92098553	99.76475246	99.6090148	99.45377018	99.29901624
230428A00046	4/28/2023	5.15	3/28/2024	4/28/2023	100.28255	100.2048213	100.1272226	100.0497492	99.97240073	99.89517702	99.81807773	99.74110256	99.66425122
230728A00008	7/28/2023	5.67	5/28/2024	7/28/2023	101.02965	100.7828768	100.5373151	100.2929532	100.0497823	99.80779389	99.56697924	99.32732983	99.08883724
230303A00018	3/3/2023	5.53	3/1/2024	3/3/2023	100.01813	100.0153518	100.0125739	100.0097984	100.0070252	100.0042545	100.0014861	99.99872019	99.99595663
230516A00060	5/16/2023	5.07	5/9/2024	5/16/2023	100.69197	100.4979904	100.3047709	100.1123062	99.92059162	99.72962285	99.53939545	99.34990504	99.1611473
230517A00028	5/19/2023	4.87	5/17/2024	5/19/2023	100.75598	100.5396272	100.324218	100.1097484	99.89621221	99.68360325	99.47191539	99.26114254	99.05127869
230629A00089	6/29/2023	5.68	3/28/2024	6/29/2023	100.32374	100.2459843	100.1683526	100.0908463	100.0134649	99.9362084	99.85907633	99.78206843	99.70518442
230630A00009	6/30/2023	5.59	6/27/2024	6/30/2023	101.35655	101.0268687	100.699336	100.3739307	100.0506321	99.72941984	99.4102737	99.09317379	98.77810048
230630A00045	6/30/2023	5.7	4/30/2024	6/30/2023	100.70853	100.5392469	100.3705324	100.2023816	100.0347915	99.86775956	99.70128289	99.53535878	99.3699845
230630A00044	6/30/2023	5.69	3/29/2024	6/30/2023	100.33584	100.2553126	100.1749144	100.0946482	100.0145138	99.93451078	99.85463885	99.77489771	99.69528703
230821A00067	8/21/2023	5.66	5/22/2024	8/21/2023	100.95752	100.7273982	100.4983355	100.2703262	100.0433632	99.81743911	99.5925468	99.36867916	99.14582913
230609A00035	6/9/2023	5.47	6/7/2024	6/9/2023	101.09231	100.8179932	100.5451776	100.2738472	100.0039898	99.73559335	99.468646	99.20313594	98.93905154
230922A00019	9/22/2023	5.53	9/16/2024	9/22/2023	102.25315	101.7004012	101.1536514	100.6128047	100.0777657	99.54844094	99.02473893	98.5065702	97.99384713
230922A00029	9/22/2023	5.67	5/22/2024	9/22/2023	100.95982	100.7296949	100.5006286	100.2726159	100.0456493	99.81972177	99.59482599	99.37095489	99.14810141
230613A00093	6/13/2023	5.46	4/12/2024	6/13/2023	100.47081	100.3515211	100.2325329	100.1138411	99.99544464	99.87734236	99.75953312	99.6420158	99.52478927
230815A00035	8/15/2023	5.67	4/16/2024	8/15/2023	100.54202	100.411622	100.2815778	100.1518851	100.0225425	99.89354865	99.764902	99.63660114	99.50864464
230815A00036	8/15/2023	5.68	5/15/2024	8/15/2023	100.88042	100.6696768	100.4598338	100.2508805	100.0428112	99.83562019	99.62930182	99.42385052	99.21926076
230815A00034	8/15/2023	5.66	3/14/2024	8/15/2023	100.16519	100.1262732	100.0874086	100.0485918	100.0098226	99.97110106	99.93242698	99.8938003	99.85522093
230817A00055	11/17/2023	5.28	11/15/2024	11/17/2023	102.75556	102.0387125	101.3319055	100.6349319	99.94758717	99.26967229	98.60099371	97.94136316	97.29059745
230928A00030	9/28/2023	5.67	6/28/2024	9/28/2023	101.39469	101.0621819	100.7318574	100.4036942	100.0776712	99.75376749	99.43196252	99.1122359	98.79456755
230913A00043	9/13/2023	5.59	9/12/2024	9/13/2023	102.24487	101.7029507	101.1667971	100.63632	100.1114292	99.59203664	99.078056	98.56940275	98.06599414
231010A00131	10/10/2023	5.44	10/4/2024	10/10/2023	102.38316	101.781388	101.1867083	100.5989975	100.0181333	99.44399638	98.87647028	98.3154411	97.76079757
230929A00037	9/29/2023	5.66	6/28/2024	9/29/2023	101.39137	101.0588658	100.7285481	100.4003917	100.0743755	99.75047851	99.42868024	99.1089603	98.79129859
230929A00027	9/29/2023	5.52	9/23/2024	9/29/2023	102.31684	101.7449955	101.179563	100.6204365	100.0675108	99.52068288	98.97985215	98.44492011	97.91579048
231011A00020	10/11/2023	5.65	4/12/2024	10/11/2023	100.49347	100.3741613	100.2551515	100.1364383	100.0180205	99.8998968	99.78206624	99.66452764	99.54727987
231012A00014	10/12/2023	5.55	10/11/2024	10/12/2023	102.53068	101.9094582	101.2958005	100.6895641	100.0906148	99.49882139	98.91405583	98.33619316	97.76511138
230824A00017	8/24/2023	5.66	3/22/2024	8/24/2023	100.25474	100.1936224	100.1325964	100.0716589	100.0108096	99.9500483	99.88937489	99.82878914	99.76829087
230711A00029	7/11/2023	5.55	7/5/2024	7/11/2023	101.43563	101.0838896	100.7345982	100.3877282	100.0432544	99.70115206	99.36139664	99.02396397	98.68883023
230712A00032	10/12/2023	5.23	10/11/2024	10/12/2023	102.33175	101.7112245	101.0982547	100.4927003	99.89442718	99.30330417	98.71920337	98.14199988	97.57157176
231017A00082	10/17/2023	5.69	5/17/2024	10/17/2023	100.90593	100.6896481	100.4743107	100.259909	100.0464369	99.83388825	99.62225705	99.41153726	99.20172294
230830A00060	8/30/2023	5.67	3/1/2024	8/30/2023	100.0187	100.0159184	100.0131402	100.0103643	100.0075909	100.0048198	100.0020512	99.99928492	99.99652106
230830A00023	8/30/2023	5.68	6/28/2024	8/30/2023	101.39801	101.0654981	100.7351667	100.4069967	100.0809669	99.75705647	99.4352448	99.11551151	98.79783652
231018A00003	10/18/2023	5.68	4/23/2024	10/18/2023	100.62426	100.4744382	100.3250702	100.1761561	100.0276937	99.87968107	99.73211608	99.58499668	99.43832086

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231018A00049	10/18/2023	5.65	7/18/2024	10/18/2023	101.62488	101.2371798	100.8524588	100.4706782	100.0918042	99.71580355	99.34264348	98.97229175	98.6047166
230830A00010	8/30/2023	5.71	3/29/2024	8/30/2023	100.33745	100.2569204	100.176521	100.0962535	100.0161178	99.93611349	99.85624028	99.77649786	99.69688591
230918A00059	9/18/2023	5.68	4/19/2024	9/18/2023	100.57802	100.4392976	100.3009734	100.1630437	100.0255068	99.88836103	99.7516046	99.61523587	99.47925316
230918A00061	9/18/2023	5.55	8/19/2024	9/18/2023	101.9586	101.4826779	101.0112205	100.5441635	100.0814451	99.62300486	99.16878356	98.71872289	98.2727657
231018A00041	10/18/2023	5.65	7/18/2024	10/18/2023	101.62488	101.2371798	100.8524588	100.4706782	100.0918042	99.71580355	99.34264348	98.97229175	98.6047166
231019A00035	10/19/2023	5.54	10/18/2024	10/19/2023	102.60547	101.9650298	101.3326208	100.708091	100.0912935	99.48208476	98.88032515	98.28587824	97.69861099
230918A00045	9/18/2023	5.52	9/12/2024	9/18/2023	102.20694	101.6651339	101.1290968	100.5987353	100.0739593	99.55468064	99.04081306	98.53227204	98.02897483
230919A00045	9/19/2023	5.52	9/13/2024	9/19/2023	102.21313	101.6686541	101.1300036	100.597084	100.069804	99.54807418	99.031807	98.52091675	98.0153195
231102A00041	11/2/2023	5.46	11/1/2024	11/2/2023	102.7134	102.0346134	101.3648236	100.7038523	100.0515259	99.4076754	98.7721363	98.14474822	97.52535493
231102A00012	11/2/2023	5.65	6/5/2024	11/2/2023	101.11819	100.8493057	100.5818614	100.3158417	100.0512352	99.78803069	99.52621698	99.26578303	99.00671789
231208A00015	12/8/2023	5.51	6/14/2024	12/8/2023	101.18274	100.8890817	100.5971391	100.3068995	100.0183481	99.73146992	99.44625045	99.1626752	98.88072989
231103A00028	11/3/2023	5.53	9/3/2024	11/3/2023	102.11843	101.6012072	101.0892313	100.5824271	100.0807164	99.58402258	99.09227067	98.60538702	98.12329951
231228A00008	12/28/2023	5.18	9/30/2024	12/28/2023	102.18416	101.5938688	101.0104014	100.4336445	99.86348248	99.29980288	98.74249552	98.19145277	97.64656941
231228A00038	12/28/2023	5.18	9/30/2024	12/28/2023	102.18416	101.5938688	101.0104014	100.4336445	99.86348248	99.29980288	98.74249552	98.19145277	97.64656941
231228A00020	12/28/2023	4.93	12/27/2024	12/28/2023	102.98514	102.1533819	101.3351073	100.5299884	99.7377092	98.9579639	98.19045632	97.43489954	96.69101555
231025A00009	10/25/2023	5.49	10/21/2024	10/25/2023	102.60771	101.9591381	101.3187945	100.6865275	100.0621846	99.44561715	98.83668027	98.23523259	97.64113625
230713A00054	7/13/2023	5.64	4/12/2024	7/13/2023	100.49228	100.3729697	100.2539611	100.135249	100.0168323	99.89870973	99.78088029	99.66334281	99.54609615
230713A00015	7/13/2023	5.44	7/12/2024	7/13/2023	101.47588	101.1049288	100.7367075	100.3711833	100.0083262	99.64810722	99.29049737	98.93546826	98.5829919
230718A00030	7/18/2023	5.67	3/20/2024	7/18/2023	100.23281	100.1772486	100.1217607	100.0663502	100.0110168	99.95576048	99.90058098	99.84547817	99.79045188
231027A00004	10/27/2023	5.61	7/26/2024	10/27/2023	101.70322	101.2934403	100.8869682	100.4837679	100.0837999	99.68702553	99.29340645	98.90290509	98.51548444
230725A00090	7/25/2023	5.6	7/18/2024	7/25/2023	101.6055	101.2178478	100.8331717	100.4514357	100.072606	99.69664936	99.32353311	98.95322497	98.58569316
230725A00089	7/25/2023	5.65	6/26/2024	7/25/2023	101.3646	101.0376497	100.712814	100.3900724	100.0694047	99.75079081	99.4342111	99.1196461	98.80707659
231211A00013	12/11/2023	5.42	9/11/2024	12/11/2023	102.14149	101.6026066	101.0694279	100.5418665	100.0198338	99.50324307	98.99200921	98.48604899	97.98528092
231213A00015	12/13/2023	5.47	8/13/2024	12/13/2023	101.85174	101.3924733	100.9373671	100.4863653	100.0394124	99.59645364	99.15743562	98.72230567	98.29101212
231218A00019	12/18/2023	5.39	7/18/2024	12/18/2023	101.52412	101.1366538	100.7521659	100.3706169	99.99197333	99.61620179	99.24326958	98.87314447	98.50579469
231218A00020	12/18/2023	5.32	8/19/2024	12/18/2023	101.84916	101.3735417	100.9023851	100.4356268	99.97320515	99.51505977	99.06113131	98.61136156	98.16569337
231218A00047	12/18/2023	5.24	9/18/2024	12/18/2023	102.10878	101.5511227	100.999576	100.4540422	99.91442313	99.3806227	98.85254694	98.33010389	97.81320356
231218A00048	12/18/2023	5.32	8/19/2024	12/18/2023	101.84916	101.3735417	100.9023851	100.4356268	99.97320515	99.51505977	99.06113131	98.61136156	98.16569337
231219A00006	12/19/2023	5.39	7/19/2024	12/19/2023	101.53524	101.1450206	100.7578133	100.3735859	99.99230412	99.61393392	99.23844192	98.86579522	98.49596145
231229A00002	12/29/2023	4.95	12/23/2024	12/29/2023	102.95769	102.1368808	101.3292078	100.5343586	99.75202911	98.98192451	98.22375937	97.47725705	96.74214942
231114A00023	11/14/2023	5.46	9/13/2024	11/14/2023	102.18045	101.6360763	101.0975265	100.564707	100.0375263	99.51589501	98.99972564	98.48893245	97.98343155
231115A00002	11/15/2023	5.56	7/18/2024	11/15/2023	101.59	101.2023823	100.817742	100.4360416	100.0572474	99.68132602	99.30824482	98.93797154	98.5704744
231115A00001	11/15/2023	5.58	6/18/2024	11/15/2023	101.24946	100.9446977	100.6417873	100.3407078	100.0414428	99.74397561	99.44829011	99.15437018	98.86219997

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231117A00024	11/17/2023	5.55	6/3/2024	11/17/2023	101.06837	100.8050557	100.5431129	100.2825342	100.0233091	99.765427	99.50887744	99.25365011	98.99973478
231120A00025	11/20/2023	5.49	8/14/2024	11/20/2023	101.87245	101.4104002	100.9525625	100.4988781	100.0492906	99.60374434	99.16218486	98.72455861	98.290813
231120A00027	11/20/2023	5.4	10/16/2024	11/20/2023	102.49337	101.8587499	101.23202	100.613035	100.0016514	99.39772971	98.80113341	98.2117295	97.62938815
231120A00028	11/20/2023	5.38	11/13/2024	11/20/2023	102.80427	102.092636	101.3908939	100.698841	100.0162772	99.3430077	98.67884327	98.02359964	97.37709752
231120A00026	11/20/2023	5.43	9/18/2024	11/20/2023	102.21488	101.6568834	101.1050023	100.5591367	100.0191884	99.48506133	98.95666141	98.43389668	97.9166771
231122A00033	11/22/2023	5.53	7/22/2024	11/22/2023	101.62442	101.2257797	100.8302799	100.4378845	100.0485568	99.66226098	99.27896148	98.89862346	98.52121256
231122A00034	11/22/2023	5.42	9/23/2024	11/22/2023	102.25963	101.6879659	101.1227177	100.5637741	100.0110298	99.46438185	98.92372967	98.38897481	97.86002096
240105A00011	1/5/2024	5.06	12/5/2024	1/5/2024	102.82884	102.0574319	101.2976345	100.5491903	99.81184583	99.08535502	98.36947911	97.66398627	96.96865142
240105A00019	1/5/2024	5.02	12/5/2024	1/5/2024	102.79793	102.0266475	101.2669797	100.5186639	99.78144634	99.05508115	98.33932957	97.63395979	96.93874673
240108A00030	1/8/2024	5.29	9/3/2024	1/8/2024	101.99432	101.4774621	100.9658537	100.4594143	99.95806585	99.46173168	98.97033678	98.4838076	98.00207203
240108A00031	1/8/2024	5.2	9/30/2024	1/8/2024	102.19599	101.6056566	101.02215	100.445354	99.87515334	99.31143538	98.75408998	98.20300949	97.6580887
240108A00034	1/8/2024	5.07	11/4/2024	1/8/2024	102.48045	101.794456	101.1176718	100.4499119	99.79099661	99.14075066	98.49900357	97.86558928	97.24034601
240108A00035	1/8/2024	5.04	12/2/2024	1/8/2024	102.78721	102.0239714	101.2720967	100.5313376	99.80144865	99.08219156	98.37333496	97.67465414	96.98593085
240108A00032	1/8/2024	5.14	10/16/2024	1/8/2024	102.32817	101.6941327	101.067985	100.449577	99.83876548	99.23541081	98.63937668	98.05053012	97.46874137
240108A00033	1/8/2024	4.96	1/2/2025	1/8/2024	103.07724	102.2288386	101.3944534	100.5737358	99.7663514	98.9719768	98.19029896	97.42101478	96.6638308
231130A00031	11/30/2023	5.41	8/30/2024	11/30/2023	102.01619	101.5100781	101.008992	100.51286	100.0216089	99.5351668	99.0534634	98.57642964	98.10399782
240110A00017	1/10/2024	4.94	1/6/2025	1/10/2024	103.10578	102.2464614	101.4015205	100.5705992	99.75335004	98.94943699	98.15853496	97.38032934	96.61451562
231130A00063	11/30/2023	5.52	7/1/2024	11/30/2023	101.37907	101.0383707	100.699961	100.3638181	100.0299195	99.69824261	99.36876542	99.04146608	98.71632306
231130A00064	11/30/2023	5.41	8/30/2024	11/30/2023	102.01619	101.5100781	101.008992	100.51286	100.0216089	99.5351668	99.0534634	98.57642964	98.10399782
231130A00065	11/30/2023	5.33	10/30/2024	11/30/2023	102.60271	101.9297559	101.2656476	100.6102153	99.96328975	99.32470591	98.69430305	98.07192457	97.4574178
231201A00009	12/1/2023	5.27	11/25/2024	12/1/2023	102.8754	102.1308217	101.3970623	100.6738859	99.96106451	99.25837638	98.56560622	97.88254476	97.20898858
240111A00053	1/11/2024	4.93	1/10/2025	1/11/2024	103.1426	102.2723083	101.4167686	100.5756034	99.74845179	98.93496503	98.13480581	97.34764784	96.57317547
231205A00036	12/5/2023	5.31	10/4/2024	12/5/2023	102.30485	101.703344	101.1089284	100.5214793	99.94087468	99.36699525	98.79972449	98.23894855	97.68455619
231205A00037	12/5/2023	5.38	9/5/2024	12/5/2023	102.06327	101.540785	101.0236598	100.5118162	100.0051736	99.50365279	99.00717621	98.51566794	98.02905352
240118A00004	1/18/2024	4.74	1/17/2025	1/18/2024	103.19341	102.3020294	101.4261125	100.5652565	99.71907434	98.88719255	98.06925002	97.26489777	96.47379843
240123A00017	1/23/2024	5.08	11/22/2024	1/23/2024	102.69422	101.9585986	101.2335515	100.5188541	99.81428539	99.11963089	98.43468195	97.75923581	97.09309533
240125A00019	1/25/2024	4.98	12/18/2024	1/25/2024	102.92679	102.1196416	101.3252001	100.5431712	99.77326485	99.0152002	98.26870495	97.53351514	96.80937475
240125A00046	1/25/2024	5.29	8/26/2024	1/25/2024	101.91163	101.4167353	100.9266646	100.4413428	99.96070111	99.48467196	99.01318904	98.54618735	98.08360311
240126A00004	1/26/2024	4.9	1/21/2025	1/26/2024	103.2404	102.3399321	101.4552357	100.5859014	99.73153067	98.8917388	98.06615419	97.25441777	96.45618249
240129A00030	1/29/2024	5.03	12/2/2024	1/29/2024	102.77957	102.0163568	101.2645139	100.5237862	99.79392843	99.07470216	98.36587605	97.66722543	96.97853202
240130A00037	1/30/2024	5.03	11/29/2024	1/30/2024	102.73899	101.9841515	101.2404309	100.5075875	99.78538355	99.07358848	98.37197815	97.68033488	96.99844714
231005A00007	10/5/2023	5.51	10/4/2024	10/5/2023	102.42533	101.8234116	101.2285898	100.640738	100.059734	99.48545852	98.91779494	98.3566294	97.80185062
231031A00041	10/31/2023	5.51	10/25/2024	10/31/2023	102.66663	102.0069894	101.3558609	100.7130762	100.0784751	99.4519019	98.83320465	98.22223526	97.61884932

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240131A00021	1/31/2024	4.8	1/27/2025	1/31/2024	103.21615	102.2995717	101.3993359	100.5150033	99.64615475	98.79238538	97.95330452	97.12853486	96.31771195
240131A00028	1/31/2024	4.8	1/27/2025	1/31/2024	103.21615	102.2995717	101.3993359	100.5150033	99.64615475	98.79238538	97.95330452	97.12853486	96.31771195
240131A00044	1/31/2024	4.8	1/27/2025	1/31/2024	103.21615	102.2995717	101.3993359	100.5150033	99.64615475	98.79238538	97.95330452	97.12853486	96.31771195
230824A00018	2/20/2024	4.78	2/20/2026	2/20/2024	107.8614	105.859004	103.904555	101.9966044	100.1337587	98.3146762	96.53806391	94.80267595	93.10731128
230824A00019	2/20/2024	4.6	2/19/2027	2/20/2024	111.89824	108.8452499	105.8934712	103.0389864	100.2780493	97.60707966	95.02265491	92.52150218	90.10049086
231102A00070	2/15/2024	4.86	2/16/2027	2/15/2024	112.6319	109.5768808	106.6227711	103.7656747	101.0018679	98.3277917	95.74004336	93.23536842	90.81065347
220408A00012	4/8/2022	3.12	6/29/2026	4/8/2022	105.60309	103.2735277	101.0072689	98.80224333	96.65646426	94.56802088	92.53507503	90.555858	88.62866743
220408A00013	4/8/2022	3.15	1/14/2027	4/8/2022	107.28085	104.3970714	101.6063757	98.90526655	96.29039585	93.75855907	91.30668818	88.93184516	86.63121567
200402A00036	4/2/2020	0.71	4/2/2024	4/2/2020	99.937671	99.84630595	99.75511147	99.66408732	99.57323302	99.48254806	99.39203196	99.30168425	99.21150443
200402A00038	4/2/2020	0.84	4/2/2025	4/2/2020	99.773608	98.69955899	97.6484535	96.61956313	95.61219033	94.62566644	93.65935026	92.71262661	91.78490506
200402A00048	4/2/2020	0.71	4/2/2024	4/2/2020	99.937671	99.84630595	99.75511147	99.66408732	99.57323302	99.48254806	99.39203196	99.30168425	99.21150443
200403A00018	4/3/2020	0.91	4/3/2024	4/3/2020	99.942951	99.84894451	99.75511921	99.66147475	99.56801059	99.47472621	99.38162108	99.28869468	99.19594647
200403A00025	4/3/2020	0.91	4/3/2024	4/3/2020	99.942951	99.84894451	99.75511921	99.66147475	99.56801059	99.47472621	99.38162108	99.28869468	99.19594647
200406A00060	4/6/2020	1.03	4/5/2024	4/6/2020	99.951639	99.85211809	99.75280268	99.65369255	99.55478705	99.45608553	99.35758732	99.2592918	99.1611983
200406A00053	4/6/2020	1.13	4/7/2025	4/6/2020	99.927726	98.84210119	97.7799098	96.74039992	95.72285162	94.72657515	93.75090936	92.79522022	91.8588995
200916A00016	9/16/2020	0.6	9/16/2024	9/16/2020	99.527261	98.98309449	98.44486212	97.91246719	97.38581506	96.8648131	96.34937068	95.83939911	95.33481157
200916A00015	9/16/2020	0.72	9/16/2025	9/16/2020	99.601588	98.09814726	96.62463888	95.18023992	93.76415752	92.3756272	91.01391157	89.67829915	88.36810319
200916A00019	9/16/2020	0.42	9/16/2024	9/16/2020	99.51849	98.9732333	98.43393766	97.90050555	97.37284158	96.85085247	96.33444691	95.82353557	95.31803101
200916A00023	9/16/2020	0.42	9/16/2024	9/16/2020	99.51849	98.9732333	98.43393766	97.90050554	97.37284158	96.85085246	96.33444691	95.82353557	95.318031
200922A00015	9/24/2020	1.09	9/24/2025	9/24/2020	100.17856	98.64913152	97.15036838	95.68142097	94.24146713	92.82971461	91.44539964	90.08778568	88.7561622
200407A00019	4/7/2020	1.06	4/8/2024	4/7/2020	99.950939	99.84315875	99.73562215	99.62832861	99.52127726	99.41446725	99.30789774	99.20156788	99.09547683
200928A00009	9/28/2020	1.51	9/28/2032	9/28/2020	107.01672	98.76552043	91.21051571	84.28938918	77.94570258	72.12831038	66.79083881	61.89121867	57.39126597
201001A00011	10/1/2020	0.71	6/17/2025	10/1/2020	99.506763	98.23935182	96.99784742	95.78146367	94.58944631	93.42107151	92.27564427	91.15249702	90.05098822
201001A00012	10/1/2020	0.74	9/16/2025	10/1/2020	99.632667	98.12897645	96.65522228	95.2105818	93.79426203	92.40549839	91.04355337	89.7077154	88.39729763
201014A00002	10/14/2020	0.61	10/15/2024	10/14/2020	99.451783	98.83064082	98.21722867	97.61140289	97.01302335	96.42195334	95.83805952	95.26121173	94.69128298
201015A00003	10/15/2020	0.75	10/15/2025	10/15/2020	99.679457	98.09875429	96.55046193	95.03364937	93.5474213	92.09091623	90.66330485	89.26378852	87.89159783
201015A00002	10/15/2020	0.61	10/15/2024	10/15/2020	99.451783	98.83064082	98.21722867	97.61140289	97.01302335	96.42195334	95.83805952	95.26121173	94.69128298
201015A00032	10/19/2020	2.33	10/19/2026	10/19/2020	104.41175	101.7997848	99.26649537	96.80902061	94.42462681	92.11069798	89.86472983	87.6843241	85.5671833
201015A00030	10/19/2020	2.39	10/18/2027	10/19/2020	106.80176	103.1797019	99.70047521	96.35765506	93.14514024	90.05713864	87.08814966	84.23294769	81.48656666
201015A00025	10/19/2020	1.54	10/18/2027	10/19/2020	103.71265	100.1466326	96.72183285	93.43187712	90.27072164	87.23262931	84.31215209	81.50411466	78.80359902
201015A00024	10/19/2020	1.53	10/18/2027	10/19/2020	103.6763	100.1109494	96.68679	93.3974562	90.23690495	87.19939979	84.2794933	81.47201074	78.77203469
201019A00007	10/19/2020	0.64	10/21/2024	10/19/2020	99.459338	98.82217402	98.19314031	97.57208185	96.9588477	96.35329072	95.75526741	95.16463784	94.58126554
201019A00005	10/19/2020	0.79	10/20/2025	10/19/2020	99.749919	98.15564618	96.59423524	95.06473527	93.56623238	92.09784751	90.65873471	89.24807958	87.86509775

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200413A00011	4/13/2020	0.94	4/12/2024	4/13/2020	99.931697	99.81292376	99.69444679	99.57626527	99.45837806	99.34078403	99.22348205	99.10647098	98.98974971
200413A00027	4/13/2020	0.94	4/12/2024	4/13/2020	99.931697	99.81292376	99.69444679	99.57626527	99.45837806	99.34078403	99.22348205	99.10647098	98.98974971
200414A00014	4/14/2020	0.76	4/12/2024	4/14/2020	99.925164	99.80624204	99.68761837	99.56929222	99.45126242	99.3335278	99.21608721	99.09893949	98.98208349
200415A00027	4/15/2020	0.86	4/15/2024	4/15/2020	99.916795	99.78977992	99.66310228	99.53676095	99.41075457	99.28508176	99.15974115	99.03473141	98.91005117
200415A00038	4/15/2020	1.37	4/15/2027	4/15/2020	102.46887	99.41061732	96.45902145	93.6097494	90.85867444	88.20186225	85.63556067	83.15618993	80.76033368
200415A00031	4/15/2020	0.97	4/15/2025	4/15/2020	99.758001	98.65226855	97.57087533	96.51302502	95.47795586	94.46493866	93.47327503	92.50229579	91.55135947
200415A00020	4/15/2020	0.86	4/15/2024	4/15/2020	99.916795	99.78977992	99.66310228	99.53676095	99.41075457	99.28508176	99.15974115	99.03473141	98.91005117
200415A00023	4/15/2020	1.71	4/15/2030	4/15/2020	107.07577	101.0590794	95.41804462	90.12727654	85.16323478	80.50407965	76.12954048	72.02079493	68.16035827
200415A00021	4/15/2020	1.37	4/15/2027	4/15/2020	102.46887	99.41061732	96.45902145	93.6097494	90.85867444	88.20186225	85.63556067	83.15618993	80.76033368
200415A00024	4/15/2020	2.2	4/16/2035	4/15/2020	115.09897	104.2112801	94.46837631	85.74315851	77.92326632	70.90929979	64.61326479	58.95721169	53.87204276
200415A00036	4/15/2020	0.91	10/15/2024	4/15/2020	99.641579	99.01976416	98.40568574	97.79919951	97.20016526	96.60844619	96.02390888	95.4464231	94.87586177
200415A00037	4/15/2020	0.97	4/15/2025	4/15/2020	99.758001	98.65226855	97.57087533	96.51302502	95.47795586	94.46493866	93.47327503	92.50229579	91.55135947
200417A00014	4/17/2020	0.96	4/17/2025	4/17/2020	99.748606	98.63765428	97.55127179	96.48865157	95.44902123	94.43164153	93.43580461	92.46083236	91.50607484
200417A00008	4/17/2020	0.96	4/17/2025	4/17/2020	99.748606	98.63765428	97.55127179	96.48865157	95.44902123	94.43164153	93.43580461	92.46083236	91.50607484
200417A00019	4/17/2020	0.77	4/17/2025	4/17/2020	99.710002	98.59662548	97.50791686	96.44306459	95.40129202	94.38185588	93.3840445	92.40717616	91.4505975
200417A00002	4/17/2020	0.96	4/17/2025	4/17/2020	99.748606	98.63765428	97.55127179	96.48865157	95.44902123	94.43164153	93.43580461	92.46083236	91.50607484
200417A00004	4/17/2020	0.86	4/17/2024	4/17/2020	99.913222	99.78070657	99.64855741	99.51677255	99.38535048	99.25428964	99.12358853	98.99324561	98.86325938
200421A00020	4/24/2020	0.83	3/15/2024	4/24/2020	99.972367	99.93083868	99.88936277	99.84793899	99.80656723	99.7652474	99.72397937	99.68276307	99.64159837
200421A00032	4/21/2020	1.31	4/21/2027	4/21/2020	102.30131	99.22965593	96.2655936	93.40473353	90.64289491	87.97609289	85.40052806	82.91257652	80.50878054
200421A00031	4/21/2020	0.84	4/19/2024	4/21/2020	99.906875	99.76886344	99.63124697	99.4940234	99.35719102	99.22074813	99.08469303	98.94902403	98.81373947
200423A00017	4/23/2020	1.82	4/23/2035	4/23/2020	112.43221	101.5840934	91.88684432	83.21192313	75.44576518	68.48796856	62.24970847	56.65234968	51.6262315
200423A00006	4/23/2020	0.82	4/23/2025	4/23/2020	99.77306	98.64342054	97.53915584	96.45941967	95.40340275	94.37033108	93.35946398	92.37009234	91.40153694
200423A00027	4/28/2020	0.88	4/15/2024	4/28/2020	99.919347	99.79232909	99.66564892	99.53930507	99.41329617	99.28762085	99.16227774	99.03726549	98.91258275
200424A00014	4/28/2020	1.01	4/23/2025	4/28/2020	99.812102	98.68493457	97.58304022	96.50557754	95.45174169	94.42076286	93.41190433	92.42446074	91.45775642
200427A00017	4/27/2020	1.02	4/25/2025	4/27/2020	99.825901	98.69337125	97.58634995	96.50398379	95.44545706	94.40998966	93.39683521	92.40527919	91.4346373
200427A00018	4/27/2020	1.51	4/27/2028	4/27/2020	104.33178	100.2484581	96.3468077	92.61777141	89.05279366	85.64379151	82.38312571	79.26357364	76.27830414
200428A00003	4/29/2020	1.01	4/29/2025	4/29/2020	99.818707	98.67566646	97.55860319	96.46664025	95.39894006	94.35470197	93.33316015	92.33358178	91.35526525
200429A00061	4/29/2020	1.66	10/29/2029	4/29/2020	106.53935	100.9729666	95.73077144	90.79220717	86.13812653	81.7506887	77.61326323	73.71034149	70.02745514
200429A00021	5/4/2020	0.97	4/29/2025	5/4/2020	99.77188	98.62913021	97.51235238	96.42067041	95.35324688	94.3092812	93.28800768	92.28869359	91.31063743
200429A00054	4/29/2020	1.04	4/29/2025	4/29/2020	99.853826	98.71056864	97.5932913	96.50111762	95.43320995	94.38876755	93.3670245	92.36724791	91.38873611
200429A00057	4/29/2020	1.4	4/29/2027	4/29/2020	102.61296	99.51497839	96.52606801	93.64175051	90.85776509	88.17005203	85.57474176	83.06814461	80.64674121
200429A00049	4/29/2020	1.25	4/29/2026	4/29/2020	101.05943	98.94429195	96.88346903	94.8751897	92.917751	91.00951897	89.14892532	87.33446412	85.56468882
200430A00030	4/30/2020	0.96	4/30/2025	4/30/2020	99.761137	98.61581605	97.49658359	96.4025577	95.3328955	94.28679126	93.26347442	92.26220766	91.28228517

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200504A00006	5/4/2020	0.94	5/5/2025	5/4/2020	99.742262	98.58390158	97.45223772	96.34635637	95.26538518	94.20849077	93.17487652	92.16378062	91.17447415
200504A00007	5/4/2020	1.47	5/4/2028	5/4/2020	104.19005	100.0913679	96.17577761	92.43411664	88.85772984	85.43844234	82.16852995	79.04069158	76.0480235
200511A00006	5/11/2020	1.65	5/13/2030	5/11/2020	106.74253	100.6642978	94.96984806	89.63296906	84.62937038	79.93653597	75.5335853	71.40114599	67.5212371
201021A00012	10/21/2020	1.85	10/19/2035	10/21/2020	111.29181	100.1751489	90.28103933	81.46807448	73.61188784	66.60301904	60.34505983	54.75303883	49.75201335
201021A00011	10/21/2020	1.11	10/21/2027	10/21/2020	102.15789	98.61237684	95.2078152	91.93783083	88.79637469	85.77770543	82.87637175	80.08719598	77.40525856
200518A00019	5/19/2020	0.9	5/19/2025	5/19/2020	99.706094	98.5111375	97.34459631	96.2054674	95.09279428	94.00566451	92.94320718	91.90459053	90.88901983
201028A00013	10/28/2020	0.68	10/28/2024	10/28/2020	99.472745	98.8168758	98.16961013	97.53077953	96.9002201	96.27777216	95.66328011	95.05659232	94.45756096
201028A00011	10/28/2020	0.91	4/28/2026	10/28/2020	100.31977	98.21547351	96.16520933	94.16721504	92.21979775	90.32133309	88.4702619	86.66508695	84.90437
201029A00002	10/29/2020	0.59	10/29/2025	10/29/2020	99.669727	98.04853804	96.46115455	94.90658529	93.38387751	91.89211537	90.43041813	88.99793839	87.59386057
201030A00012	10/30/2020	0.63	10/30/2025	10/30/2020	99.737663	98.11328211	96.52280817	94.9652449	93.43963552	91.94506034	90.48063501	89.04550869	87.63886254
201030A00018	10/30/2020	1.15	10/22/2027	10/30/2020	102.30636	98.75556991	95.34600025	92.07125685	88.9252764	85.90230423	82.99687661	80.20380415	77.51815637
201030A00016	10/30/2020	1.14	10/8/2027	10/30/2020	102.23153	98.71810961	95.34327338	92.10080649	88.98480631	85.98966771	83.11006621	80.34094219	77.67748609
201030A00017	10/30/2020	1.14	10/15/2027	10/30/2020	102.25072	98.71894794	95.32706552	92.06876869	88.93807514	85.9293056	83.03706653	80.25623397	77.58193841
201030A00019	10/30/2020	1.15	10/29/2027	10/30/2020	102.32573	98.75658282	95.32996642	92.03940455	88.87875294	85.84218158	82.92415659	80.11942331	77.42299038
200521A00015	5/21/2020	2.14	5/21/2036	5/21/2020	114.70146	102.8945515	92.43719763	83.16700251	74.94191298	67.63758018	61.14507153	55.36888876	50.22524944
200521A00013	5/21/2020	2.09	5/21/2035	5/21/2020	113.92953	103.0210038	93.26997253	84.54687504	76.73728817	69.74009028	63.4658533	57.83543648	52.77875547
200521A00016	5/21/2020	2.18	5/21/2037	5/21/2020	115.43766	102.7521697	91.61880113	81.83790621	73.23651907	65.66466433	58.99219606	53.10608519	47.90808985
200521A00017	5/21/2020	2.22	5/21/2038	5/21/2020	116.45984	102.8917239	91.09028696	80.81389022	71.85517135	64.03602496	57.20334089	51.22538183	45.98870161
201105A00016	11/9/2020	2.18	11/8/2027	11/9/2020	106.15768	102.4916031	98.97208697	95.59244089	92.34632361	89.2277202	86.23092304	83.35051413	80.58134847
201105A00003	11/6/2020	2.24	11/4/2030	11/6/2020	110.8565	104.2027354	97.99516683	92.20150318	86.7919571	81.73903616	77.01735437	72.60346004	68.47567869
201116A00025	11/18/2020	1.96	11/15/2032	11/18/2020	110.96235	102.4286164	94.62027802	87.47176876	80.92376989	74.92258669	69.41958821	64.37070552	59.73598207
201116A00024	11/18/2020	2.36	11/15/2034	11/18/2020	116.57979	105.9844233	96.46343653	87.9015243	80.19633301	73.25694487	67.00254646	61.36125832	56.26910559
201116A00021	11/16/2020	0.53	11/15/2024	11/16/2020	99.484364	98.77866454	98.08293188	97.39695596	96.7205326	96.0534633	95.39555501	94.74661997	94.10647555
200527A00014	5/27/2020	1.06	5/27/2026	5/27/2020	100.70935	98.52558833	96.39945187	94.32899414	92.31235514	90.34775316	88.43348072	86.56790078	84.74944311
200527A00012	5/27/2020	1.2	5/27/2027	5/27/2020	102.05666	98.89534242	95.8476026	92.90867741	90.07404038	87.339384	84.70060748	82.15380525	79.69525624
200527A00016	5/27/2020	0.92	5/27/2025	5/27/2020	99.737503	98.52130203	97.33451669	96.17609076	95.04501841	93.94034088	92.86114373	91.80655429	90.77573932
200527A00015	5/27/2020	0.99	11/26/2025	5/27/2020	100.14614	98.45027152	96.79088832	95.16688035	93.57718134	92.02076827	90.49665909	89.00391063	87.54161666
200527A00013	5/27/2020	1.13	11/25/2026	5/27/2020	101.34331	98.67457775	96.08898927	93.58341493	91.15486881	88.80049889	86.51757989	84.30350658	82.15578748
200529A00022	6/1/2020	0.98	6/1/2026	6/1/2020	100.53993	98.34511038	96.20849332	94.12811484	92.10209057	90.12861558	88.20596027	86.3324665	84.50654397
200605A00005	6/5/2020	0.99	6/5/2025	6/5/2020	99.841704	98.6018546	97.39075817	96.20741741	95.05088104	93.92024099	92.81462999	91.73321929	90.67521652
200611A00020	6/11/2020	0.81	6/11/2025	6/11/2020	99.624998	98.37168689	97.14569818	95.94613903	94.77215602	93.62293252	92.49768674	91.39566982	90.31616413
200611A00021	6/11/2020	0.72	6/11/2024	6/11/2020	99.781968	99.49907349	99.21779164	98.93810823	98.66000957	98.38348216	98.1085126	97.8350877	97.56319438
200611A00019	6/11/2020	0.88	12/11/2025	6/11/2020	99.974395	98.2409009	96.54544139	94.88688678	93.26415108	91.67619008	90.12199934	88.60061225	87.11109828

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200629A00023	6/29/2020	0.95	6/29/2026	6/29/2020	100.53429	98.26480485	96.05734911	93.90988952	91.82047578	89.78723221	87.80835442	85.88210619	84.00681647
200629A00021	6/29/2020	1.21	6/29/2028	6/29/2020	103.25581	99.03074634	95.00078717	91.15596731	87.48687696	83.98463084	80.64083633	77.44756371	74.39731835
200629A00020	6/29/2020	1.4	6/28/2030	6/29/2020	105.21886	99.07045777	93.3182683	87.93481622	82.89466181	78.17424031	73.75171491	69.60684206	65.72084779
200218A00026	2/21/2020	1.73	3/25/2024	2/21/2020	100.01516	99.94594367	99.87683186	99.80782592	99.73892562	99.6701307	99.60144093	99.53285608	99.4643759
200220A00014	2/20/2020	2.09	12/21/2029	2/20/2020	109.10686	103.330687	97.89732778	92.78467902	87.97216978	83.44065069	79.17228862	75.15046967	71.35970979
200220A00013	2/20/2020	2.09	12/14/2029	2/20/2020	109.09047	103.3326747	97.91560209	92.81731595	88.01740616	83.49687319	79.23802332	75.22437219	71.44055596
200221A00011	2/21/2020	1.69	8/21/2024	2/21/2020	100.12401	99.64775907	99.17604031	98.70878638	98.245934	97.7874211	97.33318675	96.88317119	96.43731573
200221A00023	2/21/2020	2.05	12/7/2029	2/21/2020	108.84385	103.110967	97.71643702	92.63851376	87.85696002	83.35293766	79.10890333	75.10851259	71.33653162
200221A00024	2/21/2020	2.05	12/28/2029	2/21/2020	108.89078	103.102869	97.65959907	92.53870041	87.71945402	83.18257267	78.91009517	74.88528882	71.09255956
200224A00006	2/24/2020	1.58	11/15/2024	2/24/2020	100.09937	99.39304352	98.69665977	98.010007	97.33288223	96.6650881	96.00643266	95.35672921	94.71579611
200225A00029	2/25/2020	1.89	12/28/2029	2/25/2020	107.9609	102.1996082	96.78182304	91.68533548	86.88948149	82.37502561	78.12405539	74.11988407	70.34696089
200225A00028	2/25/2020	1.89	12/21/2029	2/25/2020	107.94829	102.2051659	96.80346203	91.72113872	86.93769296	82.43403937	78.19240505	74.19623288	70.43009234
200225A00023	2/25/2020	1.62	2/25/2025	2/25/2020	100.36415	99.3846506	98.42417445	97.48217505	96.55812348	95.65151086	94.76184735	93.88866131	93.03149844
200708A00011	7/10/2020	2.87	7/10/2031	7/10/2020	116.2505	108.7658153	101.8246475	95.3845707	89.40668107	83.85528473	78.69761778	73.90359211	69.44556449
200226A00004	2/26/2020	1.58	2/26/2025	2/26/2020	100.32651	99.34454933	98.38171718	97.43745621	96.51123346	95.60253619	94.71087093	93.83576255	92.97675348
201117A00016	11/17/2020	0.52	11/18/2024	11/17/2020	99.473363	98.75970531	98.0562397	97.36274907	96.67902238	96.00485453	95.34004612	94.68440329	94.03773748
201118A00009	11/18/2020	0.61	11/18/2025	11/18/2020	99.728091	98.05289007	96.41347038	94.80875176	93.23769773	91.69931339	90.19264327	88.71676932	87.27080908
201119A00023	11/23/2020	2.23	11/21/2030	11/23/2020	110.84094	104.1432894	97.89758365	92.07091336	86.63293772	81.55566846	76.81327516	72.38190776	68.23953461
201119A00021	11/23/2020	2.22	11/21/2030	11/23/2020	110.77404	104.0785866	97.8349732	92.01029561	86.57421879	81.49875982	76.75809324	72.32837366	68.18757381
201123A00009	11/25/2020	1.02	11/25/2024	11/25/2020	99.70737	98.97579487	98.25490447	97.54446571	96.84425269	96.15404597	95.47363234	94.80280461	94.14136142
201123A00010	11/25/2020	1.48	11/24/2025	11/25/2020	100.99622	99.29808595	97.63637262	96.00997671	94.41783688	92.85893466	91.33229227	89.83697051	88.37206682
201123A00011	11/25/2020	1.41	11/24/2025	11/25/2020	100.87424	99.17719534	97.51655587	95.89121442	94.30011019	92.74222522	91.21658222	89.72224246	88.25830387
201203A00005	12/3/2020	0.78	12/3/2026	12/3/2020	100.75215	98.06260322	95.45763712	92.93405591	90.48880697	88.11897474	85.82177341	83.59454003	81.43472815
201204A00015	12/8/2020	1.07	12/8/2025	12/8/2020	100.30891	98.58012131	96.88909935	95.23471658	93.61588643	92.03156487	90.48074825	88.96247132	87.4758054
210324A00003	3/24/2021	1.18	3/24/2026	3/24/2021	100.80722	98.79089879	96.82472193	94.9071104	93.03655055	91.21158714	89.43082057	87.69290436	85.99654266
210324A00002	3/24/2021	2.06	3/24/2031	3/24/2021	110.02659	103.0393403	96.54563538	90.50803102	84.89210902	79.66621743	74.80123474	70.27035542	66.04889461
200730A00013	7/30/2020	0.74	1/30/2025	7/30/2020	99.48679	98.58075268	97.69110136	96.81739564	95.95921035	95.11613533	94.28777473	93.47374642	92.67368139
200730A00011	7/30/2020	1.15	7/28/2028	7/30/2020	103.05901	98.76462306	94.67191464	90.77041369	87.05024335	83.50208622	80.1171498	76.88713428	73.80420249
210330A00024	3/30/2021	0.68	3/29/2024	3/30/2021	99.932752	99.85254498	99.77246978	99.69252609	99.61271359	99.53303197	99.45348092	99.37406013	99.29476929
210330A00021	3/30/2021	2.16	3/28/2031	3/30/2021	110.74025	103.7182938	97.1924662	91.12510229	85.4815819	80.23006987	75.3412784	70.78825088	66.54616515
210330A00022	3/30/2021	1.27	3/30/2026	3/30/2021	101.01018	98.97606174	96.99276274	95.05867841	93.17226522	91.33203971	89.5365756	87.78450112	86.07449652
201210A00021	12/10/2020	0.89	12/10/2027	12/10/2020	101.95524	98.26953679	94.73539805	91.34576804	88.09396431	84.97365258	81.9788264	79.10378809	76.34313097
201215A00001	12/15/2020	0.76	12/15/2025	12/15/2020	99.763528	98.02163191	96.31816429	94.65199561	93.02203938	91.42725003	89.86662093	88.33918258	86.84400094

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201216A00004	12/16/2020	0.74	9/8/2025	12/16/2020	99.60794	98.12624718	96.67382401	95.2498771	93.85364091	92.48437686	91.14137216	89.82393865	88.53141172
201216A00003	12/16/2020	0.59	7/1/2024	12/16/2020	99.699984	99.36282985	99.02794749	98.69531435	98.36490788	98.03670581	97.71068617	97.38682728	97.06510776
201216A00013	12/16/2020	0.59	12/16/2025	12/16/2020	99.722447	97.97358269	96.26343123	94.59085553	92.95476188	91.35409764	89.78784924	88.25504039	86.75473035
200228A00091	2/28/2020	1.72	12/7/2029	2/28/2020	106.94464	101.2656034	95.92264821	90.89414489	86.15996588	81.70137622	77.50092975	73.54237361	69.81056037
200228A00071	2/28/2020	1.74	12/14/2029	2/28/2020	107.06955	101.3692392	96.00721428	90.96166961	86.21231261	81.74025441	77.52790556	73.55887994	69.81790632
200302A00013	3/2/2020	1.25	3/4/2024	3/2/2020	99.998464	99.98738061	99.97630757	99.96524506	99.95419309	99.94315161	99.93212063	99.92110012	99.91009006
200302A00060	3/2/2021	1.44	3/3/2025	3/2/2021	100.19655	99.20203662	98.22715523	97.27133342	96.33401684	95.41467242	94.5127874	93.62786837	92.75944031
200302A00005	3/2/2020	1.31	3/3/2025	3/2/2020	100.06468	99.0708739	98.09669829	97.14157264	96.20494282	95.28627598	94.38505955	93.50080032	92.63302348
200302A00017	3/2/2020	1.3	3/4/2024	3/2/2020	99.999076	99.98799196	99.97691847	99.96585553	99.9548031	99.94376119	99.93272976	99.9217088	99.9106983
200302A00002	3/2/2020	1.12	3/3/2025	3/2/2020	100.0305	99.03460607	98.05841435	97.10134748	96.16284821	95.24238074	94.33942971	93.45349923	92.58411194
200302A00016	3/2/2020	1.36	3/3/2025	3/2/2020	100.1154	99.1213211	98.14687403	97.19148063	96.25458667	95.33565922	94.43418565	93.54967264	92.68164534
200304A00005	3/4/2020	0.98	3/4/2025	3/4/2020	99.889645	98.89186017	97.91387604	96.95510808	96.01499478	95.0929963	94.18859344	93.30128668	92.43059523
200304A00018	3/4/2020	0.98	3/4/2025	3/4/2020	99.889645	98.89186017	97.91387604	96.95510808	96.01499478	95.0929963	94.18859344	93.30128668	92.43059523
200304A00002	3/4/2020	0.98	3/4/2025	3/4/2020	99.889645	98.89186017	97.91387604	96.95510808	96.01499478	95.0929963	94.18859344	93.30128668	92.43059523
200304A00020	3/4/2020	0.98	3/4/2025	3/4/2020	99.889645	98.89186017	97.91387604	96.95510808	96.01499478	95.0929963	94.18859344	93.30128668	92.43059523
200304A00012	3/4/2020	0.98	3/4/2025	3/4/2020	99.889645	98.89186017	97.91387604	96.95510808	96.01499478	95.0929963	94.18859344	93.30128668	92.43059523
200304A00030	3/4/2020	1.6	12/22/2028	3/4/2020	105.5308	100.7984182	96.30488922	92.03694732	87.98213283	84.1287375	80.46575519	76.98283614	73.67024449
200304A00033	3/4/2020	1.17	3/4/2025	3/4/2020	99.924037	98.92835153	97.95238843	96.99556627	96.05732665	95.1371327	94.23446806	93.34883588	92.47975794
200304A00032	3/4/2020	1.6	12/15/2028	3/4/2020	105.51077	100.7968369	96.31998413	92.06706153	88.02572088	84.18435983	80.53207269	77.05860485	73.75431038
200304A00035	3/4/2020	1.17	3/4/2025	3/4/2020	99.924037	98.92835153	97.95238843	96.99556627	96.05732665	95.1371327	94.23446806	93.34883588	92.47975794
200305A00030	3/5/2020	1.58	3/5/2030	3/5/2020	106.24022	100.35319	94.828515	89.64205963	84.77141319	80.19575986	75.89575731	71.85342528	68.05204298
200305A00001	3/5/2020	1.14	3/5/2025	3/5/2020	99.894822	98.89665004	97.91830402	96.95919814	96.01876956	95.09647719	94.19180067	93.30423939	92.43331152
200305A00038	3/5/2020	1.51	3/5/2029	3/5/2020	105.29739	100.3770852	95.71493236	91.29607247	87.10657796	83.133389	79.36425497	75.78768015	72.3928734
200305A00037	3/5/2020	1.43	3/6/2028	3/5/2020	103.81437	99.87835394	96.11276681	92.50934722	89.06027525	85.75814973	82.59596346	79.56708006	76.66521238
200305A00039	3/5/2020	1.58	3/5/2030	3/5/2020	106.24022	100.35319	94.828515	89.64205963	84.77141319	80.19575986	75.89575731	71.85342528	68.05204298
200305A00032	3/5/2020	1.58	3/5/2030	3/5/2020	106.24022	100.35319	94.828515	89.64205963	84.77141319	80.19575986	75.89575731	71.85342528	68.05204298
200306A00013	3/6/2020	1.01	3/6/2025	3/6/2020	99.763175	98.76307685	97.78290079	96.82205659	95.87997714	94.9561173	94.04995286	93.16097958	92.28871216
200306A00055	3/6/2020	0.82	3/6/2025	3/6/2020	99.728449	98.72623889	97.74403028	96.78122953	95.83726636	94.91159263	94.00368126	93.11302526	92.23913677
200306A00028	3/6/2020	1.01	3/6/2025	3/6/2020	99.763175	98.76307685	97.78290079	96.82205659	95.87997714	94.9561173	94.04995286	93.16097958	92.28871216
200306A00040	3/6/2020	1.01	3/6/2025	3/6/2020	99.763175	98.76307685	97.78290079	96.82205659	95.87997714	94.9561173	94.04995286	93.16097958	92.28871216
200306A00077	3/6/2020	1.06	3/6/2025	3/6/2020	99.814309	98.81393122	97.83347962	96.87236366	95.93001613	95.00589183	94.09946647	93.2102357	92.33771418
200306A00066	3/6/2020	1.2	3/8/2027	3/6/2020	101.82898	98.88034495	96.03207566	93.28020325	90.62094197	88.05067692	85.56595531	83.16347811	80.84009233
200306A00087	3/8/2021	1.26	3/7/2025	3/8/2021	100.02047	99.01632252	98.0322191	97.0675682	96.12179774	95.19435789	94.28471998	93.39237551	92.51683517

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200306A00064	3/6/2020	1.2	3/8/2027	3/6/2020	101.82898	98.88034495	96.03207566	93.28020325	90.62094197	88.05067692	85.56595531	83.16347811	80.84009233
200306A00031	3/6/2020	1.01	3/6/2025	3/6/2020	99.763175	98.76307685	97.78290079	96.82205659	95.87997714	94.9561173	94.04995286	93.16097958	92.28871216
200306A00022	3/6/2020	1.2	3/8/2027	3/6/2020	101.82898	98.88034495	96.03207566	93.28020325	90.62094197	88.05067692	85.56595531	83.16347811	80.84009233
200309A00030	3/9/2020	1.11	3/9/2027	3/9/2020	101.55933	98.61220829	95.76549563	93.01522374	90.35760185	87.78901047	85.30599253	82.90524509	80.58361153
200309A00007	3/9/2020	1.11	3/9/2027	3/9/2020	101.55933	98.61220829	95.76549563	93.01522374	90.35760185	87.78901047	85.30599253	82.90524509	80.58361153
200309A00038	3/9/2020	1.26	3/11/2030	3/9/2020	104.3234	98.47788777	92.99399142	87.84754045	83.0160954	78.47881862	74.21635208	70.21070503	66.44515079
200310A00034	3/10/2020	1.41	3/11/2030	3/10/2020	105.22461	99.35245034	93.84307382	88.67224724	83.81747307	79.25785911	74.973996	70.94784473	67.16263319
200310A00028	3/10/2020	1.1	3/10/2025	3/10/2020	99.85998	98.8487725	97.85792045	96.88681444	95.93486909	95.00152191	94.08623228	93.18848032	92.30776596
200310A00021	3/10/2020	1.1	3/10/2025	3/10/2020	99.85998	98.8487725	97.85792045	96.88681444	95.93486909	95.00152191	94.08623228	93.18848032	92.30776596
200310A00005	3/10/2020	1.41	3/8/2030	3/10/2020	105.2231	99.35852579	93.85586319	88.69096368	83.84140581	79.28636626	75.00649807	70.98381875	67.20160742
200310A00015	3/10/2020	1.37	3/11/2030	3/10/2020	104.98429	99.11923366	93.61665185	88.45232543	83.60377236	79.05011498	74.77195762	70.75127414	66.97130455
200310A00038	3/10/2020	1.41	3/11/2030	3/10/2020	105.22461	99.35245034	93.84307382	88.67224724	83.81747307	79.25785911	74.973996	70.94784473	67.16263319
200310A00041	3/10/2020	1.39	3/12/2029	3/10/2020	104.71045	99.7867393	95.12236804	90.70235528	86.51266522	82.54013953	78.77243795	75.19798319	71.80590989
200310A00051	3/10/2020	1.41	3/8/2030	3/10/2020	105.2231	99.35852579	93.85586319	88.69096368	83.84140581	79.28636626	75.00649807	70.98381875	67.20160742
200310A00020	3/10/2020	1.1	3/10/2025	3/10/2020	99.85998	98.8487725	97.85792045	96.88681444	95.93486909	95.00152191	94.08623228	93.18848032	92.30776596
200310A00033	3/10/2020	0.91	3/10/2025	3/10/2020	99.824946	98.81159592	97.81868238	96.84559258	95.89173784	94.95655259	94.03949325	93.14003714	92.25768152
200310A00040	3/10/2020	1.36	3/10/2028	3/10/2020	103.54633	99.60532273	95.83538621	92.22820331	88.77590801	85.47105653	82.30660231	79.2758726	76.3725466
200310A00054	3/10/2020	1.1	3/10/2025	3/10/2020	99.85998	98.8487725	97.85792045	96.88681444	95.93486909	95.00152191	94.08623228	93.18848032	92.30776596
200310A00003	3/10/2020	1.1	3/10/2025	3/10/2020	99.85998	98.8487725	97.85792045	96.88681444	95.93486909	95.00152191	94.08623228	93.18848032	92.30776596
200310A00062	3/10/2020	1.05	3/8/2024	3/10/2020	99.990862	99.96870136	99.94656405	99.92445028	99.90236001	99.88029319	99.8582498	99.83622978	99.81423309
200311A00055	3/11/2020	1.66	12/17/2027	3/11/2020	104.40368	100.6670088	97.08384604	93.64706681	90.34992085	87.18600685	84.14925234	81.23389489	78.43446442
200311A00050	3/2/2021	1.46	3/2/2026	3/2/2021	101.31483	99.35065386	97.43442701	95.56467592	93.73998698	91.95899944	90.22040302	88.52293567	86.86538139
200311A00052	3/2/2021	1.43	2/28/2025	3/2/2021	100.18012	99.19363939	98.22647672	97.27806926	96.34787605	95.43537677	94.54007069	93.66147587	92.79912816
200311A00031	3/11/2020	1.41	12/24/2027	3/11/2020	103.47767	99.74049346	96.15772688	92.72220157	89.42711845	86.26602827	83.23281172	80.32166077	77.52706107
200312A00015	3/12/2020	1.23	3/10/2025	3/12/2020	99.994354	98.98240497	97.99082206	97.01899532	96.06633911	95.13229075	94.21630938	93.31787492	92.43648708
200312A00037	3/12/2020	1.3	3/12/2025	3/12/2020	100.07019	99.05252455	98.05544769	97.07833711	96.12059793	95.18165867	94.26097013	93.35800434	92.47225352
200312A00014	3/12/2020	1.04	3/12/2025	3/12/2020	99.962339	98.94292026	97.94416366	96.96544637	96.00617032	95.06576099	94.14366632	93.23935561	92.35231848
200316A00043	3/16/2020	1.3	3/14/2025	3/16/2020	100.07367	99.05068771	98.0485109	97.06650555	96.10406758	95.16061681	94.2355958	93.32846875	92.43872045
200316A00049	3/16/2020	1.25	3/14/2025	3/16/2020	100.02143	98.99874807	97.99685803	97.01513544	96.0529763	95.10980054	94.18505081	93.27819138	92.38870712
200316A00009	3/16/2020	1.25	3/14/2025	3/16/2020	100.02143	98.99874807	97.99685803	97.01513544	96.0529763	95.10980054	94.18505081	93.27819138	92.38870712
200316A00046	3/16/2020	1.18	3/18/2024	3/16/2020	99.983803	99.93396856	99.88420096	99.83449998	99.78486547	99.73529731	99.68579536	99.63635948	99.58698953
200316A00050	3/16/2020	1.54	3/16/2027	3/16/2020	102.88617	99.90064708	97.0171186	94.23153774	91.54003879	88.93893167	86.42469278	83.99395648	81.64350701
200316A00037	3/16/2020	1.06	3/14/2025	3/16/2020	99.986152	98.96129077	97.95730942	96.97357491	96.0094799	95.06444108	94.13789809	93.2293123	92.33816586

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200316A00042	3/16/2020	1.23	3/15/2024	3/16/2020	99.989268	99.94772677	99.90623751	99.8648004	99.82341532	99.78208217	99.74080086	99.69957128	99.65839333
200317A00045	3/19/2020	1.43	3/19/2025	3/19/2020	100.21994	99.1828991	98.16721006	97.17221843	96.1972967	95.24184251	94.30527738	93.38704558	92.48661297
200317A00027	3/17/2020	1.29	3/17/2025	3/17/2020	100.06835	99.03746228	98.02769465	97.03840635	96.06897946	95.11882069	94.18736018	93.27405032	92.37836474
200317A00023	3/17/2020	1.1	3/17/2025	3/17/2020	100.03282	98.99973195	97.98785175	96.99653156	96.02514998	95.07311047	94.13984005	93.2247882	92.32742573
200318A00038	3/18/2020	1.48	3/18/2025	3/18/2020	100.27062	99.23594771	98.22251926	97.22968899	96.25683396	95.30335612	94.3686811	93.45225702	92.55355342
200318A00013	3/18/2020	1.5	3/18/2025	3/18/2020	100.29173	99.2569405	98.24339503	97.25044939	96.27748061	95.3238906	94.38910495	93.47257174	92.57376048
210407A00012	4/7/2021	0.94	4/7/2025	4/7/2021	99.716753	98.63237146	97.57140497	96.53310185	95.5167426	94.52163789	93.54712699	92.5925763	91.65737795
210407A00013	4/7/2021	1.23	4/7/2026	4/7/2021	100.95028	98.89539393	96.89223265	94.93914134	93.03453544	91.17689277	89.3647505	87.59670233	85.87139587
201218A00014	12/18/2020	0.57	12/18/2025	12/18/2020	99.688011	97.93427774	96.21946813	94.54244501	92.902114	91.29742135	89.72735199	88.19092777	86.68720581
201221A00015	12/21/2020	0.88	12/4/2026	12/21/2020	100.67537	97.99231995	95.39356481	92.8759279	90.43637292	88.0719994	85.78003547	83.5578311	81.4028518
201221A00014	12/21/2020	0.76	12/19/2025	12/21/2020	99.785061	98.0323065	96.31842791	94.64229439	93.00281731	91.39894806	89.82967626	88.29402803	86.79106432
201223A00013	12/23/2020	0.9	12/11/2026	12/23/2020	100.74333	98.04133883	95.42475093	92.89035626	90.43508749	88.05601255	85.75032768	83.51535079	81.3485153
201223A00012	12/23/2020	0.91	12/18/2026	12/23/2020	100.784	98.06344125	95.42939244	92.87860913	90.40799257	88.01457876	85.69553164	83.44813672	81.269795
200318A00037	3/18/2020	1.35	3/18/2024	3/18/2020	99.992378	99.94253653	99.89276212	99.84305433	99.79341304	99.7438381	99.69432938	99.64488673	99.59551003
200318A00044	3/18/2020	1.17	3/18/2024	3/18/2020	99.9895	99.9395991	99.88976603	99.84000034	99.79030188	99.7406705	99.69110607	99.64160844	99.59217745
200318A00047	3/18/2020	1.29	3/18/2025	3/18/2020	100.23517	99.19828943	98.18273857	97.18786704	96.21304842	95.25768139	94.32118842	93.40301469	92.50262691
200318A00054	3/18/2020	1.56	3/18/2025	3/18/2020	100.35507	99.31991886	98.30602234	97.31273061	96.33942058	95.38549405	94.45037649	93.5335159	92.63438166
200319A00025	3/19/2020	1.39	3/21/2024	3/19/2020	99.993161	99.93502067	99.87696322	99.8189883	99.76109571	99.7032853	99.64555689	99.58791028	99.53034532
200320A00052	3/25/2020	1.47	3/25/2025	3/25/2020	100.2755	99.22224059	98.19099251	97.1810681	96.19181158	95.22259382	94.27281099	93.34188329	92.42925379
210420A00010	4/20/2021	1.08	12/12/2025	4/20/2021	100.33405	98.59465368	96.89346439	95.22934643	93.60121182	92.00801421	90.44874686	88.92244079	87.42816297
210420A00009	4/20/2021	1.08	12/5/2025	4/20/2021	100.32123	98.60010172	96.91642643	95.2690726	93.65695454	92.07902967	90.53429641	89.0217921	87.54059107
210104A00010	11/22/2021	0.88	11/20/2026	11/22/2021	100.64695	98.00112631	95.43746244	92.95288093	90.54444248	88.20933891	85.94488622	83.74851806	81.61777959
210104A00012	12/20/2021	0.89	12/18/2026	12/20/2021	100.72789	98.00812745	95.37485237	92.82482444	90.3549455	87.96225211	85.64390875	83.39720144	81.21953169
210104A00011	11/23/2021	0.88	11/23/2026	11/23/2021	100.65338	97.99950009	95.42823468	92.9364806	90.52127474	88.17978656	85.9093111	83.70726233	81.57116694
210104A00009	12/20/2021	0.89	12/18/2026	12/20/2021	100.72789	98.00812745	95.37485237	92.82482444	90.3549455	87.96225211	85.64390875	83.39720144	81.21953169
210104A00006	11/22/2021	0.88	11/20/2026	11/22/2021	100.64695	98.00112631	95.43746244	92.95288093	90.54444248	88.20933891	85.94488622	83.74851806	81.61777959
210104A00007	11/23/2021	0.88	11/23/2026	11/23/2021	100.65338	97.99950009	95.42823468	92.9364806	90.52127474	88.17978656	85.9093111	83.70726233	81.57116694
210518A00023	5/18/2021	1.17	5/18/2026	5/18/2021	100.93383	98.77080075	96.66434948	94.61258476	92.61369713	90.6659524	88.76768781	86.91730843	85.11328371
210121A00012	1/22/2021	0.64	10/15/2024	1/22/2021	99.470763	98.84955315	98.23607438	97.63018255	97.03173754	96.44060263	95.85664445	95.27973287	94.70974086
210121A00014	1/22/2021	0.64	10/25/2024	1/22/2021	99.451721	98.80392488	98.16452744	97.53336672	96.91028441	96.29512626	95.68774191	95.08798478	94.49571195
210122A00006	1/25/2021	0.61	8/15/2024	1/25/2021	99.615782	99.15712523	98.70268912	98.25241521	97.80624639	97.36412662	96.92600083	96.49181497	96.06151599
210122A00005	1/26/2021	0.6	7/15/2024	1/26/2021	99.674082	99.29904785	98.92684015	98.55742723	98.1907776	97.82686022	97.46564453	97.1071004	96.75119819
210616A00011	5/2/2022	0.95	5/2/2025	5/2/2022	99.751295	98.60077231	97.47658053	96.37782514	95.30365149	94.25324285	93.22581825	92.22063063	91.23696495

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210616A00009	2/11/2022	0.86	2/11/2025	2/11/2022	99.601479	98.66309915	97.74228971	96.83856063	95.95144041	95.08047473	94.22522572	93.38527121	92.56020401
210616A00012	3/18/2022	0.9	3/18/2025	3/18/2022	99.65839	98.62715682	97.61712187	96.62763717	95.65808091	94.70785612	93.77638949	92.86313016	91.96754865
210616A00007	3/18/2022	0.9	3/18/2025	3/18/2022	99.65839	98.62715682	97.61712187	96.62763717	95.65808091	94.70785612	93.77638949	92.86313016	91.96754865
210616A00006	2/11/2022	0.86	2/11/2025	2/11/2022	99.601479	98.66309915	97.74228971	96.83856063	95.95144041	95.08047473	94.22522572	93.38527121	92.56020401
210616A00008	5/2/2022	0.95	5/2/2025	5/2/2022	99.751295	98.60077231	97.47658053	96.37782514	95.30365149	94.25324285	93.22581825	92.22063063	91.23696495
210623A00026	6/23/2021	0.78	6/24/2024	6/23/2021	99.776649	99.45837233	99.14212805	98.8278965	98.5156585	98.20539508	97.89708752	97.59071736	97.28626632
210623A00028	6/23/2021	1.22	6/23/2026	6/23/2021	101.14723	98.88654458	96.68720969	94.5472049	92.46459052	90.43750268	88.46414981	86.54280933	84.67182456
210624A00005	6/24/2021	1.22	6/24/2026	6/24/2021	101.15018	98.88678909	96.68488116	94.54243966	92.4575224	90.42826287	88.45286667	86.52960832	84.65682811
210624A00025	6/24/2021	1.43	6/24/2027	6/24/2021	102.90363	99.65414108	96.52374272	93.50744781	90.6005073	87.79839576	85.09679955	82.4916057	79.97889142
210624A00026	6/24/2021	1.6	6/23/2028	6/24/2021	104.92096	100.6760849	96.62609029	92.76103699	89.07154741	85.54876767	82.18433554	78.97035058	75.89934623
210624A00004	6/24/2021	1.01	6/24/2025	6/24/2021	99.916339	98.62870287	97.36539428	96.12575048	94.90913322	93.71492725	92.54253928	91.39139701	90.26094819
210624A00003	6/24/2021	0.78	6/24/2024	6/24/2021	99.776649	99.45837233	99.14212805	98.8278965	98.5156585	98.20539508	97.89708752	97.59071736	97.28626632
200320A00049	3/25/2020	1.47	3/25/2025	3/25/2020	100.2755	99.22224059	98.19099251	97.1810681	96.19181158	95.22259382	94.27281099	93.34188329	92.42925379
200320A00013	3/20/2020	1.25	3/20/2024	3/20/2020	99.992637	99.9371937	99.88182894	99.8265421	99.771333	99.71620148	99.66114736	99.60617047	99.55127063
200324A00031	3/24/2020	1.64	3/22/2024	3/24/2020	100.00809	99.94717095	99.8863417	99.82560061	99.76494746	99.70438207	99.64390425	99.58351381	99.52321056
200324A00066	3/26/2020	1.81	3/26/2025	3/26/2020	100.64405	99.58603041	98.55015854	97.53574446	96.54212692	95.56867162	94.6147698	93.679837	92.76331183
200324A00013	3/25/2020	1.78	3/25/2025	3/25/2020	100.60867	99.5535102	98.52038401	97.50860849	96.51752723	95.54651046	94.59495375	93.66227672	92.74792187
200324A00012	3/25/2020	1.78	3/25/2025	3/25/2020	100.60867	99.5535102	98.52038401	97.50860849	96.51752723	95.54651046	94.59495375	93.66227672	92.74792187
200324A00051	3/24/2020	1.73	11/1/2024	3/24/2020	100.17931	99.51011332	98.84982264	98.19826119	97.55525687	96.9206421	96.29425362	95.67593239	95.06552344
200324A00029	3/24/2020	1.86	3/24/2025	3/24/2020	100.69138	99.63840156	98.60735616	97.59756401	96.60837326	95.63915847	94.6893193	93.75827924	92.84548446
200818A00018	3/31/2021	0.57	4/1/2024	3/31/2021	99.916064	99.82758808	99.73926954	99.65110797	99.56310295	99.47525406	99.38756091	99.30002307	99.21264015
200818A00016	3/31/2021	0.57	4/1/2024	3/31/2021	99.916064	99.82758808	99.73926954	99.65110797	99.56310295	99.47525406	99.38756091	99.30002307	99.21264015
200325A00042	3/25/2020	1.58	3/25/2024	3/25/2020	100.00473	99.93552074	99.86641727	99.79741966	99.72852766	99.65974105	99.59105957	99.52248299	99.45401108
200325A00044	3/25/2020	1.7	12/23/2024	3/25/2020	100.28493	99.47609703	98.68026638	97.89712708	97.12637739	96.36772504	95.62088689	94.88558859	94.16156422
200325A00009	3/27/2020	1.67	3/27/2025	3/27/2020	100.49595	99.43612781	98.39854873	97.38251967	96.38737493	95.41247598	94.45721008	93.520989	92.60324778
200325A00016	3/30/2020	1.67	3/31/2025	3/30/2020	100.50696	99.43645507	98.38863816	97.36279063	96.35822765	95.37429258	94.41035554	93.46581203	92.5400817
200325A00046	3/25/2020	1.76	3/25/2025	3/25/2020	100.58718	99.53213797	98.49913295	97.48747685	96.49651332	95.52561261	94.57417035	93.64160618	92.72736264
200325A00047	3/25/2020	1.68	9/25/2024	3/25/2020	100.1159	99.54589909	98.98236986	98.42520417	97.87429471	97.32953656	96.79082712	96.2580661	95.73115537
200325A00043	3/25/2020	1.62	6/25/2024	3/25/2020	100.0471	99.72555146	99.40607564	99.08864802	98.77324893	98.45985894	98.14845888	97.83902982	97.53155307
200326A00009	3/27/2020	1.54	3/27/2025	3/27/2020	100.35552	99.2965039	98.25972029	97.2444752	96.25010321	95.27596605	94.32145125	93.38597082	92.46896004
200326A00011	3/30/2020	1.54	3/31/2025	3/30/2020	100.3651	99.29542275	98.24841728	97.22336932	96.21959436	95.23643602	94.27326468	93.32947611	92.40449022
200326A00016	3/26/2020	1.54	3/25/2025	3/26/2020	100.35073	99.2970434	98.26537123	97.25502883	96.26536028	95.29573629	94.34555291	93.4142302	92.5012111
200327A00055	3/27/2020	1.01	3/27/2024	3/27/2020	99.962197	99.88749312	99.81290807	99.73844139	99.66409281	99.58986206	99.51574885	99.44175291	99.36787398

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200327A00061	3/31/2020	1.18	3/31/2025	3/31/2020	99.972268	98.90487173	97.8601133	96.83727956	95.83568678	94.85467937	93.89362845	92.95193051	92.02900615
200327A00051	3/27/2020	0.99	3/27/2025	3/27/2020	99.930037	98.87098858	97.83422862	96.81906013	95.82481475	94.85085147	93.89655521	92.96133553	92.0446254
200327A00046	3/27/2020	1.23	3/27/2025	3/27/2020	100.02065	98.96355457	97.92866786	96.91529223	95.92276295	94.95044238	93.99771865	93.06400439	92.14873545
200327A00030	3/27/2020	1.01	3/27/2024	3/27/2020	99.962197	99.88749312	99.81290807	99.73844139	99.66409281	99.58986206	99.51574885	99.44175291	99.36787398
200327A00045	3/27/2020	2.24	3/27/2034	3/27/2020	116.2312	106.1520892	97.04481641	88.81011996	81.35936223	74.61334553	68.50126282	62.95976997	57.93216476
200327A00048	3/27/2020	1.18	3/24/2025	3/27/2020	99.962407	98.91358814	97.88664202	96.88089037	95.89568272	94.930395	93.98442817	93.057207	92.14817889
200327A00056	3/27/2020	1.18	3/27/2025	3/27/2020	99.966634	98.90985307	97.8752723	96.86219821	95.86996613	94.89793856	93.94550372	93.01207432	92.09708632
200327A00059	3/27/2020	1.01	3/27/2024	3/27/2020	99.962197	99.88749312	99.81290807	99.73844139	99.66409281	99.58986206	99.51574885	99.44175291	99.36787398
200327A00073	3/27/2020	0.99	3/27/2025	3/27/2020	99.930037	98.87098858	97.83422862	96.81906013	95.82481475	94.85085147	93.89655521	92.96133553	92.0446254
200327A00060	3/27/2020	1.18	3/27/2025	3/27/2020	99.966634	98.90985307	97.8752723	96.86219821	95.86996613	94.89793856	93.94550372	93.01207432	92.09708632
200327A00031	3/27/2020	1.18	3/27/2025	3/27/2020	99.966634	98.90985307	97.8752723	96.86219821	95.86996613	94.89793856	93.94550372	93.01207432	92.09708632
200327A00037	3/27/2020	1.18	3/27/2026	3/27/2020	101.08174	99.04954142	97.06807462	95.13574262	93.25100685	91.41238843	89.61846542	87.8678701	86.15928649
200327A00035	3/27/2020	0.83	3/27/2024	3/27/2020	99.957993	99.88319767	99.80852244	99.73396676	99.65953034	99.58521289	99.51101412	99.43693374	99.36297147
200327A00043	3/27/2020	1.48	3/27/2028	3/27/2020	104.62539	100.6033996	96.75765348	93.07949857	89.56075454	86.19368515	82.97097162	79.88568767	76.9312763
200327A00042	3/27/2020	0.83	3/27/2024	3/27/2020	99.957993	99.88319767	99.80852244	99.73396676	99.65953034	99.58521289	99.51101412	99.43693374	99.36297147
200327A00047	3/27/2020	0.99	3/27/2025	3/27/2020	99.930037	98.87098858	97.83422862	96.81906013	95.82481475	94.85085147	93.89655521	92.96133553	92.0446254
200824A00020	8/26/2020	1.57	8/26/2025	8/26/2020	100.83792	99.38107292	97.9525336	96.55154947	95.17739515	93.8293702	92.50679806	91.209025	89.9354192
200826A00028	8/28/2020	1.08	8/28/2024	8/28/2020	99.825906	99.3316095	98.84219217	98.35758242	97.87770971	97.40250487	96.93190008	96.46582881	96.00422582
200826A00029	8/28/2020	1.16	11/27/2024	8/28/2020	99.804446	99.06724224	98.34087677	97.62511206	96.91971752	96.22446921	95.53914957	94.86354724	94.19745681
200826A00039	8/28/2020	1.03	7/29/2024	8/28/2020	99.82447	99.41115157	99.0012454	98.59470937	98.19150209	97.79158282	97.39491151	97.00144875	96.61115576
200826A00038	8/28/2020	1.11	8/28/2024	8/28/2020	99.840925	99.34658471	98.85712411	98.3724714	97.89255603	97.41730883	96.94666198	96.48054893	96.01890446
200826A00021	8/26/2020	0.83	8/26/2025	8/26/2020	99.730576	98.2823381	96.86225702	95.46958574	94.10360283	92.76361161	91.44893916	90.15893527	88.89297149
200826A00019	8/26/2020	0.98	8/26/2026	8/26/2020	100.7183	98.29778002	95.94748193	93.66497299	91.44791773	89.29407558	87.2012963	85.16751582	83.19075217
200330A00028	3/30/2020	1.09	3/28/2025	3/30/2020	99.870574	98.81170136	97.77512943	96.76016047	95.76612527	94.79238199	93.83831478	92.90333249	91.98686742
200330A00038	3/30/2020	1.79	3/29/2030	3/30/2020	107.53507	101.5488225	95.93363321	90.66459622	85.71860255	81.07420139	76.71147268	72.61191024	68.75831442
200330A00066	3/30/2020	1.08	3/31/2025	3/30/2020	99.863148	98.79638533	97.75225108	96.73003241	95.72904579	94.74863586	93.78817394	92.84705673	91.92470502
200330A00007	3/30/2020	0.93	4/1/2024	3/30/2020	99.948022	99.85951887	99.77117294	99.68298402	99.59495169	99.50707554	99.41935517	99.33179017	99.24438013
200330A00011	3/30/2020	0.93	4/1/2024	3/30/2020	99.948022	99.85951887	99.77117294	99.68298402	99.59495169	99.50707554	99.41935517	99.33179017	99.24438013
200330A00044	3/30/2020	1.09	3/28/2025	3/30/2020	99.870574	98.81170136	97.77512943	96.76016047	95.76612527	94.79238199	93.83831478	92.90333249	91.98686742
200330A00037	3/30/2020	1.09	3/28/2025	3/30/2020	99.870574	98.81170136	97.77512943	96.76016047	95.76612527	94.79238199	93.83831478	92.90333249	91.98686742
200330A00006	3/30/2020	0.9	3/28/2025	3/30/2020	99.833793	98.77264652	97.7338901	96.71682181	95.72076874	94.74508552	93.78915299	92.85237679	91.93418625
200330A00008	3/30/2020	1.09	3/28/2025	3/30/2020	99.870574	98.81170136	97.77512943	96.76016047	95.76612527	94.79238199	93.83831478	92.90333249	91.98686742
200330A00054	3/30/2021	1.19	3/30/2026	3/30/2021	100.8432	98.81085519	96.82929803	94.89692117	93.01218207	91.17359821	89.3797442	87.62924916	85.92079416

	Parallel-Shift Sensitivity Analysis												
2/29/2024					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	1/27/2021	104.43852	99.1698311	94.19675192	89.50123911	85.06643857	80.87660103	76.91700423	73.17388103	69.63435286
210127A00008	1/27/2021	0.93	1/27/2027	1/27/2021	100.91265	98.08793763	95.35617728	92.71382145	90.15747991	87.68390969	85.29000782	82.97280451	80.72945662
210127A00010	1/27/2021	1.41	7/26/2030	1/27/2021	105.28794	99.06852107	93.25426619	87.81677943	82.72979233	77.96899224	73.51186753	69.33756576	65.42676367
210129A00002	2/3/2021	0.59	7/25/2024	2/3/2021	99.649082	99.24702755	98.84821364	98.45260073	98.0601504	97.67082478	97.28458664	96.90139933	96.52122679
210201A00001	2/1/2021	0.77	12/16/2025	2/1/2021	99.800142	98.05500565	96.34842329	94.67926516	93.04644377	91.44891233	89.88566285	88.35572432	86.85816104
210201A00003	2/2/2021	0.74	10/15/2025	2/2/2021	99.663124	98.08255924	96.53440218	95.01772253	93.53162506	92.07524833	90.64776308	89.24837074	87.87630195
210201A00007	2/3/2021	0.57	8/15/2024	2/3/2021	99.59719	99.13858392	98.68419788	98.23397372	97.78785433	97.34578365	96.90770664	96.47356925	96.04331841
200909A00001	9/9/2020	0.98	9/8/2028	9/9/2020	102.96993	98.55212342	94.34717988	90.34375967	86.53118911	82.89941502	79.43896533	76.14091239	72.99683884
210208A00008	2/11/2021	0.78	11/17/2025	2/11/2021	99.767063	98.09865622	96.46577063	94.86733654	93.30232802	91.76976008	90.26868665	88.7981986	87.35742191
210208A00004	2/11/2021	0.76	10/15/2025	2/11/2021	99.69579	98.11494935	96.56652168	95.0495762	93.56321754	92.10658414	90.67884663	89.27920631	87.90689371
210216A00011	2/17/2021	0.83	12/15/2025	2/17/2021	99.88953	98.14646941	96.44185859	94.77456763	93.14350947	91.54763797	89.98594597	88.45746345	86.96125587
210217A00009	2/18/2021	0.68	11/15/2024	2/18/2021	99.453265	98.74950241	98.05565406	97.37151176	96.69687292	96.03154059	95.37532321	94.72803447	94.08949308
210217A00008	2/18/2021	0.63	8/15/2024	2/18/2021	99.625078	99.16639589	98.71193473	98.26163595	97.81544243	97.3732981	96.93514792	96.50093784	96.07061477
210218A00009	2/19/2021	0.62	7/15/2024	2/19/2021	99.681667	99.30661568	98.93439076	98.56496072	98.19829405	97.83435973	97.47312718	97.1145663	96.75864741
210218A00011	2/22/2021	0.85	10/24/2025	2/22/2021	99.853495	98.24795739	96.67565149	95.13561097	93.62690678	92.1486455	90.69996757	89.28004572	87.88808337
210218A00010	2/18/2021	1.72	2/18/2031	2/18/2021	107.57257	100.7569451	94.41881956	88.5223124	83.03441094	77.92472858	73.16528348	68.73029693	64.59600959
210629A00005	6/29/2021	1.25	6/29/2026	6/29/2021	101.23504	98.957255	96.74166981	94.5862518	92.48904561	90.44817073	88.4618181	86.52824699	84.64578204
210629A00014	6/29/2021	1.78	12/28/2029	6/29/2021	107.32161	101.5786164	96.17835202	91.0986471	86.31887537	81.819837	77.58365304	73.59366831	69.83436181
210629A00012	6/29/2021	1.14	12/29/2025	6/29/2021	100.4935	98.70820599	96.9630026	95.25675128	93.5883553	91.9567559	90.36093076	88.79989243	87.27268696
210629A00009	6/29/2021	1.14	12/31/2025	6/29/2021	100.49754	98.7070187	96.95680767	95.24576856	93.57280352	91.93685227	90.33689053	88.77192862	87.24101001
210629A00015	6/29/2021	1.89	6/27/2031	6/29/2021	109.06401	101.8688556	95.19916555	89.0138789	83.27534156	77.94900472	73.00315438	68.40866567	64.13877963
210701A00007	7/1/2021	1.22	7/1/2026	7/1/2021	101.17053	98.88825779	96.66844759	94.50905491	92.40811599	90.36374205	88.37411592	86.43748895	84.55217798
210706A00015	7/6/2021	1.06	12/31/2025	7/6/2021	100.35002	98.56090067	96.81205927	95.10236444	93.43071902	91.79606341	90.19737399	88.63366169	87.10397061
210706A00014	7/6/2021	1.15	6/26/2026	7/6/2021	100.99316	98.72626604	96.52109597	94.37562585	92.28790965	90.25607657	88.27832768	86.35293265	84.47822671
210706A00006	7/6/2021	1.15	7/6/2026	7/6/2021	101.01871	98.72539698	96.49518836	94.32600991	92.21586725	90.16284256	88.16509119	86.2208384	84.32837634
210707A00002	7/7/2021	1.12	6/26/2026	7/7/2021	100.92333	98.657261	96.45289827	94.30821853	92.22127626	90.19020116	88.21319474	86.28852712	84.41453396
210707A00008	7/9/2021	2.44	7/7/2031	7/9/2021	113.09922	105.7348888	98.90712315	92.5739871	86.69702802	81.24096713	76.17342283	71.46465939	67.0873586
210709A00005	7/9/2021	1.69	7/9/2031	7/9/2021	107.63107	100.4574964	93.81104037	87.65031628	81.9373822	76.63743779	71.71854973	67.15140249	62.90907183
210709A00006	7/13/2021	2.4	7/11/2031	7/13/2021	112.82152	105.45714	98.63025441	92.29879476	86.42418748	80.9710475	75.90689987	71.20192695	66.82873881
210712A00010	6/27/2022	1.05	6/27/2025	6/27/2022	99.977395	98.68186651	97.40997716	96.1611185	94.93470299	93.73016295	92.5469497	91.38453275	90.2423991
210712A00008	6/27/2022	1.05	6/27/2025	6/27/2022	99.977395	98.68186651	97.40997716	96.1611185	94.93470299	93.73016295	92.5469497	91.38453275	90.2423991
210714A00020	7/14/2021	0.9	3/14/2025	7/14/2021	99.655821	98.63517061	97.63528793	96.65554462	95.69533736	94.75408668	93.83123585	92.92624974	92.0386138
210719A00009	7/19/2021	1.04	7/17/2026	7/19/2021	100.78292	98.46419484	96.21002755	94.01827113	91.88686217	89.8138175	87.79723052	85.8352678	83.92616586

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210719A00004	7/19/2021	1	4/20/2026	7/19/2021	100.49587	98.41105371	96.37937095	94.39910063	92.46859193	90.5862602	88.75058366	86.96010044	85.2134056
210721A00009	7/21/2021	1.7	7/21/2031	7/21/2021	107.72418	100.5180885	93.84356847	87.65871935	81.92514201	76.6076293	71.67388602	67.09427474	62.84158495
210722A00008	7/21/2023	1.84	7/22/2030	7/21/2023	108.02393	101.7287206	95.84134739	90.33332842	85.17830985	80.35189454	75.83148761	71.59615484	67.62649284
210722A00009	7/21/2023	1.96	7/22/2032	7/21/2023	110.64399	102.4112071	94.85599462	87.91902217	81.54643478	75.68932419	70.30325183	65.34782007	60.78628644
210729A00003	7/29/2021	1.11	7/29/2026	7/29/2021	100.97753	98.62562756	96.3400045	94.11842852	91.95875604	89.85892788	87.81696548	85.83096717	83.89910473
210729A00004	7/29/2021	1.74	7/29/2031	7/29/2021	108.03171	100.795073	94.09345374	87.88457376	82.12970031	76.79332848	71.84289725	67.24853186	62.98280988
210729A00006	7/29/2021	1.87	11/30/2032	7/29/2021	110.22723	101.6868147	93.87620964	86.7291383	80.18566876	74.191577	68.69777568	63.65980284	59.03736401
210803A00005	8/5/2021	2.06	8/4/2026	8/5/2021	103.30387	100.907881	98.57964264	96.31686357	94.11734157	91.97896164	89.8996921	87.87758075	85.91075123
200331A00007	3/31/2020	0.72	3/29/2024	3/31/2020	99.945953	99.86563314	99.78544638	99.70539243	99.62547095	99.54568161	99.4660241	99.38649808	99.30710322
200331A00016	3/31/2020	1.11	3/31/2026	3/31/2020	100.94672	98.90547129	96.91536273	94.97476974	93.0821352	91.23596278	89.43481402	87.67730562	85.96210686
200331A00017	3/31/2020	0.9	3/31/2025	3/31/2020	99.83699	98.76786856	97.72146704	96.69706844	95.69398543	94.71155902	93.74915712	92.80617317	91.88202488
200331A00014	3/31/2020	0.72	3/29/2024	3/31/2020	99.945953	99.86563314	99.78544638	99.70539243	99.62547095	99.54568161	99.4660241	99.38649808	99.30710322
200331A00022	4/1/2020	1.07	4/1/2025	4/1/2020	99.853503	98.78415605	97.73755054	96.71296807	95.70971997	94.72714604	93.76461304	92.82151333	91.89726362
200401A00023	4/1/2020	0.82	4/1/2025	4/1/2020	99.750634	98.67936708	97.63092702	96.60459132	95.59966766	94.61549234	93.65142882	92.70686633	91.78121861
200401A00001	4/1/2020	1.01	4/1/2025	4/1/2020	99.787867	98.71890151	97.67267224	96.6484605	95.64557777	94.66336395	93.70118595	92.75843624	91.83453164
200401A00012	4/2/2020	1	4/2/2025	4/2/2020	99.778002	98.70645523	97.65775718	96.63118417	95.62604256	94.6416674	93.677421	92.73269153	91.80689169
200401A00013	4/1/2020	1.01	4/1/2025	4/1/2020	99.787867	98.71890151	97.67267224	96.6484605	95.64557777	94.66336395	93.70118595	92.75843624	91.83453164
200402A00044	4/2/2020	1.65	4/2/2030	4/2/2020	106.69216	100.7207684	95.12053057	89.86647896	84.93545415	80.30596154	75.95804334	71.87316096	68.03408703
200402A00014	4/2/2020	0.84	4/2/2025	4/2/2020	99.773608	98.69955899	97.6484535	96.61956313	95.61219033	94.62566644	93.65935026	92.71262661	91.78490506
200402A00010	4/2/2020	0.89	4/2/2024	4/2/2020	99.942768	99.8515153	99.76043186	99.66951727	99.57877104	99.48819273	99.39778184	99.30753793	99.21746053
200402A00041	4/2/2020	1.03	4/2/2025	4/2/2020	99.810903	98.73916385	97.6902768	96.66351757	95.65819244	94.67363641	93.70921172	92.76430646	91.8383333
200402A00009	4/2/2020	1.03	4/2/2025	4/2/2020	99.810903	98.73916385	97.6902768	96.66351757	95.65819244	94.67363641	93.70921172	92.76430646	91.8383333
200402A00013	4/2/2020	0.89	4/2/2024	4/2/2020	99.942768	99.8515153	99.76043186	99.66951727	99.57877104	99.48819273	99.39778184	99.30753793	99.21746053
210219A00004	2/19/2021	0.91	2/19/2026	2/19/2021	100.18288	98.2611552	96.38573424	94.55521982	92.76826534	91.02357373	89.3198953	87.65602564	86.03080365
210219A00008	2/22/2021	0.86	12/1/2025	2/22/2021	99.926316	98.21913672	96.54891983	94.91453608	93.31490257	91.74898033	90.2157721	88.71432013	87.24370423
210224A00002	2/25/2021	0.88	11/3/2025	2/25/2021	99.916948	98.28466326	96.68653913	95.12156815	93.58878254	92.08725225	90.61608307	89.17441492	87.76142016
210224A00004	2/26/2021	0.91	12/18/2025	2/26/2021	100.05534	98.30265981	96.58879581	94.91261416	93.27302538	91.66898029	90.09946819	88.56351505	87.0601819
210224A00007	2/26/2021	0.68	10/21/2024	2/26/2021	99.485304	98.84804589	98.2189189	97.597768	96.98444223	96.37879444	95.78068112	95.18996233	94.60650159
210224A00006	2/26/2021	0.88	10/21/2025	2/26/2021	99.899416	98.30127603	96.73610848	95.20295859	93.70090819	92.22907417	90.78660672	89.37268778	87.98652951
210224A00003	2/26/2021	0.9	12/3/2025	2/26/2021	99.999465	98.28644619	96.61061362	94.97083784	93.36603511	91.79516525	90.25722936	88.75126776	87.27635802
210225A00016	3/1/2021	0.88	7/15/2025	3/1/2021	99.769682	98.42940651	97.11337705	95.82099293	94.55167286	93.30485416	92.07999201	90.87655876	89.69404324
210225A00012	3/1/2021	0.91	8/25/2025	3/1/2021	99.849329	98.40274301	96.9842341	95.59305766	94.22849539	92.8898536	91.57646222	90.28767376	89.02286236
210225A00015	3/1/2021	0.7	8/26/2024	3/1/2021	99.639045	99.15067867	98.6670861	98.18819716	97.71394347	97.24425799	96.77907494	96.31832981	95.86195933

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210225A00013	3/1/2021	0.93	10/6/2025	3/1/2021	99.960766	98.40107276	96.87304801	95.3757941	93.90844712	92.47017529	91.0601774	89.67768142	88.32194316
210225A00003	3/1/2021	0.93	9/24/2025	3/1/2021	99.926448	98.39907252	96.90232962	95.43536718	93.99736403	92.5875288	91.20509863	89.84933782	88.51953666
210225A00006	2/25/2021	0.98	2/25/2026	2/25/2021	100.33764	98.39725626	96.50400931	94.65646634	92.85324559	91.09301658	89.37449783	87.6964547	86.05769729
210225A00007	2/25/2021	1.79	8/23/2030	2/25/2021	107.74648	101.3801131	95.43153221	89.87119146	84.67177882	79.80803602	75.25659412	70.99582327	67.00569497
210226A00004	3/1/2021	1.04	12/5/2025	3/1/2021	100.25032	98.52983988	96.84679891	95.20006788	93.58856139	92.01123718	90.46709397	88.95516938	87.47453801
210226A00002	2/26/2021	0.86	2/26/2025	2/26/2021	99.605975	98.62788025	97.668858	96.72835565	95.80584138	94.90080358	94.01274984	93.14120609	92.28571577
210826A00009	8/26/2021	1.18	8/26/2026	8/26/2021	101.21714	98.79032452	96.43387021	94.14534007	91.92239457	89.76278919	87.66436996	85.62506915	83.6429013
210826A00008	8/26/2021	0.89	2/26/2025	8/26/2021	99.635998	98.65774146	97.69856047	96.7579015	95.83523272	94.93004244	94.04183822	93.17014595	92.31450901
210826A00013	8/26/2021	1.97	2/28/2033	8/26/2021	111.33391	102.5216414	94.48084634	87.13981948	80.43386527	74.30458041	68.69921288	63.57008918	58.87410216
210302A00005	3/5/2021	0.92	9/10/2025	3/5/2021	99.887069	98.3977651	96.93793266	95.50676986	94.10350341	92.72738739	91.37770199	90.05375241	88.75486772
210303A00006	3/4/2021	0.97	10/10/2025	3/4/2021	100.03119	98.4605121	96.92186324	95.4143275	93.93702632	92.48911402	91.06977623	89.67822848	88.31371473
210304A00006	3/4/2021	1.02	3/4/2026	3/4/2021	100.43424	98.47390618	96.56154751	94.69568925	92.87491343	91.09785526	89.36320069	87.6696842	86.01608659
210304A00002	3/5/2021	0.93	7/10/2025	3/5/2021	99.834052	98.50622763	97.20221159	95.92141934	94.66328482	93.42725993	92.21281382	91.01943218	89.84661666
210305A00006	3/8/2021	1.02	8/11/2025	3/8/2021	99.995967	98.58433746	97.1994649	95.84065542	94.50723901	93.19856814	91.91401683	90.65297976	89.41487138
210308A00009	3/8/2021	0.62	3/8/2024	3/8/2021	99.980907	99.95875385	99.93662421	99.91451809	99.89243546	99.87037629	99.84834052	99.82632812	99.80433905
210309A00004	3/11/2021	0.87	11/25/2024	3/11/2021	99.595557	98.86444098	98.14400478	97.43401558	96.73424757	96.04448136	95.36450385	94.6941079	94.03309223
210309A00002	3/11/2021	0.77	7/25/2024	3/11/2021	99.722316	99.32008362	98.92109281	98.52530405	98.13267887	97.74317942	97.35676846	96.97340933	96.59306595
210907A00013	9/9/2021	2.14	9/9/2025	9/9/2021	101.75771	100.2562229	98.78438128	97.34138459	95.92645608	94.53884645	93.17783256	91.84271637	90.53282379
210907A00014	9/9/2021	2.45	9/9/2026	9/9/2021	104.47371	101.9681784	99.5358581	97.17418396	94.88069479	92.65303088	90.48892908	88.38621819	86.34281463
210907A00015	9/9/2021	2.21	9/9/2026	9/9/2021	103.86593	101.3681816	98.94346984	96.58923569	94.30302309	92.08247725	89.92533976	87.82944397	85.79271067
210907A00004	9/7/2021	2.01	9/7/2033	9/7/2021	112.16523	102.8479522	94.38714161	86.69936105	79.70970605	73.35089163	67.56244225	62.28997145	57.48454097
210907A00006	9/7/2021	2.1	9/7/2034	9/7/2021	113.75735	103.4735657	94.22064092	85.88935631	78.382596	71.61395033	65.5064867	59.99166697	55.00839334
210907A00008	9/7/2021	2.42	9/7/2038	9/7/2021	119.45552	105.4453653	93.28497961	82.71740903	73.52272317	65.51250998	58.5252143	52.42218588	47.08432593
210907A00009	9/7/2021	2.5	9/7/2039	9/7/2021	121.88101	106.885017	93.97949302	82.85768086	73.25946997	64.9640893	57.78397482	51.55961945	46.15524384
210907A00007	9/7/2021	2.35	9/4/2037	9/7/2021	117.74746	104.679274	93.2355094	83.20366704	74.40012289	66.66607025	59.86405257	53.87499575	48.59566557
210907A00011	9/7/2021	2.65	9/6/2041	9/7/2021	127.94618	110.8534082	96.38315608	84.11091534	73.68333425	64.80594865	57.2330837	50.75953129	45.2136835
210907A00010	9/7/2021	2.58	9/7/2040	9/7/2021	124.84024	108.8080596	95.12484964	83.42795922	73.41272752	64.82294121	57.44290124	51.09082294	45.61333984
210310A00003	3/15/2021	0.79	8/26/2024	3/15/2021	99.683605	99.19511115	98.71139156	98.23237648	97.75799754	97.28818767	96.8228811	96.36201329	95.90552097
210311A00007	3/11/2021	1.06	3/11/2026	3/11/2021	100.53023	98.55068086	96.6198528	94.73623456	92.89837524	91.1048789	89.35440206	87.64565131	85.97738105
210312A00008	3/12/2021	1.13	3/12/2026	3/12/2021	100.67509	98.69143021	96.75662572	94.86915897	93.02757361	91.2304685	89.47649525	87.76435579	86.0928001
210315A00003	3/15/2021	1.13	3/13/2026	3/15/2021	100.67747	98.69118213	96.75385214	94.86395973	93.02004385	91.22069895	89.46457245	87.75036233	86.07681482
210914A00012	9/14/2021	1.18	9/14/2027	9/14/2021	102.76174	99.29023001	95.95389204	92.74674606	89.66310667	86.69757057	83.84500094	81.10051269	78.45945865
210914A00014	9/14/2021	0.97	9/14/2026	9/14/2021	101.06553	98.58319582	96.17410757	93.83567886	91.56542867	89.36097912	87.22005043	85.14045619	83.12009889

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210914A00017	9/14/2021	1.32	9/14/2028	9/14/2021	104.53203	100.0630161	95.80947607	91.75991752	87.9035175	84.23008387	80.73001505	77.3942627	74.21429682
210914A00015	9/14/2021	0.81	9/15/2025	9/14/2021	99.967597	98.46008507	96.9826097	95.534345	94.11449529	92.72229343	91.35699948	90.01789947	88.70430433
210914A00018	9/14/2021	1.43	9/14/2029	9/14/2021	105.92235	100.4633646	95.31757316	90.46541602	85.88865746	81.57028553	77.49442372	73.64624941	70.0119187
210318A00007	3/22/2021	1.41	3/21/2024	3/22/2021	99.994333	99.93619227	99.87813388	99.82015802	99.76226451	99.70445317	99.64672382	99.58907629	99.53151041
210319A00003	3/19/2021	0.95	3/19/2025	3/19/2021	99.711948	98.67777085	97.66490426	96.67269511	95.70051684	94.74776799	93.81387098	92.89827091	92.00043447
220203A00009	2/3/2022	1.99	2/2/2027	2/3/2022	104.03192	101.1453739	98.35393521	95.65396028	93.04196838	90.51463073	88.06876293	85.7013179	83.40937913
220204A00004	2/4/2022	2.08	1/8/2027	2/4/2022	104.17084	101.3476732	98.61551999	95.97096921	93.41075855	90.93176484	88.53099738	86.20559152	83.95280271
220204A00005	2/4/2022	1.83	1/10/2025	2/4/2022	100.44001	99.58248743	98.73956138	97.91086081	97.09602785	96.29471654	95.50659234	94.73133169	93.96862154
220209A00011	2/9/2022	2.14	1/11/2027	2/9/2022	104.35784	101.5241881	98.7821036	96.12814586	93.55902486	91.07159124	88.66282959	86.32985195	84.06989173
220209A00010	2/9/2022	2.14	1/11/2027	2/9/2022	104.35784	101.5241881	98.7821036	96.12814586	93.55902486	91.07159124	88.66282959	86.32985195	84.06989173
220209A00012	2/9/2022	1.98	7/29/2025	2/9/2022	101.34272	99.95465262	98.59229543	97.25499583	95.94212297	94.65306675	93.38723694	92.14406236	90.92299017
220209A00013	2/9/2022	1.98	7/29/2025	2/9/2022	101.34272	99.95465261	98.59229543	97.25499583	95.94212297	94.65306675	93.38723694	92.14406236	90.92299017
220214A00012	2/14/2022	2.47	12/28/2029	2/14/2022	111.33171	105.4739287	99.96376115	94.77878335	89.89813191	85.30238373	80.9734496	76.89447627	73.04975606
220214A00010	2/14/2022	2.46	12/21/2029	2/14/2022	111.25023	105.4129011	99.92097942	94.75222858	89.88595189	85.30288165	80.98507323	76.91580772	73.07950208
210916A00008	9/16/2021	1.48	9/15/2028	9/16/2021	104.66602	100.2094512	95.96734596	91.92827421	88.08147946	84.41683129	80.92478553	77.59634717	74.42303584
210916A00009	9/16/2021	2.25	9/16/2036	9/16/2021	116.09267	103.9336226	93.19398404	83.69927638	75.29733566	67.85535658	61.25734166	55.40189759	50.20033013
210916A00003	9/16/2021	0.75	9/16/2024	9/16/2021	99.610199	99.06577117	98.52727965	97.99462757	97.46772025	96.94646506	96.43077134	95.92055036	95.41571529
210917A00012	9/17/2021	1.2	9/11/2026	9/17/2021	101.31449	98.84403678	96.44615896	94.11830326	91.85802201	89.66296873	87.53089326	85.45963712	83.44712917
210917A00004	9/17/2021	1.03	9/17/2025	9/17/2021	100.08533	98.57529953	97.09534815	95.64465165	94.22241196	92.82785963	91.46025254	90.11887468	88.80303502
210917A00003	9/17/2021	0.8	9/17/2024	9/17/2021	99.62561	99.07858414	98.53755034	98.00241002	97.47306722	96.94942804	96.4314006	95.918895	95.41182322
220216A00003	2/16/2022	2.49	12/14/2029	2/16/2022	111.40009	105.576601	100.0966167	94.93805462	90.08037022	85.50443751	81.19244361	77.12779191	73.2950127
220216A00002	2/16/2022	2.09	2/14/2025	2/16/2022	100.79281	99.84030546	98.90574724	97.98863455	97.0884823	96.2048232	95.33720702	94.48519979	93.64838306
220217A00015	2/17/2022	2.28	2/16/2027	2/17/2022	104.97189	102.0311692	99.18851077	96.44011431	93.78234643	91.21173457	88.72495888	86.31884459	83.99035483
220217A00012	2/17/2022	2.28	2/16/2027	2/17/2022	104.97189	102.0311692	99.18851077	96.44011431	93.78234643	91.21173457	88.72495888	86.31884459	83.99035483
220217A00011	2/17/2022	2.08	2/14/2025	2/17/2022	100.78313	99.83067741	98.8961688	97.97910509	97.07900117	96.19538979	95.32782073	94.47586001	93.63908922
220217A00013	2/17/2022	2.08	2/14/2025	2/17/2022	100.78313	99.83067741	98.8961688	97.97910509	97.07900117	96.19538979	95.32782073	94.47586001	93.63908922
220217A00017	2/17/2022	2.27	1/29/2027	2/17/2022	104.82887	101.9415426	99.14890969	96.44735786	93.83343499	91.30383899	88.85541047	86.48512574	84.19009016
220217A00016	2/17/2022	2.24	9/15/2026	2/17/2022	103.97782	101.4623107	99.02067783	96.65031896	94.34873733	92.11353981	89.94243187	87.83321279	85.78377123
220217A00018	2/17/2022	2.28	2/17/2027	2/17/2022	104.97832	102.0346235	99.18917843	96.43817498	93.77796946	91.20507962	88.71617644	86.30807658	83.97773505
220217A00020	2/17/2022	2.08	2/13/2025	2/17/2022	100.77949	99.82971212	98.89778442	97.98320564	97.08549467	96.20418802	95.3388391	94.48901737	93.65430766
220218A00003	2/18/2022	2.16	9/4/2026	2/18/2022	103.71047	101.2282985	98.8184514	96.47840539	94.20573858	91.99812835	89.85334664	87.7692554	85.74380243
220222A00018	2/22/2022	2.5	12/19/2031	2/22/2022	114.21577	106.3885782	99.16166876	92.48575155	86.31582291	80.61077598	75.33304467	70.44828193	65.92506865
210920A00015	9/9/2022	1.28	9/9/2026	9/9/2022	101.51079	99.04319399	96.64796533	94.32256115	92.06454527	89.87158195	87.74143115	85.67194385	83.66105784

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220224A00010	2/24/2022	2.04	3/10/2025	2/24/2022	100.83161	99.81503808	98.81890135	97.84258386	96.88549852	95.94708124	95.02678979	94.12410278	93.23851864
220224A00023	2/24/2022	2.15	3/16/2026	2/24/2022	102.77465	100.7586214	98.79229839	96.87413137	95.0026334	93.17637428	91.39397789	89.65411975	87.95552467
220224A00018	2/24/2022	2.15	3/16/2026	2/24/2022	102.77465	100.7586214	98.79229839	96.87413137	95.0026334	93.17637428	91.39397789	89.65411975	87.95552467
220225A00014	2/25/2022	2.42	2/23/2029	2/25/2022	109.80041	104.7961622	100.051518	95.55165244	91.28266619	87.23151979	83.3859761	79.73454684	76.26644298
220225A00015	2/25/2022	2.26	2/25/2027	2/25/2022	104.96991	102.0032788	99.1364142	96.36541267	93.68654794	91.09626014	88.59114729	86.16795739	83.82358087
210920A00014	9/9/2022	1.28	9/9/2026	9/9/2022	101.51079	99.04319399	96.64796533	94.32256115	92.06454527	89.87158195	87.74143115	85.67194385	83.66105784
220301A00015	3/1/2022	2	1/4/2027	3/1/2022	103.92303	101.1138011	98.3948476	95.76280048	93.2144342	90.7466603	88.35652081	86.04118199	83.79792849
220301A00013	3/1/2022	2.01	2/16/2027	3/1/2022	104.17026	101.2415017	98.41050677	95.6734859	93.02681512	90.46703092	87.99082213	85.59502233	83.27660265
220301A00014	3/1/2022	1.85	1/10/2025	3/1/2022	100.45745	99.59984112	98.75683368	97.9280527	97.11314026	96.3117504	95.52354856	94.74821115	93.98542511
220302A00010	3/2/2022	2.14	1/13/2027	3/2/2022	104.368	101.5290084	98.78191231	96.12325453	93.54972765	91.05816602	88.64553883	86.30894364	84.04560017
220302A00011	3/2/2022	2.14	1/13/2027	3/2/2022	104.368	101.5290084	98.78191231	96.12325453	93.54972765	91.05816602	88.64553883	86.30894364	84.04560017
210928A00007	9/28/2021	0.88	9/27/2024	9/28/2021	99.651064	99.07722596	98.50996776	97.94917696	97.39474355	96.84655997	96.3045211	95.76852413	95.23846857
210928A00009	9/28/2021	2.18	9/28/2033	9/28/2021	113.82228	104.3759593	95.80047971	88.01068283	80.93015534	74.49028912	68.62944769	63.29222545	58.42878901
210928A00008	9/28/2021	1.35	9/28/2026	9/28/2021	101.75564	99.23375396	96.78686176	94.41228219	92.10745059	89.86991033	87.69730745	85.58738566	83.53798152
210928A00010	9/28/2021	1.12	9/26/2025	9/28/2021	100.24579	98.71014756	97.20535831	95.7305635	94.28493346	92.8676688	91.47799899	90.11518107	88.7784984
210929A00011	3/16/2022	1.03	3/14/2025	3/16/2022	99.79162	98.77021367	97.76958539	96.78910692	95.82817468	94.88620897	93.96265283	93.05697092	92.16864846
210929A00012	3/16/2022	1.03	3/14/2025	3/16/2022	99.79162	98.77021367	97.76958539	96.78910692	95.82817468	94.88620897	93.96265283	93.05697092	92.16864846
210525A00004	5/25/2021	1.02	12/19/2025	5/25/2021	100.25595	98.49882198	96.7806461	95.10029416	93.45667533	91.84873892	90.27547252	88.73590028	87.22908127
210526A00017	5/26/2021	2.13	5/26/2033	5/26/2021	113.01311	103.9119043	95.62370704	88.0713835	81.1854983	74.90351167	69.16906157	63.93132395	59.14444231
210526A00018	5/26/2021	1.11	5/26/2026	5/26/2021	100.81929	98.63686519	96.51196389	94.44265015	92.42706906	90.46344366	88.55007097	86.68531811	84.86761884
210526A00014	5/26/2021	1.01	12/19/2025	5/26/2021	100.23784	98.48087908	96.76286848	95.08267878	93.43921925	91.83143927	90.25832651	88.71890519	87.21223447
220304A00004	3/4/2022	2.12	12/29/2028	3/4/2022	108.06067	103.2498768	98.68189514	94.34324513	90.2212619	86.30404242	82.58039581	79.0397973	75.67234529
220308A00011	3/8/2022	2.07	1/10/2025	3/8/2022	100.64924	99.79073163	98.94682903	98.11716346	97.3013768	96.49912287	95.71006693	94.9338852	94.17026442
220309A00010	3/9/2022	2.27	3/8/2027	3/9/2022	105.06418	102.0664169	99.17025627	96.37169065	93.66689463	91.0522153	88.52416338	86.07940485	83.71475311
220311A00008	3/11/2022	2.07	3/11/2024	3/11/2022	100.01888	99.9883923	99.95793612	99.92751485	99.89712844	99.8667768	99.83645988	99.80617761	99.77592993
220311A00013	3/15/2022	2.35	3/15/2027	3/15/2022	105.34707	102.3265493	99.40882596	96.58982584	93.86566106	91.2326201	88.68715863	86.22589096	83.8455819
220314A00006	3/14/2022	2.36	3/14/2025	3/14/2022	101.18095	100.151808	99.14355179	98.15555203	97.18720268	96.23792166	95.30714968	94.39434914	93.49900308
220314A00005	3/14/2022	2.36	3/14/2025	3/14/2022	101.18095	100.151808	99.14355179	98.15555203	97.18720268	96.23792166	95.30714968	94.39434914	93.49900308
220314A00008	3/14/2022	2.38	7/28/2025	3/14/2022	101.90574	100.5161109	99.15217579	97.81327929	96.49879194	95.20810493	93.94062921	92.69579479	91.47304988
220314A00004	3/14/2022	2.44	3/12/2027	3/14/2022	105.6026	102.5860963	99.67202359	96.85632993	94.13514961	91.50479185	88.96173171	86.50260158	84.12418321
220314A00007	3/14/2022	2.44	3/12/2027	3/14/2022	105.6026	102.5860963	99.67202359	96.85632993	94.13514961	91.50479185	88.96173171	86.50260158	84.12418321
220314A00009	3/14/2022	2.38	7/28/2025	3/14/2022	101.90574	100.5161109	99.15217579	97.81327929	96.49879194	95.20810493	93.94062921	92.69579479	91.47304988
220315A00014	3/15/2022	2.78	3/15/2032	3/15/2022	116.81113	108.6597383	101.1486012	94.22384742	87.83640371	81.94154813	76.4985032	71.47006925	66.82229353

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220315A00015	3/15/2022	3.18	3/13/2037	3/15/2022	127.98124	114.6805324	102.9601558	92.62110666	83.490506	75.41804793	68.27294532	61.94130196	56.32385033
220315A00018	3/15/2022	2.43	3/15/2027	3/15/2022	105.59048	102.5662421	99.6448941	96.82236038	94.09475007	91.45834874	88.90960929	86.44514336	84.06171319
220315A00037	3/17/2022	2.63	3/16/2027	3/17/2022	106.20563	103.1693453	100.2363442	97.4025348	94.66401006	92.01704028	89.45806387	86.98367871	84.590634
220315A00036	3/17/2022	2.63	3/16/2027	3/17/2022	106.20563	103.1693453	100.2363442	97.4025348	94.66401006	92.01704028	89.45806387	86.98367871	84.590634
220315A00021	3/15/2022	2.15	3/15/2024	3/15/2022	100.02814	99.9865694	99.94504942	99.90358163	99.86216591	99.82080216	99.77949029	99.73823018	99.69702174
220317A00026	5/3/2022	2.59	5/3/2027	5/3/2022	106.40615	103.2373336	100.179836	97.22908905	94.3807416	91.6306483	88.97485836	86.40960504	83.93129578
220317A00027	5/3/2022	2.59	5/3/2027	5/3/2022	106.40615	103.2373336	100.179836	97.22908905	94.3807416	91.6306483	88.97485836	86.40960504	83.93129578
220317A00028	5/3/2022	2.59	5/3/2027	5/3/2022	106.40615	103.2373336	100.179836	97.22908905	94.3807416	91.6306483	88.97485836	86.40960504	83.93129578
220317A00011	3/17/2022	2.48	3/17/2025	3/17/2022	101.32123	100.2833068	99.26661124	98.27049265	97.29433079	96.33753015	95.39951873	94.47974686	93.57768614
220317A00023	5/3/2022	2.52	5/2/2025	5/3/2022	101.60213	100.4400695	99.30452538	98.19459581	97.10942155	96.04818135	95.01008996	93.99439611	93.00038076
210610A00012	6/11/2021	1.9	6/10/2026	6/11/2021	102.66189	100.4184413	98.23492656	96.1093475	94.03978495	92.02439819	90.06142106	88.14915829	86.28598202
210610A00014	6/11/2021	2.03	6/10/2026	6/11/2021	102.95881	100.7119135	98.52502739	96.39614691	94.32335083	92.30479646	90.33871574	88.42341156	86.55725433
210611A00006	6/11/2021	1.85	6/11/2031	6/11/2021	108.73464	101.5921048	94.96854567	88.82356013	83.12009447	77.82414583	72.90449603	68.33246997	64.08171615
220502A00030	5/4/2022	3.24	6/20/2025	5/4/2022	102.83409	101.5363244	100.26416	99.01685189	97.79368534	96.59397308	95.41705413	94.26229254	93.12907615
220502A00025	5/2/2022	3.21	5/2/2025	5/2/2022	102.41555	101.2484231	100.1078897	98.99304916	97.90304023	96.83703968	95.79426032	94.77394909	93.77538515
220707A00041	7/7/2022	3.41	7/7/2025	7/7/2022	103.20304	101.85901	100.538933	99.24221966	97.96830235	96.71663132	95.48667414	94.27791494	93.08985383
220711A00021	7/11/2022	3.27	7/11/2025	7/11/2022	103.26036	101.9019485	100.5679626	99.25780063	97.97087878	96.70663184	95.46451258	94.24399098	93.04455359
220712A00016	7/15/2022	3.35	1/15/2026	7/15/2022	104.69352	102.8238402	100.996924	99.21154524	97.46651674	95.7606931	94.09296867	92.46227596	90.8675841
211123A00011	11/23/2021	1.69	11/23/2026	11/23/2021	102.87044	100.1859654	97.58482797	95.06389856	92.62019202	90.25085675	87.95316752	85.72451883	83.56241867
211123A00012	11/23/2021	2.27	11/23/2033	11/23/2021	114.83504	105.2031736	96.47036193	88.54756276	81.35499594	74.8211364	68.88182053	63.47945358	58.56230614
211129A00011	11/29/2021	1.53	11/20/2026	11/29/2021	102.42075	99.75052068	97.16302568	94.65516763	92.2239898	89.86666723	87.58049983	85.36290576	83.21141531
211129A00012	11/29/2021	1.53	11/25/2026	11/29/2021	102.44033	99.75643706	97.15603921	94.63600132	92.1933266	89.82515252	87.52874374	85.30148535	83.14087658
211206A00017	12/6/2021	1.56	12/4/2026	12/6/2021	102.55702	99.84772569	97.22335353	94.68070145	92.2167141	89.82847267	87.51318769	85.26819224	83.09093555
211206A00009	12/6/2021	1.43	12/5/2025	12/6/2021	100.94168	99.21489287	97.52566719	95.87286393	94.25539459	92.67221393	91.12231776	89.60474093	88.11855537
211206A00008	12/6/2021	1.24	12/6/2024	12/6/2021	99.88473	99.12303827	98.37291261	97.63409165	96.90632138	96.18935534	95.48295436	94.78688628	94.10092571
211207A00012	12/7/2021	1.62	12/4/2026	12/7/2021	102.72305	100.011438	97.38480547	94.83994618	92.37380303	89.9834556	87.66611289	85.41910645	83.23988412
211207A00011	12/7/2021	1.62	12/1/2026	12/7/2021	102.71174	100.0080813	97.38892416	94.85108409	92.39151703	90.00731584	87.69570293	85.45402339	83.27973855
211207A00017	12/7/2021	1.3	11/15/2024	12/7/2021	99.898358	99.19283073	98.49723577	97.81136403	97.13501267	96.46798443	95.8100875	95.16113529	94.52094628
211209A00006	12/9/2021	1.61	12/8/2026	12/9/2021	102.71033	99.98851948	97.35229956	94.79845387	92.32390808	89.92572413	87.60109319	85.34732891	83.16186116
211209A00007	12/9/2021	1.61	12/8/2026	12/9/2021	102.71033	99.98851948	97.35229956	94.79845387	92.32390808	89.92572413	87.60109319	85.34732891	83.16186116
211210A00014	12/10/2021	1.54	12/10/2025	12/10/2021	101.15211	99.41039779	97.70680912	96.04021197	94.40951531	92.81367032	91.25166833	89.72253887	88.22534787
211210A00015	12/10/2021	1.63	12/10/2026	12/10/2021	102.77348	100.0455911	97.40362716	94.84436107	92.3647091	89.96172364	87.63258619	85.37460075	83.18518753
211210A00016	12/10/2021	1.76	12/10/2027	12/10/2021	104.75334	101.0282106	97.45535374	94.02770789	90.73858302	87.58163663	84.55085354	81.6405269	78.84524046

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
211213A00011	12/13/2021	1.32	12/13/2024	12/13/2021	99.946355	99.16586809	98.3975247	97.64104288	96.89614952	96.16257984	95.44007709	94.7283922	94.02728357
211214A00014	12/14/2021	1.31	12/13/2024	12/14/2021	99.938406	99.157954	98.38964475	97.63319671	96.88833676	96.15480013	95.43233008	94.72067755	94.01960094
211214A00015	12/14/2021	1.49	12/12/2025	12/14/2021	101.0687	99.32254346	97.61471708	95.94408327	94.30955068	92.71006973	91.14463057	89.61226123	88.11202579
220323A00016	6/2/2022	2.78	6/2/2025	6/2/2022	102.09624	100.8488616	99.63119915	98.44219269	97.28083599	96.1461696	95.03727809	93.95328753	92.89336321
220323A00017	6/2/2022	2.78	6/2/2025	6/2/2022	102.09624	100.8488616	99.63119915	98.44219269	97.28083599	96.1461696	95.03727809	93.95328753	92.89336321
220324A00007	3/24/2022	2.72	3/24/2025	3/24/2022	101.61332	100.5550774	99.51884756	98.50394537	97.50971717	96.5355358	95.58079925	94.64492942	93.72737091
211014A00018	10/14/2021	0.8	10/11/2024	10/14/2021	99.70412	99.09116879	98.4857329	97.88767438	97.29685886	96.71315527	96.13643565	95.56657513	95.00345177
211015A00029	10/15/2021	0.98	10/15/2024	10/15/2021	99.685864	99.06389294	98.44965906	97.84301872	97.2438317	96.65196119	96.06727373	95.48963909	94.91893015
211015A00031	10/15/2021	1.22	10/15/2025	10/15/2021	100.4471	98.85992181	97.30527014	95.78221051	94.28984456	92.82730786	91.39376827	89.98842441	88.61050426
220712A00006	7/12/2022	3.36	7/12/2024	7/12/2022	100.70425	100.3350329	99.96853275	99.60472037	99.24356615	98.88504091	98.5291159	98.17576277	97.8249536
211220A00006	12/20/2021	1.21	12/20/2024	12/20/2021	99.871782	99.0728898	98.28672391	97.51298239	96.75137249	96.00161062	95.26342195	94.5365401	93.82070683
211221A00010	12/21/2021	1.31	12/20/2024	12/21/2021	99.953194	99.15394008	98.36741687	97.59332198	96.8313626	96.08125506	95.34272447	94.61550438	93.89933646
211221A00023	12/21/2021	1.53	6/19/2026	12/21/2021	101.85105	99.59282932	97.39557873	95.2572856	93.17601508	91.14990896	89.17718211	87.25611903	85.38507062
211221A00025	12/21/2021	1.59	12/21/2026	12/21/2021	102.70267	99.94721922	97.27939548	94.69592338	92.19367055	89.76963993	87.42096306	85.14489369	82.93880178
220324A00015	3/24/2022	2.79	3/3/2026	3/24/2022	103.9961	102.0017469	100.0559765	98.15730314	96.30429402	94.49556986	92.72980263	91.00571325	89.32206939
220325A00010	3/28/2022	2.78	3/21/2025	3/28/2022	101.66026	100.6097574	99.58094478	98.57315075	97.58573577	96.618086	95.66961207	94.73974782	93.8279492
220325A00011	3/28/2022	2.79	4/25/2025	3/28/2022	101.87857	100.733446	99.6140248	98.51945031	97.44890191	96.40159474	95.37677783	94.37373226	93.39176944
220325A00012	3/28/2022	2.85	3/23/2026	3/28/2022	104.25855	102.2084373	100.2090804	98.25888817	96.35633199	94.49994198	92.68830443	90.92005916	89.19389707
220325A00017	3/28/2022	2.86	3/23/2027	3/28/2022	106.95681	103.8904169	100.9287052	98.06750373	95.30283619	92.63090774	90.04809558	87.55093997	85.13613589
220325A00018	3/28/2022	2.85	9/10/2026	3/28/2022	105.49433	102.9729855	100.5252826	98.14863672	95.84057157	93.5987129	91.42078374	89.30459969	87.24806457
220325A00019	3/28/2022	2.86	3/23/2027	3/28/2022	106.95681	103.8904169	100.9287052	98.06750373	95.30283619	92.63090774	90.04809558	87.55093997	85.13613589
220325A00020	3/28/2022	2.86	3/23/2027	3/28/2022	106.95681	103.8904169	100.9287052	98.06750373	95.30283619	92.63090774	90.04809558	87.55093997	85.13613589
220325A00015	3/28/2022	2.86	3/23/2027	3/28/2022	106.95681	103.8904169	100.9287052	98.06750373	95.30283619	92.63090774	90.04809558	87.55093997	85.13613589
220329A00007	3/29/2022	2.94	3/29/2029	3/29/2022	112.60385	107.4387701	102.5447437	97.90609424	93.50813151	89.33708767	85.38005433	81.62492435	78.06033785
220329A00009	3/29/2022	2.94	3/29/2029	3/29/2022	112.60385	107.4387701	102.5447437	97.90609424	93.50813151	89.33708767	85.38005433	81.62492435	78.06033785
220331A00004	3/31/2022	2.66	5/20/2024	3/31/2022	100.26083	100.0372612	99.81470273	99.59314675	99.37258645	99.15301504	98.93442585	98.71681222	98.50016757
220331A00003	3/31/2022	2.66	5/17/2024	3/31/2022	100.25088	100.0355519	99.82116615	99.60771301	99.39518635	99.18358007	98.97288814	98.76310457	98.55422342
220331A00012	3/31/2022	2.81	3/17/2025	3/31/2022	101.66866	100.6287931	99.61017634	98.61216364	97.63413409	96.67549159	95.73566353	94.81409968	93.91027107
220331A00011	3/31/2022	2.73	10/15/2024	3/31/2022	100.793	100.1671124	99.54899197	98.93849902	98.33549285	97.73983616	97.15139503	96.57003874	95.99563976
220331A00010	3/31/2022	2.83	2/18/2026	3/31/2022	103.97815	102.0209116	100.1105833	98.24575472	96.42506493	94.64720279	92.91090504	91.21495416	89.55817632
220714A00035	7/14/2022	3.62	7/15/2024	7/14/2022	100.81944	100.4417911	100.0669829	99.69498372	99.32576182	98.95928608	98.59552579	98.23445073	97.8760311
220715A00001	7/15/2022	3.44	7/15/2027	7/15/2022	109.7597	106.3399297	103.0463208	99.87355785	96.81657703	93.87055365	91.03088941	88.29320059	85.65330686
220715A00047	7/15/2022	3.44	7/15/2027	7/15/2022	109.7597	106.3399297	103.0463208	99.87355785	96.81657703	93.87055365	91.03088941	88.29320059	85.65330686

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220715A00027	7/15/2022	3.44	7/15/2027	7/15/2022	109.7597	106.3399297	103.0463208	99.87355785	96.81657703	93.87055365	91.03088941	88.29320059	85.65330686
211019A00009	10/19/2021	1.48	10/9/2026	10/19/2021	102.13114	99.57557699	97.09661	94.69148078	92.35754615	90.09227558	87.89324553	85.75813415	83.68471623
211019A00011	10/19/2021	1.48	10/16/2026	10/19/2021	102.15582	99.58173433	97.085218	94.66345557	92.31375509	90.03354019	87.8203442	85.67180472	83.58565835
220404A00014	4/4/2022	2.94	4/5/2027	4/4/2022	107.30065	104.1939672	101.194208	98.29707434	95.49846972	92.79448676	90.18139703	87.65564177	85.21382296
220719A00004	7/19/2022	3.46	7/19/2027	7/19/2022	109.86259	106.4304593	103.1253006	99.94174922	96.87469492	93.91926944	91.0708337	88.32496571	85.67744927
211026A00013	10/26/2021	1.52	10/26/2026	10/26/2021	102.29749	99.69551618	97.17253529	94.72565985	92.35212635	90.04929116	87.81462441	85.64570416	83.54021099
211026A00012	10/26/2021	1.52	10/26/2026	10/26/2021	102.29749	99.69551618	97.17253529	94.72565985	92.35212635	90.04929116	87.81462441	85.64570416	83.54021099
211028A00019	10/28/2021	1.1	10/28/2024	10/28/2021	99.753468	99.09655267	98.44825044	97.80839286	97.17681587	96.55335966	95.93786847	95.33019054	94.73017792
211028A00020	10/28/2021	2.05	1/28/2031	10/28/2021	109.7919	102.9578964	96.59721962	90.67465261	85.15776689	80.01668965	75.22389038	70.7539863	66.58356479
211028A00021	10/28/2021	2.28	10/28/2033	10/28/2021	114.85266	105.2851222	96.60478456	88.72434437	81.5655191	75.05807448	69.1389591	63.75153606	58.84490039
211028A00012	10/28/2021	1.64	10/15/2027	10/28/2021	104.06376	100.4991644	97.07540612	93.78614701	90.62537117	87.58736721	84.6667109	81.85824894	79.15708371
211028A00013	10/28/2021	1.65	10/22/2027	10/28/2021	104.12894	100.5449833	97.10321007	93.79718987	90.62082515	87.56832857	84.63420515	81.81323567	79.10046105
220909A00017	9/9/2022	3.85	9/9/2024	9/9/2022	101.28635	100.7554412	100.2301089	99.71026312	99.1958182	98.68669009	98.18279651	97.68405689	97.19039229
220722A00050	9/15/2022	3.25	9/15/2025	9/15/2022	103.50959	101.9776956	100.4761909	99.00424416	97.56105173	96.14583871	94.75785766	93.39638729	92.06073143
220722A00049	9/15/2022	3.25	9/15/2025	9/15/2022	103.50959	101.9776956	100.4761909	99.00424416	97.56105173	96.14583871	94.75785766	93.39638729	92.06073143
220722A00051	9/15/2022	3.23	9/15/2027	9/15/2022	109.57049	105.9877003	102.5429543	99.23017173	96.0435774	92.97768186	90.02726538	87.18736309	84.45325108
220722A00044	9/1/2022	3.23	9/1/2027	9/1/2022	109.44711	105.9051907	102.4986232	99.2215042	96.06821655	93.03341828	90.11202731	87.2992073	84.59035442
220506A00016	5/6/2022	3.35	5/6/2027	5/6/2022	108.84591	105.630242	102.5274282	99.53283101	96.64203639	93.85083949	91.1552331	88.55139703	86.035688
220509A00014	7/15/2022	3.37	7/15/2027	7/15/2022	109.52343	106.1076482	102.8179212	99.64893479	96.59562896	93.65318252	90.81700057	88.08270262	85.44611149
220509A00013	7/15/2022	3.37	7/15/2027	7/15/2022	109.52343	106.1076482	102.8179212	99.64893479	96.59562896	93.65318252	90.81700057	88.08270262	85.44611149
220509A00016	7/15/2022	3.37	7/15/2027	7/15/2022	109.52343	106.1076482	102.8179212	99.64893479	96.59562896	93.65318252	90.81700057	88.08270262	85.44611149
220510A00016	5/13/2022	3.23	5/5/2027	5/13/2022	108.45551	105.2487306	102.1544726	99.16811203	96.28525018	93.50169645	90.81345716	88.21672486	85.70786832
220510A00015	5/13/2022	3.13	11/3/2025	5/13/2022	103.70871	102.0434724	100.4129925	98.81624319	97.25224081	95.72004016	94.21873238	92.74744329	91.30533165
220727A00010	7/27/2022	3.38	7/24/2024	7/27/2022	100.77863	100.3765582	99.97769818	99.58201363	99.18946665	98.80001997	98.41363687	98.03028123	97.64991752
220727A00004	7/27/2022	3.23	7/27/2027	7/27/2022	109.14951	105.7082803	102.395227	99.20489484	96.13209477	93.17188485	90.31955723	87.57062577	84.92081436
220727A00049	7/27/2022	3.31	7/25/2025	7/27/2022	103.20126	101.8099447	100.4442102	99.10340816	97.78691455	96.49412559	95.2244571	93.97734368	92.75223796
220912A00033	9/12/2022	3.9	10/7/2024	9/12/2022	101.47669	100.8699224	100.2704174	99.67804625	99.09268209	98.51420091	97.94248168	97.37740617	96.81885892
220912A00046	11/15/2022	3.85	11/14/2025	11/15/2022	105.02904	103.3221755	101.6513762	100.0155624	98.41369832	96.8447895	95.30788032	93.80205231	92.32642225
220912A00044	11/15/2022	3.85	11/14/2025	11/15/2022	105.02904	103.3221755	101.6513762	100.0155624	98.41369832	96.8447895	95.30788032	93.80205231	92.32642225
220912A00050	11/15/2022	3.76	11/15/2027	11/15/2022	112.06117	108.2669138	104.6238395	101.1250446	97.7639834	94.53444812	91.43054898	88.44669587	85.57758109
220912A00051	11/15/2022	3.76	11/15/2027	11/15/2022	112.06117	108.2669138	104.6238395	101.1250446	97.7639834	94.53444812	91.43054898	88.44669587	85.57758109
220511A00015	5/11/2022	3.29	5/11/2027	5/11/2022	108.69699	105.4703993	102.3574593	99.35348547	96.45401642	93.65480311	90.95179716	88.34113987	85.81915201
220511A00002	5/11/2022	3.18	5/12/2025	5/11/2022	102.45072	101.2567184	100.0905457	98.95124074	97.83788232	96.74959073	95.68552571	94.6448842	93.6268983

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220512A00007	5/12/2022	2.91	5/13/2024	5/12/2022	100.28888	100.0844733	99.88091346	99.67819541	99.47631383	99.27526349	99.07503919	98.87563576	98.67704809
220512A00013	5/12/2022	3.18	5/12/2027	5/12/2022	108.35333	105.1295917	102.0195328	99.01846231	96.12191382	93.32563359	90.62556895	88.01785734	85.49881601
220913A00018	9/13/2022	3.91	9/13/2027	9/13/2022	111.95929	108.3397926	104.8591575	101.5112878	98.290389	95.19095255	92.20773999	89.3357681	86.57029493
220913A00017	9/13/2022	3.98	9/14/2026	9/13/2022	108.40198	105.8322526	103.3375422	100.9152153	98.56274397	96.27770522	94.05777557	91.90072635	89.80441921
220727A00009	7/27/2022	3.31	7/28/2025	7/27/2022	103.22361	101.8242475	100.4507396	99.10243263	97.77869269	96.47890674	95.20248168	93.94884356	92.71743684
220727A00027	7/27/2022	3.23	7/27/2027	7/27/2022	109.14951	105.7082803	102.395227	99.20489484	96.13209477	93.17188485	90.31955723	87.57062577	84.92081436
220727A00035	10/24/2022	3.33	10/24/2029	10/24/2022	115.94496	110.1299873	104.6486381	99.47993569	94.60433556	90.00361837	85.66079322	81.56000822	77.68646811
220518A00009	5/18/2022	3.38	5/18/2028	5/18/2022	112.28637	107.982092	103.8694665	99.93887093	96.18122697	92.58796276	89.15098149	85.86263211	82.71568194
220913A00005	9/13/2022	4.09	9/13/2024	9/13/2022	101.43427	100.892216	100.355968	99.82543264	99.30051886	98.78113743	98.26720104	97.75862419	97.25532318
211222A00035	12/22/2021	2.15	12/22/2033	12/22/2021	113.75558	104.1034851	95.36026805	87.43527042	80.24731367	73.72366589	67.79912424	62.41520125	57.51940261
211227A00009	12/27/2021	1.6	12/23/2026	12/27/2021	102.73823	99.97708038	97.30388741	94.71536421	92.20836889	89.77989475	87.4270636	85.14711945	82.93742255
211227A00005	12/27/2021	1.61	12/18/2026	12/27/2021	102.74772	99.99942421	97.33829488	94.76107322	92.26464001	89.84601156	87.50233294	85.2308715	83.02901084
200428A00002	4/28/2020	1.47	4/26/2030	4/28/2020	106.42979	100.3735206	94.69831566	89.37825758	84.38931959	79.70922175	75.31729503	71.1943565	67.32259497
220106A00009	1/6/2022	2.57	1/4/2036	1/6/2022	119.58366	107.8240266	97.36293269	88.04886725	79.74875435	72.34562583	65.73659838	59.83111342	54.54940453
220106A00010	1/6/2022	2.64	1/6/2037	1/6/2022	121.04046	108.3243435	97.11383287	87.22077345	78.48148421	70.75345981	63.91253438	57.85043739	52.47268578
220106A00013	1/6/2022	2.75	1/6/2039	1/6/2022	124.49858	109.8685553	97.19455926	86.20073765	76.65161028	68.34597599	61.11176333	54.80167689	49.28951304
220106A00008	1/6/2022	2.5	1/5/2035	1/6/2022	118.15231	107.3525613	97.65818127	88.94941794	81.1200854	74.07596226	67.73338918	62.018037	56.86382384
220106A00011	1/6/2022	2.7	1/6/2038	1/6/2022	122.62022	108.9547476	97.01323586	86.56626922	77.41615511	69.3923907	62.34779837	56.155227	50.70473399
220106A00007	1/6/2022	2.42	1/6/2034	1/6/2022	116.40368	106.5902964	97.70098345	89.64343799	82.33502257	75.70171199	69.6771566	64.20185164	59.22240008
220111A00002	1/11/2022	1.75	1/16/2026	1/11/2022	101.68135	99.83815953	98.03730154	96.27755702	94.55774908	92.87674206	91.23343979	89.62678399	88.05575267
220112A00008	1/12/2022	1.47	11/20/2024	1/12/2022	100.03147	99.31199056	98.60282816	97.90376076	97.21457395	96.53505933	95.86501432	95.204242	94.55255086
220114A00007	1/14/2022	1.7	1/27/2026	1/14/2022	101.62603	99.75486504	97.92729272	96.14203715	94.39786982	92.69360591	91.02810242	89.40025645	87.80900349
220114A00010	1/14/2022	1.86	1/13/2027	1/14/2022	103.56265	100.735312	97.99958729	95.35202649	92.78933103	90.30834375	87.906042	85.57953116	83.32603848
220114A00009	1/14/2022	1.74	4/21/2026	1/14/2022	102.08731	99.98241393	97.93112289	95.93169723	93.982471	92.08184505	90.22828379	88.42031207	86.65651231
220121A00014	1/21/2022	1.78	11/3/2025	1/21/2022	101.43365	99.78818693	98.17712049	96.59943817	95.05416585	93.54036741	92.0571428	90.60362627	89.17898476
220121A00013	1/21/2022	1.78	11/3/2025	1/21/2022	101.43365	99.78818693	98.17712049	96.59943817	95.05416585	93.54036741	92.0571428	90.60362627	89.17898476
220124A00007	1/24/2022	1.88	1/22/2027	1/24/2022	103.65951	100.8074816	98.04856646	95.37923699	92.79611562	90.29597076	87.87570964	85.53237152	83.26312135
220124A00008	1/24/2022	1.88	1/22/2027	1/24/2022	103.65951	100.8074816	98.04856646	95.37923699	92.79611562	90.29597076	87.87570964	85.53237152	83.26312135
220126A00003	1/26/2022	1.9	12/18/2026	1/26/2022	103.56127	100.8014743	98.12912589	95.54095121	93.03382251	90.604748	88.2508649	85.96943305	83.75782883
220126A00002	1/26/2022	1.9	12/18/2026	1/26/2022	103.56127	100.8014743	98.12912589	95.54095121	93.03382251	90.604748	88.2508649	85.96943305	83.75782883
220131A00006	1/31/2022	1.83	2/1/2027	1/31/2022	103.9397	101.0485555	98.25277168	95.54869614	92.93283593	90.40185068	87.95254504	85.58186155	83.2868739
220131A00003	1/31/2022	1.98	2/1/2027	1/31/2022	103.997	101.1138345	98.32557961	95.62860154	93.01942998	90.49474593	88.05137421	85.68627642	83.39654423
220201A00011	2/1/2022	1.86	4/20/2026	2/1/2022	102.34028	100.2353286	98.18391285	96.18430447	94.23484136	92.33392797	90.48003206	88.67168165	86.90746211

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220729A00043	7/29/2022	3.04	7/29/2027	7/29/2022	108.51738	105.081654	101.774187	98.58951359	95.52243206	92.56798899	89.72146599	86.97836721	84.33440764
220729A00045	7/29/2022	3.03	7/29/2027	7/29/2022	108.48324	105.0481021	101.741202	98.55707996	95.49053483	92.53661374	89.69059878	86.94799458	84.3045166
220729A00047	7/29/2022	3.06	1/29/2027	7/29/2022	107.13558	104.2143852	101.3887108	98.65492364	96.00954529	93.44924858	90.97084999	88.57130267	86.24768971
220519A00010	5/19/2022	3.15	11/19/2026	5/19/2022	106.83326	104.105065	101.4608721	98.89755053	96.41210821	94.001686	91.66355082	89.39508896	87.19379994
220915A00036	9/15/2022	4.23	9/16/2024	9/15/2022	101.53436	100.98387	100.4393662	99.90074817	99.36792072	98.8407906	98.31926657	97.80325936	97.29268157
220915A00033	9/15/2022	4.3	3/15/2024	9/15/2022	100.11899	100.0773429	100.0357512	99.99421168	99.95272435	99.91128909	99.86990579	99.82857435	99.78729466
220915A00035	9/15/2022	4.2	3/17/2025	9/15/2022	103.1321	102.0840232	101.0573142	100.0513233	99.06542681	98.09902617	97.15154621	96.22243428	95.31115909
220915A00040	9/15/2022	4.16	9/15/2025	9/15/2022	104.9211	103.377863	101.8652149	100.3823182	98.92836417	97.5025728	96.10419179	94.73249522	93.38678238
220915A00039	9/15/2022	4.29	4/15/2024	9/15/2022	100.35441	100.2269625	100.0998513	99.97307736	99.84663927	99.72053564	99.59476513	99.46932637	99.34421801
220915A00041	9/15/2022	4.28	5/15/2024	9/15/2022	100.5855	100.3751821	100.1657591	99.95722441	99.74957237	99.54279728	99.33689352	99.13185551	98.92767774
220916A00045	9/16/2022	4.1	9/16/2032	9/16/2022	130.10642	120.8749563	112.3982355	104.609861	97.44962759	90.86291145	84.80012491	79.21622773	74.0702879
220802A00009	8/2/2022	3	8/2/2027	8/2/2022	108.41128	104.9668162	101.6513301	98.45931119	95.38551367	92.42494285	89.57284172	86.82467836	84.176134
220525A00020	5/25/2022	2.79	5/24/2024	5/25/2022	100.30471	100.0701063	99.83660365	99.60419888	99.37288423	99.14265201	98.91349459	98.68540443	98.45837405
220526A00010	5/26/2022	3	5/26/2026	5/26/2022	105.05856	102.8278117	100.6555868	98.53992089	96.47893095	94.47081275	92.51383709	90.6063459	88.74674863
220526A00011	5/26/2022	3.29	5/24/2029	5/26/2022	114.76586	109.3943569	104.3111479	99.49915292	94.94240199	90.62595419	86.53582525	82.65892089	78.98297508
220527A00014	5/27/2022	2.99	5/27/2026	5/27/2022	105.04361	102.8103836	100.6358059	98.51790224	96.45478355	94.44464022	92.48573791	90.57641373	88.71507258
220527A00015	5/27/2022	3.03	5/27/2027	5/27/2022	107.98901	104.7313235	101.5897666	98.55949383	95.63589379	92.81457752	90.09136621	87.46227952	84.92352468
220804A00037	8/4/2022	3.35	8/4/2025	8/4/2022	103.33353	101.9149804	100.5229529	99.15677042	97.8157756	96.49933275	95.20682717	93.93766423	92.69126861
220804A00023	8/4/2022	3.19	8/4/2027	8/4/2022	109.07821	105.6170267	102.2855264	99.07816209	95.98965378	93.01497474	90.14933773	87.38818229	84.72716275
220527A00011	5/27/2022	2.75	5/24/2024	5/27/2022	100.29529	100.0606991	99.82721112	99.59482103	99.363521	99.13330335	98.90416045	98.67608476	98.4490688
220808A00025	8/8/2022	3.25	8/6/2027	8/8/2022	109.30062	105.8303236	102.4902026	99.27468428	96.17846168	93.1964828	90.32393666	87.55624056	84.88902793
220601A00023	6/1/2022	2.9	6/3/2024	6/1/2022	100.37089	100.108768	99.84802122	99.58863384	99.33059527	99.07389498	98.81852259	98.56446779	98.3117204
220601A00024	6/1/2022	3.09	6/2/2025	6/1/2022	102.488	101.2380235	100.0178008	98.82627683	97.66244438	96.5253428	95.41405555	94.32770764	93.26546334
220603A00024	6/3/2022	2.94	6/3/2024	6/3/2022	100.38141	100.119278	99.85851317	99.59910781	99.34105132	99.0843332	98.82894304	98.57487054	98.32210552
220811A00021	8/11/2022	3.47	8/11/2025	8/11/2022	103.56164	102.1230145	100.7116058	99.32671269	97.96765292	96.63376717	95.32441813	94.03898954	92.77688536
220919A00033	9/19/2022	4	9/17/2027	9/19/2022	112.32143	108.6843238	105.1870209	101.8233711	98.58752828	95.47393563	92.47730947	89.59262424	86.81509832
220609A00034	10/3/2022	3.32	9/30/2024	10/3/2022	101.08421	100.4975998	99.91778897	99.34465828	98.77809282	98.21798033	97.66421109	97.11667786	96.5752758
220609A00038	10/3/2022	3.28	3/29/2024	10/3/2022	100.14194	100.0615661	99.98132327	99.90121223	99.82123266	99.74138425	99.66166667	99.58207963	99.50262281
220812A00014	8/12/2022	3.54	8/12/2024	8/12/2022	100.95919	100.5050327	100.054971	99.6089498	99.16691482	98.72881258	98.29459061	97.86419736	97.43758221
220812A00002	8/12/2022	3.17	8/12/2027	8/12/2022	109.53835	106.0363218	102.6664669	99.42309315	96.30078108	93.29437298	90.39895887	87.60986314	84.92263207
220812A00001	8/12/2022	3.17	8/12/2027	8/12/2022	109.53835	106.0363218	102.6664669	99.42309315	96.30078108	93.29437298	90.39895887	87.60986314	84.92263207
220816A00009	8/16/2022	3.33	8/16/2027	8/16/2022	109.66073	106.1576902	102.7869566	99.54282452	96.41986366	93.4129064	90.51703355	87.72756102	85.04002727
220817A00047	8/17/2022	3.29	8/17/2027	8/17/2022	109.9975	106.4741538	103.0841932	99.82185338	96.68164767	93.65835536	90.74700737	87.94287268	85.2414456

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220817A00038	10/14/2022	3.41	10/15/2027	10/14/2022	110.48193	106.8011305	103.2645318	99.86566629	96.59839913	93.45690533	90.435652	87.52938192	84.73309806
220817A00036	10/14/2022	3.41	10/15/2027	10/14/2022	110.48193	106.8011305	103.2645318	99.86566629	96.59839913	93.45690533	90.435652	87.52938192	84.73309806
220817A00037	10/14/2022	3.41	10/15/2027	10/14/2022	110.48193	106.8011305	103.2645318	99.86566629	96.59839913	93.45690533	90.435652	87.52938192	84.73309806
220920A00025	9/20/2022	4.23	9/18/2026	9/20/2022	109.08417	106.4945025	103.980602	101.5397979	99.16952977	96.86734334	94.63088581	92.45790074	90.3462235
220920A00024	9/20/2022	4.25	9/19/2025	9/20/2022	105.11957	103.5634069	102.0382102	100.5431233	99.07732226	97.64001311	96.23043008	94.8478345	93.49151355
220920A00026	9/20/2022	4.1	9/20/2027	9/20/2022	112.70996	109.0575375	105.5456901	102.1682214	98.9192442	95.79316334	92.78465916	89.88867233	87.10038963
220920A00015	9/20/2022	4.33	10/21/2024	9/20/2022	101.8547	101.2088539	100.5712154	99.94162915	99.31994318	98.70600918	98.09968255	97.5008223	96.90929089
220614A00011	6/14/2022	3.71	6/14/2024	6/14/2022	100.65422	100.3615417	100.0705748	99.78130675	99.49372264	99.20780769	98.92354729	98.64092703	98.35993263
220921A00069	9/21/2022	3.98	9/21/2027	9/21/2022	112.7802	109.1112697	105.5839141	102.1918775	98.92921762	95.79028749	92.76971888	89.86240697	87.0634958
220921A00074	9/21/2022	3.98	9/21/2027	9/21/2022	112.7802	109.1112697	105.5839141	102.1918775	98.92921762	95.79028749	92.76971888	89.86240697	87.0634958
220921A00014	9/21/2022	4.08	9/21/2027	9/21/2022	112.64993	108.9957675	105.4823409	102.1034428	98.85317581	95.7259351	92.71639202	89.81947893	87.03037485
220921A00050	9/21/2022	4.51	4/29/2024	9/21/2022	100.49896	100.3327084	100.1670041	100.0018465	99.83723311	99.67316117	99.50962805	99.34663112	99.18416775
220819A00034	8/19/2022	3.73	8/19/2032	8/19/2022	125.5337	116.6226727	108.4363212	100.9113367	93.99026781	87.62094821	81.75598485	76.35229852	71.37071059
220615A00010	6/15/2022	3.86	6/15/2027	6/15/2022	110.87393	107.516997	104.2810012	101.1608982	98.15188546	95.24938878	92.44904949	89.74671312	87.13841846
220823A00015	8/23/2022	3.78	8/30/2032	8/23/2022	126.03311	117.07256	108.8426018	101.2792257	94.32436261	87.92530123	82.03416778	76.60745884	71.60562143
220404A00010	4/4/2022	2.93	4/2/2027	4/4/2022	107.24636	104.1487275	101.157494	98.26839036	95.47734885	92.78048892	90.1741073	87.65466881	85.21879757
220617A00027	6/17/2022	3.45	6/17/2024	6/17/2022	100.59484	100.294068	99.99510461	99.69793469	99.40254206	99.10891072	98.81702485	98.52686884	98.23842725
220823A00009	8/23/2022	3.52	8/23/2027	8/23/2022	110.38194	106.8477431	103.4475898	100.1756679	97.02645192	93.99468466	91.0753631	88.26372446	85.55523338
220823A00002	8/23/2022	3.38	8/23/2027	8/23/2022	110.36438	106.818574	103.407531	100.1253977	96.96660897	93.92587093	90.99814584	88.17863838	85.4627826
220823A00034	8/23/2022	3.61	8/23/2024	8/23/2022	101.06084	100.5765377	100.0968871	99.6218184	99.15126601	98.68516567	98.22345428	97.76606995	97.31295195
220408A00014	4/8/2022	3.12	6/29/2026	4/8/2022	105.60309	103.2735277	101.0072689	98.80224333	96.65646426	94.56802088	92.53507503	90.555858	88.62866743
220411A00002	4/11/2022	3.18	4/9/2027	4/11/2022	108.07841	104.9486427	101.9267827	99.00848515	96.18960603	93.4661931	90.83447578	88.29085556	85.83189703
220412A00010	4/12/2022	3.09	3/15/2027	4/12/2022	107.59863	104.5437079	101.5924562	98.74077032	95.98473438	93.32061005	90.74482728	88.25397567	85.84479633
220412A00017	4/12/2022	3.09	3/19/2027	4/12/2022	107.63013	104.5640575	101.6022936	98.74070002	95.9753264	93.30240196	90.71832625	88.21966037	85.80311866
220412A00018	4/12/2022	3.09	3/15/2027	4/12/2022	107.59863	104.5437079	101.5924562	98.74077032	95.98473438	93.32061005	90.74482728	88.25397567	85.84479633
220412A00016	4/12/2022	3.09	3/19/2027	4/12/2022	107.63013	104.5640575	101.6022936	98.74070002	95.9753264	93.30240196	90.71832625	88.21966037	85.80311866
211115A00032	11/15/2021	1.75	11/12/2027	11/15/2021	104.58897	100.9410774	97.43969936	94.07812271	90.84998604	87.74925642	84.77021034	81.90741569	79.15571506
220418A00015	4/22/2022	3.03	7/28/2025	4/22/2022	102.82683	101.4304	100.0597742	98.71430044	97.39334623	96.09629974	94.82256911	93.57158156	92.3427827
220418A00016	4/22/2022	3.11	9/15/2026	4/22/2022	106.19527	103.6511903	101.1816296	98.78396415	96.45567823	94.19436054	91.99769903	89.86347619	87.78956446
220419A00013	4/19/2022	2.84	4/19/2024	4/19/2022	100.18421	100.0459023	99.90799342	99.77047808	99.63335458	99.49662123	99.36027632	99.22431818	99.08874513
220419A00014	4/19/2022	3.06	4/18/2025	4/19/2022	102.14468	101.016614	99.9134594	98.83439389	97.77863425	96.74543094	95.73406623	94.74385258	93.77413107
220419A00015	4/19/2022	3.14	4/17/2026	4/19/2022	105.06084	102.9343936	100.8617332	98.84112339	96.87090161	94.9494716	93.07530014	91.24691403	89.46289721
220419A00016	4/19/2022	3.21	4/19/2027	4/19/2022	108.25701	105.096948	102.0465703	99.10142681	96.25727626	93.51007542	90.85596851	88.29127715	85.81249104

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220824A00011	8/24/2022	3.7	8/22/2025	8/24/2022	103.99091	102.5200806	101.0775965	99.66270545	98.27468532	96.9128385	95.57649109	94.26499186	92.97771125
220825A00006	8/25/2022	3.56	8/25/2027	8/25/2022	110.53951	106.9972356	103.5894747	100.3103905	97.15443063	94.11631317	91.19101164	88.37374134	85.65994637
220825A00022	8/25/2022	3.68	8/25/2025	8/25/2022	103.98681	102.5081151	101.0580582	99.63587566	98.24083462	96.87222725	95.5293699	94.21160202	92.91828514
220622A00006	6/22/2022	3.58	6/22/2027	6/22/2022	110.01843	106.6562541	103.4159801	100.2925208	97.28103479	94.37690857	91.57574455	88.87334971	86.26572485
220623A00005	6/23/2022	3.45	6/23/2027	6/23/2022	109.59696	106.2390178	103.0029789	99.88375714	96.87650981	93.97662213	91.17969507	88.48153401	85.87813809
220420A00033	4/20/2022	3.29	4/20/2027	4/20/2022	108.5168	105.3498969	102.2929521	99.34150505	96.49130142	93.73828576	91.07859072	88.50852704	86.02457415
220420A00061	6/15/2022	3.3	6/15/2027	6/15/2022	109.02955	105.7030437	102.4966547	99.40537004	96.42441466	93.54924045	90.77551389	88.09910459	85.51607443
220420A00037	6/15/2022	3.3	6/15/2027	6/15/2022	109.02955	105.7030437	102.4966547	99.40537004	96.42441466	93.54924045	90.77551389	88.09910459	85.51607443
220420A00032	4/20/2022	3.26	10/16/2026	4/20/2022	106.84328	104.2068793	101.6494749	99.16820814	96.76034428	94.42326582	92.15446662	89.95154624	87.81220473
220420A00034	6/15/2022	3.3	6/15/2027	6/15/2022	109.02955	105.7030437	102.4966547	99.40537004	96.42441466	93.54924045	90.77551389	88.09910459	85.51607443
220421A00012	4/21/2022	3.31	4/21/2026	4/21/2022	105.45872	103.3169728	101.2295676	99.19475118	97.21083677	95.27620532	93.38930204	91.54863329	89.75276368
220421A00016	4/21/2022	3.31	4/21/2026	4/21/2022	105.45872	103.3169728	101.2295676	99.19475118	97.21083677	95.27620532	93.38930204	91.54863329	89.75276368
220421A00014	4/21/2022	3.24	5/30/2025	4/21/2022	102.65296	101.4096049	100.196363	99.01215201	97.85593878	96.72673855	95.62361231	94.54566415	93.49203879
220829A00057	8/29/2022	3.67	8/31/2026	8/29/2022	107.47425	104.955186	102.5089795	100.133098	97.82511456	95.58270117	93.40362415	91.28573962	89.22698929
220624A00044	6/24/2022	3.43	6/24/2025	6/24/2022	103.12043	101.8105661	100.5254073	99.26428246	98.02654293	96.81156369	95.61874198	94.4474964	93.29726595
220624A00049	6/24/2022	3.29	6/24/2024	6/24/2022	100.62368	100.3032505	99.98487056	99.66851959	99.35417815	99.04182704	98.73144735	98.42302037	98.11652765
220624A00003	6/24/2022	3.5	6/24/2027	6/24/2022	109.77203	106.4084244	103.1669874	100.0426277	97.03049247	94.12595709	91.32461278	88.62225543	86.01487493
220624A00033	6/24/2022	3.5	6/24/2027	6/24/2022	109.77203	106.4084244	103.1669874	100.0426277	97.03049247	94.12595709	91.32461278	88.62225543	86.01487493
220627A00055	6/27/2022	3.55	6/26/2026	6/27/2022	106.57955	104.2466685	101.9769122	99.76821137	97.61858017	95.52610935	93.48896299	91.50537518	89.57364689
220829A00048	8/29/2022	3.75	2/25/2025	8/29/2022	102.48989	101.4990187	100.5273318	99.57427213	98.6393074	97.72192548	96.82163336	95.93795635	95.07043718
220422A00014	4/22/2022	3.36	9/29/2026	4/22/2022	106.95907	104.36648	101.8505536	99.40856215	97.03788843	94.73602541	92.50057084	90.32922203	88.2197711
220425A00026	4/25/2022	3.13	2/25/2026	4/25/2022	104.63148	102.6472809	100.71110751	98.82140079	96.97685297	95.17607881	93.41777532	91.70068712	90.02360434
220425A00027	4/29/2022	3.15	8/20/2026	4/29/2022	106.08337	103.6109551	101.209377	98.87620006	96.60908786	94.40579831	92.26417907	90.18216339	88.15776617
220425A00028	4/29/2022	3.16	4/23/2027	4/29/2022	108.13367	104.9645475	101.9057467	98.95277608	96.10135763	93.34741393	90.68705716	88.116579	85.63244113
211117A00010	11/17/2021	1.18	11/18/2024	11/17/2021	99.819237	99.10594227	98.4028035	97.70960531	97.026138	96.35219773	95.68758633	95.03211109	94.38558458
211119A00009	11/19/2021	1.68	11/19/2027	11/19/2021	104.36107	100.6986567	97.18404124	93.81041836	90.57134207	87.46070114	84.47269933	81.6018371	78.8428944
221129A00044	11/29/2022	4.56	11/28/2025	11/29/2022	106.41019	104.6524483	102.9324332	101.2489919	99.6010216	97.98746438	96.40730476	94.85956751	93.34331564
221129A00045	11/29/2022	4.56	11/28/2025	11/29/2022	106.41019	104.6524483	102.9324332	101.2489919	99.6010216	97.98746438	96.40730476	94.85956751	93.34331564
221129A00051	11/29/2022	4.56	12/2/2025	11/29/2022	106.4562	104.6871742	102.9563045	101.2624301	99.60443862	97.98126248	96.39187672	94.83529672	93.3105762
221129A00052	11/29/2022	4.56	12/2/2025	11/29/2022	106.4562	104.6871742	102.9563045	101.2624301	99.60443862	97.98126248	96.39187672	94.83529672	93.3105762
221129A00065	11/29/2022	4.28	11/30/2027	11/29/2022	114.16394	110.2886603	106.5688379	102.997317	99.56731346	96.27239689	93.10646973	90.06374765	87.13874137
221129A00066	11/29/2022	4.28	11/29/2027	11/29/2022	114.15239	110.2801327	106.563118	102.9942031	99.5666171	96.27394236	93.11009289	90.06929524	87.14607019
221129A00077	11/29/2022	4.38	12/1/2026	11/29/2022	110.32641	107.5168605	104.794319	102.155519	99.59733951	97.11679982	94.71105153	92.37737169	90.11315629

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221129A00083	11/29/2022	4.38	11/30/2026	11/29/2022	110.31511	107.5084119	104.7885584	102.1522883	99.59648552	97.11817373	94.71450922	92.38277375	90.12036796
221129A00047	11/29/2022	4.56	12/1/2025	11/29/2022	106.44485	104.6786033	102.950397	101.2590762	99.60352905	97.98268844	96.39553019	94.84107059	93.31836444
221129A00050	11/29/2022	4.56	12/2/2025	11/29/2022	106.4562	104.6871742	102.9563045	101.2624301	99.60443862	97.98126248	96.39187672	94.83529672	93.3105762
221129A00062	11/29/2022	4.39	11/27/2026	11/29/2022	110.30751	107.5092769	104.7974162	102.1686915	99.6200114	97.14842287	94.75110394	92.42535681	90.1686013
221129A00069	11/29/2022	4.28	11/26/2027	11/29/2022	114.11774	110.2545463	106.5459528	102.9848544	99.56452089	96.27857202	93.12095674	90.08593402	87.16805484
221129A00085	11/29/2022	4.38	11/30/2026	11/29/2022	110.31511	107.5084119	104.7885584	102.1522883	99.59648552	97.11817373	94.71450922	92.38277375	90.12036796
221129A00034	11/29/2022	4.38	12/1/2025	11/29/2022	106.39528	104.624754	102.8924475	101.1971899	99.53786232	97.91339161	96.32274747	94.7649405	93.23902007
221129A00035	11/29/2022	4.09	11/29/2027	11/29/2022	113.95523	110.073071	106.34692	102.7695833	99.33424433	96.03444259	92.86405211	89.81726206	86.8885583
221129A00043	11/29/2022	4.59	12/1/2025	11/29/2022	106.49771	104.7309773	103.0023008	101.3105185	99.65451791	98.03323202	96.44563634	94.89074694	93.36761844
221129A00056	11/29/2022	4.31	11/29/2027	11/29/2022	114.26485	110.3904912	106.671436	103.1005405	99.67103174	96.3764898	93.21082669	90.16826697	87.24332956
221130A00041	11/30/2022	4.95	12/2/2024	11/30/2022	102.71839	101.9554398	101.2038513	100.4633754	99.73376667	99.01478692	98.30620481	97.6077957	96.91934136
221130A00044	11/30/2022	5.09	5/30/2024	11/30/2022	100.90667	100.6545952	100.4037755	100.1542048	99.90587369	99.65877303	99.4128937	99.16822668	98.92476304
221130A00110	11/30/2022	4.15	11/30/2027	11/30/2022	113.67626	109.8100989	106.0991316	102.5362051	99.1145453	95.82773102	92.66967367	89.63459746	86.71702125
221130A00085	11/30/2022	4.19	11/30/2027	11/30/2022	113.82631	109.9573486	106.2436566	102.6780857	99.25385858	95.96455129	92.80407246	89.76664367	86.84678129
220426A00004	4/26/2022	3.41	4/26/2032	4/26/2022	122.1092	113.6390722	105.8377053	98.64836865	92.01943749	85.90390776	80.25895949	75.04556377	70.22812852
220427A00011	4/29/2022	3.15	4/29/2027	4/29/2022	108.15236	104.9664359	101.8918746	98.92412192	96.05884177	93.29190238	90.61936508	88.03747394	85.54264602
220428A00016	5/2/2022	3.09	10/15/2024	5/2/2022	101.02076	100.3940604	99.77514045	99.16385497	98.56006314	97.96362759	97.37441427	96.79229239	96.2171343
220428A00019	4/28/2022	3.27	4/28/2027	4/28/2022	108.52351	105.3344541	102.2567376	99.28581568	96.41735706	93.64723411	90.97151202	88.38643834	85.88843332
221130A00032	11/30/2022	4.37	11/30/2027	11/30/2022	114.50157	110.6199721	106.8940193	103.3165483	99.88076835	96.58024249	93.408867	90.36085163	87.43070145
221130A00033	11/30/2022	4.37	11/30/2027	11/30/2022	114.50157	110.6199721	106.8940193	103.3165483	99.88076835	96.58024249	93.408867	90.36085163	87.43070145
221130A00076	11/30/2022	4.15	11/30/2027	11/30/2022	114.19232	110.3028918	106.569817	102.9858804	99.54424763	96.23844093	93.0623185	90.01005462	87.0761212
221130A00019	11/30/2022	4.63	11/26/2025	11/30/2022	106.50923	104.7561285	103.0405597	101.3613824	99.71750243	98.10786977	96.53147638	94.98735407	93.47457251
221202A00013	12/2/2022	4.78	12/3/2024	12/2/2022	102.59139	101.8263792	101.0728029	100.3304101	99.59895308	98.87819108	98.16789052	97.46782453	96.77777278
221202A00018	12/2/2022	4.16	12/2/2027	12/2/2022	113.73546	109.8627724	106.145729	102.5771564	99.15025956	95.8585974	92.69606177	89.65685799	86.7354867
221202A00025	12/2/2022	4.06	12/2/2026	12/2/2022	109.82514	107.0116602	104.2856028	101.6436828	99.08275965	96.59983381	94.19203897	91.85663508	89.59100174
221205A00065	12/5/2022	4.13	12/6/2027	12/5/2022	113.6658	109.7835777	106.0578013	102.4812563	99.04710994	95.74888434	92.58043562	89.53593447	86.609848
221205A00048	12/5/2022	4.4	12/5/2025	12/5/2022	106.2066	104.4318349	102.6955102	100.9964646	99.33358594	97.70580608	96.11209891	94.55147811	93.02299524
221205A00024	12/5/2022	4.13	12/3/2027	12/5/2022	113.63351	109.7600285	106.0423393	102.4732654	99.0460043	95.75410728	92.59145883	89.55225715	86.6309959
221206A00025	12/6/2022	4.27	12/4/2026	12/6/2022	110.05592	107.2420633	104.5155997	101.8732549	99.31189733	96.82853524	94.42030903	92.08448439	89.81844581
221206A00039	12/6/2022	4.29	12/7/2026	12/6/2022	110.14442	107.3212532	104.5859864	101.9353314	99.36614235	96.87541293	94.46026881	92.11796101	89.84585933
221206A00036	12/6/2022	4.13	12/6/2027	12/6/2022	113.6658	109.7835777	106.0578013	102.4812563	99.04710994	95.74888434	92.58043562	89.53593447	86.609848
221206A00011	12/6/2022	4.29	12/7/2026	12/6/2022	110.14442	107.3212532	104.5859864	101.9353314	99.36614235	96.87541293	94.46026881	92.11796101	89.84585933
221207A00010	12/7/2022	4.08	12/7/2027	12/7/2022	113.48803	109.6064452	105.8814119	102.3057138	98.8725122	95.57532306	92.40799648	89.3646973	86.43988694

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221207A00009	12/7/2022	4.38	12/8/2025	12/7/2022	106.2037	104.4209548	102.676977	100.9706032	99.30072025	97.66625838	96.06618918	94.49952356	92.96530986
221207A00012	12/7/2022	4.21	12/7/2026	12/7/2022	109.9224	107.1023331	104.3700972	101.7224018	99.15610336	96.66819757	94.25581227	91.91620047	89.6467339
221207A00074	12/7/2022	4.66	12/6/2024	12/7/2022	102.53751	101.7645367	101.003251	100.2533881	99.51469212	98.78691442	98.06981388	97.36315641	96.66671473
221207A00017	12/7/2022	3.86	12/7/2027	12/7/2022	113.17464	109.2852657	105.5531489	101.9710282	98.53202065	95.229601	92.057581	89.01008964	86.08155487
221207A00035	12/7/2022	4.31	1/7/2026	12/7/2022	106.41757	104.5524712	102.729529	100.9475439	99.20535793	97.50185297	95.83594945	94.20660466	92.61281126
221207A00032	12/7/2022	4.52	12/7/2032	12/7/2022	133.19069	123.6607452	114.922394	106.9047788	99.54376863	92.78128385	86.56469501	80.84628395	75.58276089
221208A00020	12/8/2022	4.11	12/8/2027	12/8/2022	113.61185	109.7252293	105.9954376	102.4152479	98.9778089	95.67662465	92.50553366	89.45868955	86.53054294
220929A00043	9/29/2022	4.44	9/28/2029	9/29/2022	121.96681	116.0560606	110.47825	105.2127479	100.2403085	95.54297432	91.10398237	86.90767904	82.93944065
220929A00041	9/29/2022	4.38	9/29/2027	9/29/2022	113.81371	110.1162494	106.5616629	103.1436182	99.85610497	96.69341275	93.65011386	90.7210478	87.90130647
221208A00110	12/8/2022	4.07	12/8/2027	12/8/2022	113.46092	109.5771395	105.8501031	102.2725872	98.83774374	95.53907955	92.37043599	89.32596937	86.40013285
221208A00052	2/15/2023	4.01	2/15/2028	2/15/2023	113.95878	109.8765839	105.9665715	102.2205523	98.6307695	95.18987458	91.89090363	88.72725507	85.69266889
221208A00051	2/15/2023	4.27	2/13/2026	2/15/2023	106.74816	104.7779652	102.8545281	100.9764548	99.14239846	97.35106178	95.60119423	93.89159025	92.22108731
221208A00054	2/1/2023	4.02	2/1/2028	2/1/2023	113.84478	109.8050138	105.9340478	102.2239271	98.66711554	95.25646962	91.98521605	88.84693059	85.83551825
220929A00063	9/29/2022	4.38	9/29/2027	9/29/2022	113.81371	110.1162494	106.5616629	103.1436182	99.85610497	96.69341275	93.65011386	90.7210478	87.90130647
220929A00034	9/29/2022	4.67	5/31/2024	9/29/2022	100.80964	100.5549741	100.3015888	100.0494769	99.7986289	99.54903528	99.30068672	99.05357396	98.80768782
220930A00046	9/30/2022	4.55	8/30/2024	9/30/2022	101.58092	101.0760777	100.5762591	100.0813854	99.59138359	99.10618199	98.62571029	98.14989956	97.67868221
220930A00049	9/30/2022	4.55	6/28/2024	9/30/2022	101.02251	100.6907758	100.3612168	100.0338155	99.70855069	99.3854015	99.06434735	98.74536793	98.42844317
221212A00040	12/12/2022	4.45	12/12/2025	12/12/2022	106.37252	104.5775526	102.8218097	101.1041346	99.4234117	97.77856813	96.16857155	94.59242835	93.04918176
221212A00041	12/12/2022	4.15	12/10/2027	12/12/2022	113.78441	109.8891181	106.1511731	102.5633236	99.11869503	95.81076895	92.63336197	89.58060657	86.64693297
221212A00011	12/12/2022	3.89	12/10/2027	12/12/2022	113.31954	109.4192691	105.676973	102.0853553	98.63750007	95.3268503	92.14718684	89.0926088	86.15751528
221212A00071	12/12/2022	4.15	12/13/2027	12/12/2022	113.81686	109.9128123	106.1667677	102.571438	99.11991809	95.80565991	92.62245138	89.56439717	86.62590064
221212A00063	12/12/2022	4.45	12/12/2025	12/12/2022	106.37252	104.5775526	102.8218097	101.1041346	99.4234117	97.77856813	96.16857155	94.59242835	93.04918176
220830A00093	11/16/2022	3.69	11/16/2029	11/16/2022	118.13643	112.1975104	106.6016399	101.3270753	96.35357047	91.66226488	87.23558104	83.05713018	79.11162538
220831A00078	8/31/2022	3.81	8/30/2024	8/31/2022	101.20638	100.7026355	100.2039074	99.71011651	99.22118974	98.73705552	98.25764366	97.78288531	97.31271296
220831A00079	8/31/2022	3.79	8/29/2025	8/31/2022	104.18645	102.6956725	101.2339441	99.80049402	98.39457429	97.01546267	95.66246172	94.33489767	93.03211946
220901A00035	9/1/2022	3.82	9/1/2028	9/1/2022	115.15561	110.5021102	106.0678628	101.8413513	97.81172222	93.96874659	90.30278053	86.8047287	83.46601024
220901A00033	9/1/2022	3.72	9/1/2027	9/1/2022	111.16513	107.5930959	104.1572652	100.8517003	97.67075481	94.60905859	91.6615026	88.82322472	86.0895964
220906A00046	9/6/2022	3.79	9/7/2027	9/6/2022	111.47259	107.8784403	104.4217709	101.09657	97.8971191	94.81798065	91.8539826	89.00020387	86.25196075
220907A00010	9/7/2022	3.9	9/9/2032	9/7/2022	128.34828	119.2092677	110.8176034	103.1075925	96.01965355	89.49972233	83.49871423	77.97204135	72.87917881
220907A00023	9/7/2022	3.76	9/8/2026	9/7/2022	107.78104	105.235926	102.7648374	100.3651832	98.03448109	95.77035082	93.57050938	91.43276636	89.35501956
220907A00021	3/13/2023	3.92	3/29/2024	3/13/2023	100.19343	100.1130175	100.0327334	99.95258113	99.87256044	99.79267096	99.7129124	99.63328443	99.55378675
220907A00024	5/15/2023	3.81	5/31/2024	5/15/2023	100.59043	100.336129	100.0831132	99.83136939	99.58088802	99.33165963	99.08367489	98.83692453	98.59139939
220907A00027	8/14/2023	3.65	8/30/2024	8/14/2023	101.12539	100.6218913	100.123399	99.62984215	99.14114783	98.6572444	98.17806169	97.70353087	97.23358448

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220907A00025	7/17/2023	3.7	7/31/2024	7/17/2023	100.95315	100.5315576	100.1134854	99.69888482	99.28771276	98.87992688	98.47548554	98.07434774	97.67647319
220907A00022	4/17/2023	3.87	4/30/2024	4/17/2023	100.39904	100.2301499	100.0618256	99.89406391	99.72686195	99.56021697	99.39412623	99.22858697	99.06359649
220908A00030	9/8/2022	3.85	9/9/2024	9/8/2022	101.28635	100.7554412	100.2301089	99.71026312	99.1958182	98.68669009	98.18279651	97.68405689	97.19039229
220908A00029	9/8/2022	3.88	3/8/2024	9/8/2022	100.05638	100.0341698	100.0119821	99.98981793	99.96767734	99.94556026	99.92346666	99.90139648	99.87934969
230126A00033	1/26/2023	4.84	7/26/2024	1/26/2023	101.38782	100.9788086	100.5731032	100.1706651	99.77145487	99.37543377	98.98256361	98.59280683	98.20612647
230126A00034	1/26/2023	4.56	1/24/2025	1/26/2023	102.96472	102.0574972	101.16631	100.290739	99.43037584	98.5848261	97.75370896	96.93665658	96.13331352
230126A00036	1/26/2023	4.19	1/26/2026	1/26/2023	106.39074	104.4754588	102.6045407	100.7766918	98.99066452	97.24525533	95.53930335	93.87168834	92.24132904
230126A00015	1/26/2023	4.08	1/26/2027	1/26/2023	110.08277	107.1263129	104.2659431	101.4980131	98.81903795	96.2256836	93.71475951	91.28321163	88.92811577
230127A00096	1/27/2023	4.21	1/27/2026	1/27/2023	106.43945	104.5210301	102.6471042	100.8163691	99.02757211	97.27950492	95.57100202	93.90093879	92.26822978
230127A00095	1/27/2023	4.59	1/27/2025	1/27/2023	103.02327	102.1076531	101.2083614	100.3249613	99.45703358	98.60417387	97.76599165	96.94210983	96.13216417
230130A00095	2/3/2023	4.25	5/26/2026	2/3/2023	107.86231	105.5996018	103.3960781	101.249756	99.15873379	97.12118913	95.13537554	93.19961825	91.31231066
230130A00096	1/30/2023	4.67	1/30/2025	1/30/2023	103.12864	102.2043913	101.2967587	100.4052972	99.52957691	98.6691831	97.82371547	96.99278757	96.17602621
221003A00067	10/3/2022	4.48	11/13/2024	10/3/2022	102.16312	101.4540042	100.7547613	100.0651831	99.38506997	98.71422762	98.05246705	97.3996044	96.75546074
230130A00045	1/30/2023	4.02	1/28/2028	1/30/2023	113.80275	109.7747559	105.9146431	102.2145213	98.66691321	95.26473028	92.00125035	88.87009679	85.86521889
230130A00086	1/30/2023	4.16	2/1/2027	1/30/2023	110.3802	107.4030494	104.5231175	101.7367036	99.04026433	96.43041081	93.90390069	91.45763107	89.08863169
230130A00087	1/30/2023	4.04	1/28/2028	1/30/2023	113.88099	109.8514749	105.9898841	102.2883293	98.73933131	95.33580008	92.07101182	88.9385884	85.93247767
230130A00127	1/30/2023	4.02	2/1/2028	1/30/2023	113.84478	109.8050138	105.9340478	102.2239271	98.66711554	95.25646962	91.98521605	88.84693059	85.83551825
230131A00004	1/31/2023	3.76	1/31/2028	1/31/2023	113.35132	109.309495	105.4369039	101.7255644	98.16791014	94.75676956	91.48534326	88.3471827	85.33617017
221005A00041	10/5/2022	4.3	10/5/2027	10/5/2022	113.59561	109.8856389	106.3195776	102.8910237	99.59390156	96.42243969	93.37115378	90.43483059	87.60851289
221006A00095	10/6/2022	4.65	4/8/2024	10/6/2022	100.33932	100.231191	100.1233043	100.0156612	99.90826104	99.80110282	99.69418573	99.58750894	99.48107158
221006A00097	10/6/2022	4.58	10/7/2024	10/6/2022	101.89193	101.2837323	100.6828123	100.0890382	99.50228285	98.92242213	98.34933483	97.78290259	97.22300977
221006A00012	10/6/2022	4.37	10/6/2027	10/6/2022	113.85907	110.1416433	106.5684516	103.1330775	99.82942877	96.65171858	93.59444816	90.65239067	87.82057609
220628A00053	8/15/2022	3.6	8/13/2027	8/15/2022	110.56783	107.0570847	103.6784967	100.4263794	97.29532302	94.28017867	91.37604441	88.57825196	85.88235431
220628A00034	6/28/2022	3.61	6/28/2027	6/28/2022	110.17545	106.7940689	103.5358092	100.3955418	97.36837779	94.44965686	91.63493526	88.9199747	86.30073169
220628A00044	8/15/2022	3.6	8/13/2027	8/15/2022	110.56783	107.0570847	103.6784967	100.4263794	97.29532302	94.28017867	91.37604441	88.57825196	85.88235431
220628A00052	8/15/2022	3.6	8/13/2027	8/15/2022	110.56783	107.0570847	103.6784967	100.4263794	97.29532302	94.28017867	91.37604441	88.57825196	85.88235431
220629A00003	6/29/2022	3.59	6/29/2027	6/29/2022	110.11843	106.7352256	103.4753162	100.3335597	97.30506045	94.38515152	91.56938256	88.85350879	86.23348034
220629A00002	6/29/2022	3.48	6/28/2024	6/29/2022	100.66695	100.3359502	100.0071227	99.68044931	99.35590881	99.03348042	98.71314357	98.39487798	98.07866362
220630A00044	6/30/2022	3.34	6/30/2025	6/30/2022	103.05509	101.7304795	100.4291851	99.15063871	97.89429422	96.65962274	95.44611176	94.25326448	93.08059932
220630A00036	6/30/2022	3.42	6/30/2027	6/30/2022	109.56113	106.184463	102.9310315	99.79569514	96.77355916	93.8599572	91.05043935	88.34076106	85.72687251
220630A00057	6/30/2022	3.34	6/30/2025	6/30/2022	103.05509	101.7304795	100.4291851	99.15063871	97.89429422	96.65962274	95.44611176	94.25326448	93.08059932
220701A00049	7/1/2022	3.19	7/1/2025	7/1/2022	102.86115	101.5352846	100.2327956	98.95311712	97.69570072	96.46001521	95.24554589	94.05179387	92.87827555
220701A00050	7/1/2022	3.26	7/1/2027	7/1/2022	109.03592	105.6653834	102.4180286	99.28871589	96.27254755	93.36485465	90.56118504	87.85729221	85.24912466

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220701A00024	7/1/2022	3.08	7/1/2025	7/1/2022	102.7134	101.3885748	100.0871074	98.80843329	97.5520046	96.31729057	95.10377692	93.91096519	92.73837217
220705A00011	7/5/2022	3.14	7/7/2025	7/5/2022	102.83594	101.4945278	100.1770163	98.88282539	97.61138848	96.36215702	95.13459966	93.92820158	92.7424639
220706A00032	7/6/2022	3.15	7/6/2027	7/6/2022	109.15863	105.7616387	102.4894924	99.33695146	96.29902648	93.37096225	90.54822569	87.82649423	85.20164492
221018A00031	10/18/2022	4.71	10/17/2025	10/18/2022	106.17074	104.5299258	102.9226773	101.3480297	99.8050544	98.29285808	96.81058084	95.35739468	93.932502
221018A00030	10/18/2022	4.71	10/17/2025	10/18/2022	106.17074	104.5299258	102.9226773	101.3480297	99.8050544	98.29285808	96.81058084	95.35739468	93.932502
221212A00117	6/12/2023	4.11	6/12/2026	6/12/2023	107.73116	105.4233886	103.1770657	100.9901462	98.86067113	96.78676089	94.76661148	92.79849075	90.88073497
221213A00017	12/13/2022	4.1	12/14/2026	12/13/2022	109.69085	106.8552102	104.1084434	101.4472303	98.86839779	96.36891152	93.94586872	91.59649167	89.31812131
221213A00049	12/13/2022	4.01	12/13/2027	12/13/2022	113.28669	109.3926612	105.6563277	102.0704212	98.62804766	95.32266928	92.14808394	89.09840579	86.16804723
221213A00047	12/13/2022	3.8	12/13/2027	12/13/2022	113.00937	109.106804	105.3626699	101.76965	98.32080504	95.00955491	91.82965795	88.77519142	85.84053324
221213A00004	12/13/2022	3.99	12/13/2027	12/13/2022	113.21096	109.3183539	105.5834077	101.9988474	98.55778046	95.25367062	92.08031716	89.03183559	86.1026396
221019A00008	10/19/2022	4.8	10/17/2025	10/19/2022	106.31823	104.6761653	103.0676912	101.4918396	99.94768144	98.4343227	96.950903	95.4965938	94.07059701
221019A00009	10/19/2022	4.8	10/17/2025	10/19/2022	106.31823	104.6761653	103.0676912	101.4918396	99.94768144	98.4343227	96.950903	95.4965938	94.07059701
200407A00004	4/7/2020	0.99	4/7/2025	4/7/2020	99.945694	98.85739033	97.79261905	96.75062369	95.73068023	94.73209502	93.75420322	92.79636733	91.85797579
221213A00061	12/13/2022	4.15	12/11/2026	12/13/2022	109.79856	106.9694731	104.228813	101.5732746	98.99969727	96.50505963	94.086472	91.74116981	89.4665072
221214A00102	12/14/2022	4.33	12/15/2025	12/14/2022	106.18964	104.3883441	102.6265734	100.9031687	99.21701389	97.56703498	95.95219792	94.37150685	92.82400227
221214A00030	12/14/2022	4.02	12/14/2027	12/14/2022	113.33502	109.4373707	105.6976557	102.1085944	98.6632819	95.3551698	92.17804566	89.12601368	86.19347665
221214A00031	12/14/2022	3.97	12/14/2027	12/14/2022	113.14554	109.2514712	105.5152293	101.9295382	98.48749665	95.18256018	92.00851985	88.95948325	86.02985641
221214A00020	12/14/2022	4.2	12/12/2025	12/14/2022	105.92457	104.1337174	102.3820214	100.6683194	98.99149776	97.35048549	95.74425221	94.17180612	92.63219223
221214A00003	12/14/2022	4.26	12/12/2025	12/14/2022	106.03208	104.2402378	102.4875706	100.7729151	99.09515711	97.45322532	95.84608885	94.27275546	92.73226972
221214A00022	12/14/2022	4.17	2/13/2026	12/14/2022	106.55175	104.5835231	102.66202	100.7858438	98.95364869	97.16413836	95.41606323	93.70821867	92.03944303
221020A00046	10/20/2022	4.95	1/21/2025	10/20/2022	103.2855	102.3848119	101.4998985	100.6303498	99.77576728	98.93576617	98.10997481	97.29803407	96.49959687
221020A00052	10/20/2022	4.95	10/21/2024	10/20/2022	102.25717	101.6098679	100.9707835	100.3397645	99.71665841	99.10131688	98.49359512	97.89335194	97.30044962
221011A00114	10/11/2022	4.66	8/12/2024	10/11/2022	101.47049	101.0149681	100.5635496	100.1161804	99.67280606	99.23337307	98.79782883	98.36612171	97.93820101
221011A00122	10/11/2022	4.64	12/11/2024	10/11/2022	102.5728	101.7861937	101.0116941	100.2490198	99.49790097	98.75807599	98.02929098	97.31129967	96.6038631
221215A00115	12/15/2022	4	12/15/2027	12/15/2022	113.26964	109.3705136	105.6295017	102.0393085	98.5930205	95.28408101	92.10626936	89.05368182	86.12071352
221215A00082	12/15/2022	4.27	12/15/2025	12/15/2022	106.08164	104.2813405	102.5205497	100.7981069	99.11289667	97.46384531	95.84991932	94.27012325	92.72349805
221216A00045	12/16/2022	4.38	5/16/2025	12/16/2022	103.9396	102.7253738	101.5396373	100.3813927	99.24969009	98.14362313	97.06232621	96.0049724	94.97077126
221216A00049	12/16/2022	4.29	8/15/2025	12/16/2022	104.79589	103.3373463	101.9065726	100.5028422	99.12545465	97.77373331	96.44702421	95.14469516	93.86613482
221216A00044	12/16/2022	4.43	4/16/2025	12/16/2022	103.68626	102.5542652	101.4470901	100.3639198	99.30397832	98.26652293	97.25084225	96.25625465	95.28210674
221216A00047	12/16/2022	4.34	6/16/2025	12/16/2022	104.23162	102.9344192	101.6639146	100.4192833	99.19973941	98.00452916	96.83292912	95.68424474	94.5578089
221216A00048	12/16/2022	4.32	7/16/2025	12/16/2022	104.53226	103.1549779	101.8026222	100.4745687	99.17021734	97.88898763	96.63031753	95.39366282	94.17849641
230104A00044	1/4/2023	4.2	1/4/2028	1/4/2023	114.24668	110.2747705	106.4657911	102.8122024	99.3068537	95.94296003	92.71408167	89.61410478	86.63722327
230104A00004	1/4/2023	4.19	1/4/2028	1/4/2023	114.20821	110.2370399	106.4287757	102.7758807	99.27120514	95.9079647	92.67972046	89.58035929	86.60407577

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221021A00022	10/21/2022	4.84	10/21/2024	10/21/2022	102.18577	101.5387203	100.8998924	100.2691276	99.64627345	99.03118165	98.42370741	97.82370958	97.23105049
221216A00008	12/16/2022	4.27	12/16/2025	12/16/2022	106.1104	104.3068437	102.5429209	100.8174725	99.12938201	97.47757458	95.86101525	94.27870704	92.72968922
221216A00009	12/16/2022	4.27	12/16/2025	12/16/2022	106.1104	104.3068437	102.5429209	100.8174725	99.12938201	97.47757458	95.86101525	94.27870704	92.72968922
221216A00007	12/16/2022	4.27	12/16/2025	12/16/2022	106.1104	104.3068437	102.5429209	100.8174725	99.12938201	97.47757458	95.86101525	94.27870704	92.72968922
221216A00010	12/16/2022	4.27	12/16/2025	12/16/2022	106.1104	104.3068437	102.5429209	100.8174725	99.12938201	97.47757458	95.86101525	94.27870704	92.72968922
221219A00043	12/19/2022	4.07	12/17/2027	12/19/2022	113.55629	109.6463275	105.8950595	102.2951682	98.83971429	95.5221159	92.33612817	89.27582395	86.33557581
230105A00020	1/5/2023	4.32	1/5/2028	1/5/2023	114.71947	110.7357949	106.9155402	103.2511412	99.73542312	96.36157853	93.12314656	90.01399343	87.02829424
221024A00018	10/24/2022	4.91	10/24/2024	10/24/2022	102.26071	101.605272	100.9582623	100.3195164	99.68887634	99.06618837	98.45130249	97.84407247	97.24435573
221220A00024	12/20/2022	4.7	12/20/2024	12/20/2022	102.71305	101.9015444	101.102908	100.3168341	99.5430274	98.78120174	98.0310799	97.29239317	96.56488098
221220A00025	12/20/2022	4.38	12/22/2025	12/20/2022	106.37398	104.551938	102.7702397	101.0277216	99.32326281	97.65578327	96.02424151	94.42763308	92.86498898
221221A00043	12/21/2022	4.26	12/19/2025	12/21/2022	106.12402	104.3123226	102.5405958	100.8076759	99.11244459	97.45382508	95.83077969	94.24230826	92.68744645
221221A00053	12/21/2022	4.15	12/21/2027	12/21/2022	113.90337	109.9759706	106.2083134	102.5930289	99.12313032	95.7919898	92.59331802	89.52114484	86.56980137
221014A00027	10/14/2022	4.63	10/14/2027	10/14/2022	114.89349	111.1355663	107.5239505	104.0521098	100.7138396	97.5032477	94.41473671	91.44298752	88.58294364
221014A00031	10/14/2022	4.89	4/12/2024	10/14/2022	100.40282	100.2836007	100.1646769	100.0460495	99.92771722	99.80967903	99.69193376	99.57448028	99.45731747
230131A00032	2/3/2023	4.17	7/30/2026	2/3/2023	108.38655	105.9412128	103.5642689	101.2534175	99.00645125	96.82124987	94.69577602	92.62807159	90.6162541
230131A00034	2/3/2023	3.99	12/23/2027	2/3/2023	113.31474	109.3930991	105.6312901	102.0219342	98.55803678	95.23296216	92.04041309	88.9744117	86.02928146
230131A00006	1/31/2023	4.23	2/2/2026	1/31/2023	106.54271	104.6067931	102.716121	100.8693652	99.06524174	97.30251296	95.57998524	93.89650719	92.25096783
230131A00009	1/31/2023	3.98	1/31/2028	1/31/2023	113.67699	109.6433719	105.7782145	102.0735869	98.52197189	95.11624385	91.84964627	88.71577055	85.70853633
230131A00072	1/31/2023	4.99	4/30/2024	1/31/2023	100.58845	100.419324	100.2507609	100.0827611	99.91532158	99.74843976	99.58211282	99.41633803	99.25111265
230131A00057	1/31/2023	4.1	1/29/2027	1/31/2023	110.17228	107.2064818	104.3373098	101.5610862	98.8742981	96.27358526	93.7557324	91.31766216	88.95642836
230131A00071	1/31/2023	4.22	1/30/2026	1/31/2023	106.48992	104.5630373	102.6810048	100.8425115	99.04628972	97.29111723	95.57581506	93.89924579	92.26031177
230131A00067	1/31/2023	4.02	2/2/2026	1/31/2023	106.41052	104.4708657	102.5766356	100.7264937	98.91914865	97.15335594	95.42791534	93.74166917	92.09350051
230131A00095	1/31/2023	4.22	1/30/2026	1/31/2023	106.48992	104.5630373	102.6810048	100.8425115	99.04628972	97.29111723	95.57581506	93.89924579	92.26031177
230201A00012	2/1/2023	4.08	2/1/2027	2/1/2023	110.14596	107.1722526	104.295685	101.5125531	98.81931628	96.21258824	93.68912907	91.24583824	88.87974775
230201A00011	2/1/2023	3.93	2/1/2028	2/1/2023	113.4917	109.4588353	105.5945565	101.8909193	98.34039523	94.9358484	91.67051269	88.5379707	85.53213397
230202A00096	2/2/2023	3.81	2/2/2028	2/2/2023	113.03133	109.0046029	105.1464203	101.4488321	97.90430482	94.50569788	91.24624124	88.11951405	85.11942484
230202A00038	2/2/2023	3.84	2/2/2028	2/2/2023	113.1491	109.1200743	105.2596597	101.5599075	98.01328164	94.61263905	91.35120728	88.2225632	85.22061314
230202A00008	2/2/2023	3.81	2/2/2028	2/2/2023	113.03133	109.0046029	105.1464203	101.4488321	97.90430482	94.50569788	91.24624124	88.11951405	85.11942484
230202A00050	2/2/2023	3.82	2/2/2028	2/2/2023	113.07059	109.0430934	105.1841668	101.4858573	97.94063043	94.54134494	91.28122992	88.15386377	85.15315428
230203A00021	2/8/2023	4.21	6/17/2026	2/8/2023	108.01571	105.6907943	103.4280921	101.2255479	99.08118826	96.99311866	94.95951939	92.97864211	91.04880654
230203A00053	2/10/2023	4.32	2/10/2026	2/10/2023	106.81103	104.8489985	102.9333381	101.0626666	99.23565424	97.45101928	95.70752635	94.00398424	92.33924406
230203A00045	2/14/2023	4.31	2/13/2026	2/14/2023	106.82673	104.8557421	102.9315314	101.0526992	99.21789837	97.42583115	95.67524663	93.96493889	92.29374503
230203A00058	2/3/2023	4.34	2/3/2026	2/3/2023	106.7673	104.8262253	102.9305759	101.0790114	99.27024128	97.50302134	95.77615192	94.0884758	92.43887648

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230203A00059	2/3/2023	4.67	2/3/2025	2/3/2023	103.17154	102.2362977	101.3180671	100.4163863	99.53081015	98.66090947	97.80627011	96.96649243	96.14119065
230203A00046	2/10/2023	4.65	2/10/2025	2/10/2023	103.22768	102.2733011	101.3366361	100.4171937	99.5145013	98.62810337	97.7575608	96.90245015	96.06236296
230203A00051	2/14/2023	4.64	2/14/2025	2/14/2023	103.26079	102.2954581	101.3482478	100.4186478	99.50616954	98.61034216	97.73071211	96.86684214	96.01831064
230203A00048	2/10/2023	4.65	2/10/2025	2/10/2023	103.22768	102.2733011	101.3366361	100.4171937	99.5145013	98.62810337	97.7575608	96.90245015	96.06236296
230203A00043	2/14/2023	4.31	2/13/2026	2/14/2023	106.82673	104.8557421	102.9315314	101.0526992	99.21789837	97.42583115	95.67524663	93.96493889	92.29374503
230203A00057	2/3/2023	4.34	2/3/2026	2/3/2023	106.7673	104.8262253	102.9305759	101.0790114	99.27024128	97.50302134	95.77615192	94.0884758	92.43887648
230203A00050	2/14/2023	4.64	2/14/2025	2/14/2023	103.26079	102.2954581	101.3482478	100.4186478	99.50616954	98.61034216	97.73071211	96.86684214	96.01831064
230203A00054	2/10/2023	4.32	2/10/2026	2/10/2023	106.81103	104.8489985	102.9333381	101.0626666	99.23565424	97.45101928	95.70752635	94.00398424	92.33924406
230207A00025	2/7/2023	4.62	2/7/2025	2/7/2023	103.31722	102.3683504	101.4369742	100.5226073	99.62478611	98.74306365	97.87700904	97.02620665	96.19025544
230207A00046	2/7/2023	4.83	2/7/2025	2/7/2023	103.36634	102.419334	101.4897515	100.5771128	99.68095711	98.80083987	97.93633256	97.08702181	96.25250872
230208A00055	2/8/2023	4.22	2/6/2026	2/8/2023	106.84568	104.8899319	102.9802322	101.1152141	99.29356182	97.51400719	95.77532763	94.07634414	92.41591944
230208A00060	2/8/2023	4.06	2/8/2027	2/8/2023	110.56394	107.5542917	104.6437569	101.8285221	99.10494622	96.4695485	93.9189999	91.45011584	89.05984901
230208A00036	2/8/2023	4.43	2/6/2026	2/8/2023	106.9976	105.04508	103.1384425	101.2763297	99.45743269	97.68048967	95.94428418	94.24764304	92.58943449
230208A00038	2/8/2023	4.27	2/8/2027	2/8/2023	110.78531	107.7815044	104.8763942	102.0661947	99.34728685	96.71621011	94.16965471	91.70445419	89.31757834
230208A00040	2/8/2023	4.26	2/8/2029	2/8/2023	118.80078	113.6198272	108.702218	104.033135	99.59866944	95.38576251	91.38214921	87.57630604	83.95740237
230208A00041	2/8/2023	4.32	2/8/2030	2/8/2023	122.43459	116.1432064	110.22643	104.6598604	99.42080971	94.48817556	89.84232255	85.46497296	81.33910616
230208A00039	2/8/2023	4.17	2/8/2028	2/8/2023	114.51291	110.4399422	106.5378325	102.7984938	99.21426631	95.77789136	92.48248817	89.32153224	86.28883492
221025A00027	10/25/2022	4.57	10/25/2027	10/25/2022	114.80906	111.0225437	107.3844287	103.8880434	100.5270543	97.29544921	94.18751932	91.19784146	88.32126226
230208A00029	2/8/2023	4.27	2/8/2027	2/8/2023	110.78531	107.7815044	104.8763942	102.0661947	99.34728685	96.71621011	94.16965471	91.70445419	89.31757834
230209A00028	2/9/2023	4.9	12/9/2024	2/9/2023	102.74857	101.9667127	101.196793	100.4385429	99.69169812	98.9560021	98.23120609	97.51706866	96.81335548
230209A00049	2/9/2023	4.17	2/9/2028	2/9/2023	114.52429	110.4482206	106.5432526	102.8012828	99.21463566	95.77603763	92.47859428	89.31576834	86.28135931
230210A00040	2/10/2023	4.29	8/10/2027	2/10/2023	112.91791	109.3746649	105.9641113	102.6805618	99.51860339	96.47308317	93.53909476	90.71196494	87.98724128
230210A00043	2/10/2023	4.34	2/10/2027	2/10/2023	111.01572	108.0025757	105.0885981	102.2699722	99.54305545	96.9043655	94.35057193	91.87848881	89.48506754
230210A00045	2/10/2023	4.43	8/10/2026	2/10/2023	109.14112	106.6571197	104.2433185	101.8973327	99.6168724	97.3997392	95.24382162	93.14709128	91.10759906
221027A00004	10/27/2022	4.76	10/28/2024	10/27/2022	102.19977	101.5337368	100.8764017	100.2275947	99.58715045	98.95490783	98.33070989	97.71440367	97.10584002
221027A00009	10/27/2022	4.68	10/27/2025	10/27/2022	106.23819	104.5699743	102.9362467	101.3359982	99.76826239	98.2321102	96.72664786	95.25101531	93.80438451
230106A00017	1/6/2023	4.23	1/6/2028	1/6/2023	114.38394	110.4040045	106.587511	102.9268866	99.41495017	96.04488808	92.810234	89.70484919	86.72290429
230106A00019	1/6/2023	4.23	1/6/2028	1/6/2023	114.38394	110.4040045	106.587511	102.9268866	99.41495017	96.04488808	92.810234	89.70484919	86.72290429
221027A00061	12/15/2022	4.45	12/15/2027	12/15/2022	114.97618	111.044789	107.2724756	103.6519097	100.1761426	96.83858394	93.63298111	90.55339976	87.59420575
221027A00056	4/25/2023	4.48	4/25/2030	4/25/2023	124.06771	117.5126891	111.359223	105.5803937	100.1512326	95.04856826	90.25088825	85.73821099	81.49196906
221027A00060	12/1/2022	4.46	12/1/2027	12/1/2022	114.85086	110.9600025	107.2251933	103.6392525	100.1953722	96.88709946	93.70831485	90.65321309	87.71628473
221027A00050	10/27/2022	4.52	10/27/2027	10/27/2022	114.6503	110.8612002	107.2208117	103.7224365	100.3597202	97.1266314	94.01744312	91.02671561	88.14928001
221027A00063	12/15/2022	4.45	12/15/2027	12/15/2022	114.97618	111.044789	107.2724756	103.6519097	100.1761426	96.83858394	93.63298111	90.55339976	87.59420575

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221027A00047	10/27/2022	4.88	4/26/2024	10/27/2022	100.53249	100.3744867	100.216981	100.0599749	99.90346601	99.74745199	99.59193049	99.43689916	99.2823557
221027A00062	12/15/2022	4.45	12/15/2027	12/15/2022	114.97618	111.044789	107.2724756	103.6519097	100.1761426	96.83858394	93.63298111	90.55339976	87.59420575
221028A00027	10/28/2022	4.73	10/28/2024	10/28/2022	102.17972	101.5137599	100.8564989	100.2077652	99.56739361	98.93522301	98.31109644	97.69486094	97.08636738
221031A00035	10/31/2022	4.67	10/30/2026	10/31/2022	110.7276	108.0015622	105.3577074	102.7930335	100.3046692	97.88986791	95.54600153	93.27055406	91.06111618
221031A00036	10/31/2022	4.59	10/29/2027	10/31/2022	114.9307	111.1309944	107.4805416	103.9726112	100.6008195	97.35910777	94.24172338	91.24320261	88.35835413
221031A00033	10/31/2022	4.74	10/31/2025	10/31/2022	106.38544	104.7052202	103.0598719	101.4483761	99.86975079	98.32305176	96.80737109	95.32183527	93.86560352
221031A00042	10/31/2022	4.73	10/30/2026	10/31/2022	110.8879	108.1596977	105.5137317	102.9469951	100.456615	98.03984347	95.6940509	93.41672002	91.20544019
221031A00061	10/31/2022	4.94	4/30/2024	10/31/2022	100.58	100.4108787	100.2423263	100.0743371	99.90690821	99.74003696	99.57372056	99.40795628	99.2427414
221102A00012	11/2/2022	4.82	11/3/2025	11/2/2022	106.55674	104.8667558	103.2119731	101.5913547	100.003905	98.44866752	96.92472231	95.4311846	93.96720295
221102A00026	11/2/2022	4.66	11/2/2027	11/2/2022	115.23704	111.4206061	107.754395	104.2316146	100.8458255	97.59091727	94.46108893	91.45083163	88.55491185
230306A00040	3/6/2023	5.05	3/6/2025	3/6/2023	104.0581	103.0321859	102.0266044	101.0407522	100.0740515	99.12594709	98.19590502	97.28341162	96.38797255
230109A00042	1/9/2023	4.07	12/20/2027	1/9/2023	113.58808	109.6693797	105.9100289	102.3026763	98.84035174	95.51644342	92.32467752	89.25909879	86.31405269
230109A00083	1/9/2023	4.79	1/11/2038	1/9/2023	150.518	135.023568	121.420726	109.4621973	98.93452437	89.65327054	81.45892661	74.21341381	67.79709346
230110A00055	1/10/2023	4.06	1/10/2028	1/10/2023	113.77091	109.7919873	105.9770111	102.3183651	98.80882549	95.44153971	92.21000526	89.10805004	86.12981384
230110A00070	1/10/2023	4.27	1/9/2026	1/10/2023	106.3642	104.4943041	102.666787	100.8804385	99.13409112	97.42661842	95.75693259	94.12398312	92.52675521
230110A00040	1/13/2023	4.07	12/13/2027	1/13/2023	113.51391	109.6155831	105.8750877	102.2851427	98.83884927	95.52966526	92.35138427	89.29811638	86.36427012
230110A00043	1/10/2023	3.84	1/10/2028	1/10/2023	113.45035	109.4633617	105.64107	101.9758075	98.46030334	95.08766096	91.85133684	88.74512056	85.76311614
230110A00047	1/10/2023	3.84	1/10/2028	1/10/2023	113.45035	109.4633617	105.64107	101.9758075	98.46030334	95.08766096	91.85133684	88.74512056	85.76311614
230110A00023	1/10/2023	4.3	1/12/2026	1/10/2023	106.45222	104.5735235	102.7375631	100.9431183	99.18900773	97.47409089	95.79726693	94.15747285	92.55368195
230111A00046	1/11/2023	4.28	1/13/2026	1/11/2023	106.42529	104.5441953	102.7059504	100.9093274	99.15314016	97.43624391	95.75753366	94.11594249	92.51043994
230111A00072	1/11/2023	4.21	1/12/2026	1/11/2023	106.28332	104.4062433	102.5718765	100.7789956	99.02642004	97.31301008	95.63766566	93.99932451	92.39696064
230111A00069	1/11/2023	4.54	1/10/2025	1/11/2023	102.80259	101.9339115	101.0799587	100.2403616	99.41475974	98.60280474	97.8041596	97.01849839	96.24550578
230111A00019	1/11/2023	3.83	1/11/2028	1/11/2023	113.42185	109.432711	105.6084684	101.9414413	98.42434561	95.05027226	91.81266614	88.70530607	85.72228605
230111A00039	1/11/2023	4.6	1/13/2025	1/11/2023	102.88624	102.0090792	101.1469233	100.2993936	99.46611947	98.64674272	97.84091711	97.04830782	96.26859098
230111A00013	1/11/2023	4.25	1/9/2026	1/11/2023	106.32683	104.4572916	102.6301258	100.8441218	99.09811273	97.39097213	95.72161238	94.08898313	92.49206975
230111A00004	1/11/2023	3.83	1/11/2028	1/11/2023	113.42185	109.432711	105.6084684	101.9414413	98.42434561	95.05027226	91.81266614	88.70530607	85.72228605
230112A00044	1/12/2023	4	1/12/2028	1/12/2023	113.55972	109.5794889	105.7635121	102.1041492	98.59415314	95.22664978	91.99511666	88.89336317	85.91551199
230112A00041	1/12/2023	4.2	1/12/2026	1/12/2023	106.26455	104.3876566	102.5534669	100.7607598	99.00835474	97.29511222	95.61993219	93.98175248	92.37954716
230112A00042	1/12/2023	4.09	1/12/2027	1/12/2023	109.9663	107.0489581	104.2253199	101.4918704	98.84524952	96.28224077	93.79976446	91.39487099	89.06473472
230112A00014	1/12/2023	4.09	1/12/2027	1/12/2023	109.9663	107.0489581	104.2253199	101.4918704	98.84524952	96.28224077	93.79976446	91.39487099	89.06473472
230112A00004	1/12/2023	4	1/12/2028	1/12/2023	113.55972	109.5794889	105.7635121	102.1041492	98.59415314	95.22664978	91.99511666	88.89336317	85.91551199
230112A00065	1/12/2023	4.09	1/12/2027	1/12/2023	109.9663	107.0489581	104.2253199	101.4918704	98.84524952	96.28224077	93.79976446	91.39487099	89.06473472
221107A00048	11/7/2022	4.96	9/8/2025	11/7/2022	106.07283	104.5397792	103.0368962	101.5633628	100.1183897	98.70121581	97.31110633	95.94735203	94.609268

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221107A00053	11/7/2022	4.95	10/7/2025	11/7/2022	106.44002	104.823757	103.2402064	101.6884412	100.1675686	98.67672901	97.21509468	95.78186787	94.37627974
221107A00029	11/7/2022	4.83	11/9/2026	11/7/2022	111.28404	108.5226278	105.8451062	103.2483781	100.7294883	98.28561145	95.91404498	93.61220311	91.37761073
221107A00030	11/7/2022	4.7	11/5/2027	11/7/2022	115.42213	111.5938528	107.9165108	104.383273	100.9876581	97.7235161	94.58500956	91.56659539	88.66300819
221107A00010	11/7/2022	5.12	11/7/2024	11/7/2022	102.55408	101.859622	101.1746022	100.4988272	99.83211048	99.17427044	98.52513032	97.88451805	97.25226608
221108A00033	11/8/2022	4.7	11/8/2027	11/8/2022	115.46022	111.6227851	107.9369261	104.3957707	100.9927979	97.72182113	94.57696855	91.55266529	88.64361633
221108A00036	11/8/2022	4.95	11/7/2025	11/8/2022	106.82675	105.1233642	103.4556236	101.8224718	100.2228952	98.65592019	97.12061078	95.61606687	94.14142254
221108A00041	11/8/2022	5.15	4/8/2024	11/8/2022	100.39341	100.2852345	100.177299	100.0696073	99.9621585	99.85495179	99.74798629	99.64126117	99.53477559
230306A00029	3/6/2023	5.26	9/6/2024	3/6/2023	102.08343	101.5572901	101.036592	100.5212519	100.0111872	99.50631679	99.00656158	98.51184387	98.02208758
230307A00057	3/7/2023	5.08	3/7/2025	3/7/2023	104.10135	103.0724957	102.064081	101.0755023	100.1061771	99.15554574	98.22307016	97.30823266	96.41053513
230307A00056	3/7/2023	5.08	3/7/2025	3/7/2023	104.10135	103.0724957	102.064081	101.0755023	100.1061771	99.15554574	98.22307016	97.30823266	96.41053513
230307A00058	3/7/2023	5.29	3/7/2025	3/7/2023	104.15291	103.1261227	102.1196992	101.1330352	100.1655516	99.21669168	98.28592026	97.37272243	96.47660269
230307A00021	3/7/2023	4.63	3/7/2028	3/7/2023	116.67682	112.4809779	108.4638252	104.6167669	100.9316661	97.40081961	94.01693266	90.77309476	87.66275741
230307A00022	3/7/2023	4.77	3/8/2027	3/7/2023	112.62306	109.5105102	106.502454	103.5947921	100.7836065	98.06515543	95.43586447	92.8923178	90.43125025
230307A00034	3/7/2023	4.41	3/7/2028	3/7/2023	116.3515	112.1468292	108.1216887	104.2674214	100.5758363	97.03917975	93.65011019	90.40167342	87.28728021
230307A00039	3/7/2023	5.29	3/7/2025	3/7/2023	104.15291	103.1261227	102.1196992	101.1330352	100.1655516	99.21669168	98.28592026	97.37272243	96.47660269
230307A00114	3/7/2023	4.65	3/7/2028	3/7/2023	116.75719	112.5597393	108.5410297	104.6924628	101.0058999	97.47363594	94.08837445	90.8432033	87.73157239
230308A00044	3/8/2023	5.68	3/11/2024	3/8/2023	100.13201	100.1014346	100.07089	100.0403804	100.0099058	99.97946604	99.9490611	99.91869092	99.88835543
230112A00066	1/12/2023	4	1/12/2028	1/12/2023	113.55972	109.5794889	105.7635121	102.1041492	98.59415314	95.22664978	91.99511666	88.89336317	85.91551199
230112A00062	3/15/2023	3.83	3/15/2028	3/15/2023	113.54201	109.3871262	105.4106428	101.603921	97.95878979	94.46751614	91.12277937	87.91764672	84.84555061
230112A00061	3/15/2023	4.01	3/13/2026	3/15/2023	106.55513	104.5076352	102.5103023	100.561576	98.65996233	96.80402394	94.99237774	93.22369224	91.49668531
230112A00063	3/15/2023	3.83	3/15/2028	3/15/2023	113.54201	109.3871262	105.4106428	101.603921	97.95878979	94.46751614	91.12277937	87.91764672	84.84555061
230112A00060	3/15/2023	4.01	3/13/2026	3/15/2023	106.55513	104.5076352	102.5103023	100.561576	98.65996233	96.80402394	94.99237774	93.22369224	91.49668531
230308A00021	3/8/2023	5.39	3/7/2025	3/8/2023	104.25545	103.2281029	102.2211255	101.2339153	100.2658929	99.31650145	98.38520562	97.47149034	96.57485995
230309A00033	3/9/2023	4.82	3/9/2027	3/9/2023	112.78684	109.6690618	106.6560059	103.7435548	100.92778	98.20492987	95.57142042	93.02382704	90.55887624
230309A00034	3/9/2023	4.64	3/9/2028	3/9/2023	116.7414	112.5387531	108.515256	104.6622843	100.9716723	97.43569012	94.04701814	90.79872277	87.68423402
230309A00030	3/9/2023	5.01	3/9/2026	3/9/2023	108.54405	106.4866784	104.4794483	102.5208115	100.6092819	98.74342946	96.92187775	95.14330144	93.40642403
230309A00068	4/10/2023	5.21	4/9/2025	4/10/2023	104.48332	103.3654469	102.2716391	101.2011267	100.1531696	99.12705864	98.12211419	97.13768459	96.17314473
230309A00027	3/9/2023	4.68	3/9/2028	3/9/2023	116.90236	112.6964853	108.6698662	104.8138695	101.1203258	97.58150154	94.19007364	90.93910521	87.82202308
230309A00032	3/9/2023	4.82	3/9/2027	3/9/2023	112.78684	109.6690618	106.6560059	103.7435548	100.92778	98.20492987	95.57142042	93.02382704	90.55887624
230309A00031	3/9/2023	5.01	3/9/2026	3/9/2023	108.54405	106.4866784	104.4794483	102.5208115	100.6092819	98.74342946	96.92187775	95.14330144	93.40642403
230309A00035	3/9/2023	4.64	3/9/2028	3/9/2023	116.7414	112.5387531	108.515256	104.6622843	100.9716723	97.43569012	94.04701814	90.79872277	87.68423402
230309A00005	3/9/2023	5.06	3/9/2026	3/9/2023	108.64554	106.5871231	104.578862	102.6192143	100.7066932	98.8398682	97.01736235	95.23784979	93.50005354
230309A00080	3/9/2023	4.68	3/9/2028	3/9/2023	116.90236	112.6964853	108.6698662	104.8138695	101.1203258	97.58150154	94.19007364	90.93910521	87.82202308

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230309A00091	3/9/2023	4.68	3/9/2028	3/9/2023	116.90236	112.6964853	108.6698662	104.8138695	101.1203258	97.58150154	94.19007364	90.93910521	87.82202308
230309A00096	3/9/2023	4.68	3/9/2028	3/9/2023	116.90236	112.6964853	108.6698662	104.8138695	101.1203258	97.58150154	94.19007364	90.93910521	87.82202308
230310A00040	3/10/2023	4.38	3/10/2028	3/10/2023	115.70668	111.5220094	107.5160488	103.6801849	100.0062631	96.48656433	93.11377943	89.88098529	86.7816221
230310A00049	3/10/2023	4.7	3/10/2026	3/10/2023	107.92691	105.8732324	103.8696773	101.9146954	100.0067994	98.14455809	96.32659391	94.55158061	92.81824086
230310A00048	3/10/2023	5.03	3/10/2025	3/10/2023	103.9222	102.888585	101.8756385	100.882744	99.90930919	98.95476465	98.01856317	97.10017848	96.19910431
230310A00037	3/10/2023	4.69	3/10/2026	3/10/2023	107.90658	105.8531167	103.8497683	101.8949892	99.98729196	98.12524563	96.30747277	94.53264719	92.79949167
230310A00039	3/10/2023	4.33	3/10/2028	3/10/2023	115.50535	111.3247133	107.3226603	103.4905826	99.82033011	96.30418837	92.93485266	89.70540396	86.60928642
230310A00073	3/10/2023	4.7	3/6/2026	3/10/2023	107.87836	105.8359847	103.8432951	101.8987631	100.0009203	98.14835372	96.33970303	94.57365817	92.84895719
230310A00120	3/10/2023	4.33	3/10/2028	3/10/2023	115.50535	111.3247133	107.3226603	103.4905826	99.82033011	96.30418837	92.93485266	89.70540396	86.60928642
230310A00114	3/10/2023	4.5	3/10/2027	3/10/2023	111.83015	108.7241931	105.7227477	102.8217019	100.0171302	97.30528427	94.68258346	92.14560643	89.69108302
230310A00024	3/10/2023	4.38	3/10/2028	3/10/2023	115.70668	111.5220094	107.5160488	103.6801849	100.0062631	96.48656433	93.11377943	89.88098529	86.7816221
230113A00055	1/13/2023	3.88	1/13/2028	1/13/2023	113.10546	109.131304	105.3213517	101.6679585	98.16387318	94.80221807	91.57646755	88.48042833	85.50822074
230113A00080	1/13/2023	4.18	1/13/2026	1/13/2023	106.23735	104.3580602	102.521591	100.7267106	98.97223361	97.25701631	95.57995454	93.93998216	92.33606952
230117A00040	1/17/2023	4.07	1/19/2027	1/17/2023	109.98124	107.0449857	104.2036024	101.4535151	98.79130198	96.2136886	93.71754056	91.29985674	88.95776286
230117A00048	1/17/2023	3.97	1/14/2028	1/17/2023	113.4641	109.4803373	105.6612074	101.9990402	98.48656303	95.11687764	91.88343932	88.78003679	85.80077346
230117A00015	1/17/2023	4.52	1/17/2025	1/17/2023	102.85675	101.9689363	101.0965031	100.2390508	99.3961952	98.56756521	97.75280217	96.95155943	96.16350185
230117A00087	1/17/2023	3.93	1/18/2028	1/17/2023	113.34957	109.3572788	105.5304169	101.8612599	98.34248137	94.96713364	91.72862574	88.62070341	85.63743013
230118A00058	1/23/2023	4	2/17/2026	1/23/2023	106.28148	104.3038839	102.3735167	100.488957	98.64883737	96.85184026	95.0966963	93.38218196	91.70711761
230118A00029	1/18/2023	3.81	1/18/2028	1/18/2023	112.88338	108.9001079	105.0819939	101.4213203	97.91077087	94.54340754	91.31264864	88.21224874	85.23627975
230118A00019	1/18/2023	3.59	1/18/2028	1/18/2023	112.55869	108.5673767	104.7419751	101.0747185	97.55824293	94.18556582	90.95006386	87.84545282	84.86576834
230118A00039	1/18/2023	3.81	1/18/2028	1/18/2023	112.88338	108.9001079	105.0819939	101.4213203	97.91077087	94.54340754	91.31264864	88.21224874	85.23627975
230310A00071	3/10/2023	4.38	3/10/2028	3/10/2023	115.70668	111.5220094	107.5160488	103.6801849	100.0062631	96.48656433	93.11377943	89.88098529	86.7816221
230310A00030	3/10/2023	4.38	3/10/2028	3/10/2023	115.70668	111.5220094	107.5160488	103.6801849	100.0062631	96.48656433	93.11377943	89.88098529	86.7816221
230310A00021	3/10/2023	4.38	3/10/2028	3/10/2023	115.70668	111.5220094	107.5160488	103.6801849	100.0062631	96.48656433	93.11377943	89.88098529	86.7816221
230310A00017	3/10/2023	4.43	3/9/2029	3/10/2023	119.95535	114.6612274	109.6398961	104.8757842	100.3542916	96.06172399	91.98523202	88.1127545	84.43296604
230310A00089	3/10/2023	4.7	3/10/2026	3/10/2023	107.92691	105.8732324	103.8696773	101.9146954	100.0067994	98.14455809	96.32659391	94.55158061	92.81824086
230310A00088	3/10/2023	5.03	3/10/2025	3/10/2023	103.9222	102.888585	101.8756385	100.882744	99.90930919	98.95476465	98.01856317	97.10017848	96.19910431
230310A00092	3/10/2023	4.38	3/10/2028	3/10/2023	115.70668	111.5220094	107.5160488	103.6801849	100.0062631	96.48656433	93.11377943	89.88098529	86.7816221
230310A00091	3/10/2023	4.53	3/10/2027	3/10/2023	111.92102	108.813681	105.8108882	102.9085286	100.1026759	97.38958049	94.76566073	92.22749428	89.77181006
230310A00062	3/10/2023	4.38	4/10/2028	3/10/2023	116.06478	111.7869446	107.6947441	103.7790797	100.0313506	96.44342406	93.00760699	89.71661981	86.56357164
230310A00069	3/10/2023	4.7	3/9/2026	3/10/2023	107.91477	105.8639216	103.8630835	101.9107144	100.0053319	98.14550926	96.32987324	94.55710166	92.82592104
230310A00068	3/10/2023	5.03	3/10/2025	3/10/2023	103.9222	102.888585	101.8756385	100.882744	99.90930919	98.95476465	98.01856317	97.10017848	96.19910431
230310A00054	9/8/2023	4.09	9/11/2028	9/8/2023	116.47644	111.7652309	107.2767103	102.9991268	98.92141652	95.03315504	91.32451712	87.78623891	84.40958292

	Parallel-Shift Sensitivity Analysis												
2/29/2024					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	6/9/2023	116.06603	111.6218224	107.3769835	103.3214465	99.44571039	95.74080559	92.19826106	88.81007351	85.56867886
230313A00102	3/13/2023	4.15	3/13/2028	3/13/2023	114.81316	110.6381854	106.641998	102.8159535	99.15187729	95.6420329	92.27909539	89.05612742	85.96655645
230313A00112	3/13/2023	4.15	3/13/2028	3/13/2023	114.81316	110.6381854	106.641998	102.8159535	99.15187729	95.6420329	92.27909539	89.05612742	85.96655645
230313A00159	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
230313A00158	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
230313A00078	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
221223A00016	12/23/2022	4.73	12/23/2024	12/23/2022	102.77677	101.9567662	101.1498948	100.3558384	99.57429268	98.80496331	98.04756493	97.30182104	96.56746365
221223A00035	12/23/2022	4.44	12/23/2025	12/23/2022	106.49418	104.668338	102.8829729	101.136919	99.42905454	97.75829799	96.12360647	94.52397395	92.95842971
230118A00023	1/18/2023	3.8	1/18/2028	1/18/2023	112.84453	108.8620103	105.0446254	101.3846587	97.87479499	94.50809703	91.27798388	88.17821085	85.20285055
230118A00034	1/18/2023	3.89	1/18/2028	1/18/2023	113.19418	109.2048885	105.3809426	101.7146133	98.19857787	94.8258916	91.58996671	88.48455186	85.50371334
230118A00033	1/18/2023	3.81	1/18/2028	1/18/2023	112.88338	108.9001079	105.0819939	101.4213203	97.91077087	94.54340754	91.31264864	88.21224874	85.23627975
230118A00087	1/18/2023	4.02	1/16/2026	1/18/2023	105.96631	104.0816839	102.2401773	100.4405445	98.68158759	96.96215059	95.28111779	93.63741204	92.0299932
230119A00034	1/19/2023	3.82	1/19/2028	1/19/2023	112.93204	108.9451439	105.1236532	101.4598322	97.94634953	94.57625323	91.34294847	88.24017761	85.26200114
230119A00108	1/19/2023	3.81	1/19/2028	1/19/2023	112.89316	108.9070201	105.0862594	101.4231463	97.91035032	94.54092026	91.30826209	88.20611889	85.22855188
230119A00105	1/19/2023	3.9	1/19/2027	1/19/2023	109.4895	106.5603956	103.725993	100.9827172	98.327152	95.7560281	93.26621616	90.85471989	88.51866968
230119A00137	1/19/2023	3.9	1/19/2027	1/19/2023	109.4895	106.5603956	103.725993	100.9827172	98.327152	95.7560281	93.26621616	90.85471989	88.51866968
221228A00044	12/28/2022	4.31	12/28/2027	12/28/2022	114.5915	110.6319552	106.8340372	103.1902891	99.69363854	96.33737488	93.11512856	90.020852	87.04880163
221229A00043	12/29/2022	4.96	7/1/2024	12/29/2022	101.18834	100.8480456	100.5100365	100.1742923	99.84079036	99.5095082	99.18042376	98.85351522	98.52876108
221229A00075	12/29/2022	5.2	12/29/2037	12/29/2022	155.87957	140.0699181	126.1751355	113.9462646	103.1682504	93.65514914	85.24603751	77.80151522	71.20071285
230214A00042	2/14/2023	4.96	2/14/2025	2/14/2023	103.57049	102.6035557	101.6547577	100.7235907	99.80956558	98.91221121	98.03107353	97.1657149	96.31571331
230214A00031	2/14/2023	4.31	2/14/2028	2/14/2023	115.13539	111.0328723	107.1030227	103.3376349	99.72894089	96.26958126	92.95258123	89.77132854	86.71955266
230214A00049	2/14/2023	4.38	2/14/2029	2/14/2023	119.45948	114.244439	109.2951511	104.5966133	100.1347514	95.89635401	91.86901543	88.04108225	84.40160391
230214A00050	2/14/2023	4.31	2/14/2028	2/14/2023	115.13539	111.0328723	107.1030227	103.3376349	99.72894089	96.26958126	92.95258123	89.77132854	86.71955266
230215A00035	2/15/2023	4.47	2/17/2026	2/15/2023	107.47161	105.4771259	103.5303068	101.6297132	99.77396337	97.96172624	96.19171935	94.46270665	92.77349657
230215A00045	2/15/2023	4.37	2/15/2028	2/15/2023	115.38482	111.2745002	107.3372337	103.5647972	99.94940142	96.48366686	93.16059996	89.97357086	86.91629257
230215A00008	2/15/2023	4.49	2/16/2027	2/15/2023	111.53337	108.4947438	105.5566175	102.7151098	99.96651013	97.30727188	94.73400411	92.24346384	89.83254863
230216A00045	2/16/2023	4.43	5/16/2028	2/16/2023	116.68886	112.2978578	108.1010464	104.088722	100.2517208	96.58138825	93.06954834	89.70847364	86.49085807
230216A00046	2/16/2023	4.42	4/17/2028	2/16/2023	116.31176	112.0090935	107.8938024	103.9566678	100.188978	96.58249732	93.12943723	89.82242941	86.65450062
230217A00052	2/17/2023	4.55	2/17/2027	2/17/2023	111.72414	108.6796902	105.7360095	102.889197	100.1355296	97.47144861	94.89355187	92.39858572	89.98343765
230217A00036	2/17/2023	4.44	2/17/2028	2/17/2023	115.68634	111.56428	107.6159374	103.8330469	100.2077807	96.73272334	93.40084779	90.20549285	87.14034222
230221A00004	2/21/2023	4.47	2/18/2028	2/21/2023	115.81754	111.6899892	107.7364773	103.9487176	100.3188635	96.83948187	93.50352927	90.30432921	87.23555108
230223A00033	2/23/2023	4.5	2/23/2028	2/23/2023	115.99802	111.852397	107.8821238	104.0788264	100.4345745	96.94185732	93.59355895	90.38293553	87.30359376
230224A00018	2/24/2023	5.19	2/24/2025	2/24/2023	103.91483	102.9190518	101.9424539	100.9844858	100.0446171	99.12233733	98.21715517	97.32859741	96.45620819

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230224A00014	2/24/2023	4.98	2/24/2025	2/24/2023	103.86447	102.8667031	101.8881901	100.9283789	99.98673595	99.06274819	98.15592155	97.26578027	96.39186607
230224A00015	2/24/2023	4.86	3/17/2026	2/24/2023	108.34015	106.2632366	104.2372828	102.2607015	100.3319693	98.44962146	96.61224826	94.81849313	93.06704999
221110A00025	11/10/2022	4.39	11/10/2026	11/10/2022	110.10824	107.3600593	104.6955445	102.1116077	99.60529681	97.17378988	94.81438778	92.52450816	90.30167933
221110A00024	11/10/2022	4.51	11/10/2025	11/10/2022	106.11502	104.409594	102.7399976	101.105169	99.50408526	97.93576331	96.39925861	94.89366298	93.41810291
221110A00023	11/10/2022	4.71	11/8/2024	11/10/2022	102.27846	101.5823733	100.8957859	100.2185053	99.55034281	98.891115	98.24064316	97.59875339	96.96527635
221110A00026	11/10/2022	4.29	11/10/2027	11/10/2022	113.96987	110.1542873	106.4898894	102.969806	99.58751888	96.33684498	93.2119165	90.20716291	87.31729387
221110A00074	11/10/2022	4.75	11/12/2024	11/10/2022	102.34565	101.6385196	100.9411872	100.2534537	99.57512151	98.90599852	98.24589769	97.59463707	96.95203957
221110A00076	11/10/2022	4.45	11/10/2026	11/10/2022	110.27034	107.5199484	104.8532765	102.2672323	99.75886242	97.32534326	94.96397431	92.67217181	90.44746275
221110A00075	11/10/2022	4.56	11/10/2025	11/10/2022	106.20024	104.494064	102.8237329	101.1881829	99.58639035	98.01737213	96.48018328	94.97391531	93.49769436
221110A00038	11/10/2022	4.34	11/10/2027	11/10/2022	114.15472	110.3357242	106.6680164	103.1447194	99.75931139	96.50560586	93.37773176	90.37011542	87.47746352
221110A00108	11/10/2022	4.48	12/10/2025	11/10/2022	106.40403	104.6141155	102.863213	101.1501653	99.47385726	97.83321716	96.22721415	94.65485643	93.11518937
221110A00110	11/10/2022	4.47	1/13/2026	11/10/2022	106.78239	104.8978519	103.0562333	101.2562995	99.49686261	97.77677633	96.094934	94.45026711	92.84174372
221110A00065	1/17/2023	4.25	1/14/2028	1/17/2023	114.54883	110.5441344	106.7047038	103.0228484	99.49127192	96.10305387	92.8516281	89.73076289	86.73454217
221110A00064	1/17/2023	4.25	1/14/2028	1/17/2023	114.54883	110.5441344	106.7047038	103.0228484	99.49127192	96.10305387	92.8516281	89.73076289	86.73454217
230313A00093	3/16/2023	4.65	3/17/2025	3/16/2023	103.60588	102.5551409	101.5258121	100.5172383	99.52879496	98.55988268	97.60992549	96.67836995	95.76468399
230313A00177	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
230313A00179	3/13/2023	4.29	3/15/2027	3/13/2023	111.2498	108.1391002	105.1334782	102.2287884	99.4210695	96.70653971	94.08158725	91.54276168	89.08676567
230313A00180	3/13/2023	4.15	3/13/2028	3/13/2023	114.81316	110.6381854	106.641998	102.8159535	99.15187729	95.6420329	92.27909539	89.05612742	85.96655645
230313A00048	3/13/2023	4.25	3/13/2026	3/13/2023	107.04493	104.9923396	102.9900065	101.0363774	99.12995553	97.26930102	95.45302818	93.67980306	91.94834119
230313A00152	3/13/2023	4.18	3/13/2028	3/13/2023	114.9342	110.7567985	106.7582574	102.9299323	99.2636461	95.75165938	92.38664464	89.161662	86.07013657
230313A00052	3/13/2023	4.17	3/15/2027	3/13/2023	110.88469	107.779561	104.779376	101.8799866	99.07743599	96.36794674	93.74791125	91.21388308	88.76256874
230313A00057	3/13/2023	4.06	3/13/2028	3/13/2023	114.45002	110.2823458	106.29322	102.4740169	98.81657085	95.31315343	91.95644765	88.73952366	85.6558161
230313A00036	3/13/2023	4.06	3/13/2028	3/13/2023	114.45002	110.2823458	106.29322	102.4740169	98.81657085	95.31315343	91.95644765	88.73952366	85.6558161
230313A00096	3/13/2023	4.36	3/14/2033	3/13/2023	132.67084	122.8945967	113.9533961	105.7705171	98.2766926	91.40935098	85.1119359	79.33329866	74.02715478
230313A00099	3/13/2023	4.59	3/13/2025	3/13/2023	103.49967	102.4603109	101.4419087	100.4438373	99.465491	98.50628819	97.56566985	96.64309856	95.73805751
230313A00104	3/13/2023	4.58	3/13/2025	3/13/2023	103.48926	102.4499501	101.431605	100.4335898	99.45529903	98.49615095	97.5555866	96.63306859	95.72808009
230313A00090	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
230313A00091	3/13/2023	4.15	3/13/2028	3/13/2023	114.81316	110.6381854	106.641998	102.8159535	99.15187729	95.6420329	92.27909539	89.05612742	85.96655645
230313A00072	3/13/2023	4.06	3/13/2028	3/13/2023	114.45002	110.2823458	106.29322	102.4740169	98.81657085	95.31315343	91.95644765	88.73952366	85.6558161
230313A00149	3/13/2023	4.15	3/13/2028	3/13/2023	114.81316	110.6381854	106.641998	102.8159535	99.15187729	95.6420329	92.27909539	89.05612742	85.96655645
230313A00215	3/13/2023	4.13	3/13/2028	3/13/2023	114.73246	110.5591099	106.5644918	102.7399676	99.07736474	95.56894857	92.2073959	88.98577103	85.89750304
230313A00113	3/13/2023	4.58	3/13/2025	3/13/2023	103.48926	102.4499501	101.431605	100.4335898	99.45529903	98.49615095	97.5555866	96.63306859	95.72808009
230313A00075	3/13/2023	4.71	9/13/2024	3/13/2023	101.77196	101.2288535	100.6915638	100.1599948	99.63405506	99.11365546	98.59870852	98.08912866	97.58483208

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230313A00069	3/13/2023	4.71	9/13/2024	3/13/2023	101.77196	101.2288535	100.6915638	100.1599948	99.63405506	99.11365546	98.59870852	98.08912866	97.58483208
230313A00070	3/13/2023	4.71	9/13/2024	3/13/2023	101.77196	101.2288535	100.6915638	100.1599948	99.63405506	99.11365546	98.59870852	98.08912866	97.58483208
230313A00095	3/16/2023	4.65	3/17/2025	3/16/2023	103.60588	102.5551409	101.5258121	100.5172383	99.52879496	98.55988268	97.60992549	96.67836995	95.76468399
230313A00032	3/13/2023	4.45	3/13/2025	3/13/2023	103.35381	102.3152597	101.2976564	100.3003728	99.3228034	98.36436687	97.42450441	96.50267886	95.5983736
230313A00118	3/13/2023	5.02	3/13/2024	3/13/2023	100.13037	100.0942536	100.0581805	100.0221508	99.9861644	99.95022114	99.91432097	99.87846381	99.84264958
230313A00109	3/13/2023	4.58	3/13/2025	3/13/2023	103.48926	102.4499501	101.431605	100.4335898	99.45529903	98.49615095	97.5555866	96.63306859	95.72808009
230314A00006	3/14/2023	4.92	1/13/2025	3/14/2023	103.16786	102.2893496	101.4258685	100.5770294	99.74246132	98.92180578	98.11471626	97.32085762	96.53990575
230314A00003	3/14/2023	4.64	3/16/2026	3/14/2023	107.87678	105.8074238	103.788818	101.819389	99.89762097	98.02205606	96.19129142	94.40397682	92.65881228
230314A00043	3/14/2023	4.84	3/14/2025	3/14/2023	103.77159	102.7280141	101.7055342	100.7035098	99.72133008	98.75840848	97.81418139	96.88810701	95.97966434
230314A00067	3/14/2023	4.16	3/14/2028	3/14/2023	115.42328	111.2179084	107.1929661	103.3397148	99.64988945	96.11566861	92.72964786	89.48481542	86.374529
230314A00081	3/14/2023	4.16	3/14/2028	3/14/2023	115.42328	111.2179084	107.1929661	103.3397148	99.64988945	96.11566861	92.72964786	89.48481542	86.374529
230314A00028	3/14/2023	4.43	7/14/2027	3/14/2023	113.08978	109.6164561	106.2706401	103.0469737	99.94035213	96.94591132	94.05901492	91.27524258	88.59037873
230314A00032	3/14/2023	4.45	4/14/2027	3/14/2023	112.08871	108.8823394	105.7863505	102.7962919	99.9079194	97.11718602	94.42023118	91.81337102	89.29308908
230314A00034	3/14/2023	4.45	4/14/2027	3/14/2023	112.08871	108.8823394	105.7863505	102.7962919	99.9079194	97.11718602	94.42023118	91.81337102	89.29308908
230314A00017	3/14/2023	4.39	1/18/2028	3/14/2023	115.13665	111.1097674	107.2493718	103.5476949	99.99737163	96.59141699	93.3232046	90.18644632	87.17517327
230314A00019	3/14/2023	4.39	1/18/2028	3/14/2023	115.13665	111.1097674	107.2493718	103.5476949	99.99737163	96.59141699	93.3232046	90.18644632	87.17517327
230314A00021	3/14/2023	4.41	10/13/2027	3/14/2023	114.0847	110.3441346	106.7492627	103.2935788	99.97090468	96.77537354	93.70141183	90.743723	87.8972719
230314A00011	3/14/2023	4.38	3/14/2028	3/14/2023	115.75264	111.5560664	107.5390746	103.692991	100.0096052	96.48114641	93.1002577	89.85997133	86.7536861
230314A00024	3/14/2023	4.41	10/13/2027	3/14/2023	114.0847	110.3441346	106.7492627	103.2935788	99.97090468	96.77537354	93.70141183	90.743723	87.8972719
230314A00016	3/14/2023	4.38	3/14/2028	3/14/2023	115.75264	111.5560664	107.5390746	103.692991	100.0096052	96.48114641	93.1002577	89.85997133	86.7536861
230314A00030	3/14/2023	4.43	7/14/2027	3/14/2023	113.08978	109.6164561	106.2706401	103.0469737	99.94035213	96.94591132	94.05901492	91.27524258	88.59037873
230314A00073	3/14/2023	4.84	3/14/2025	3/14/2023	103.77159	102.7280141	101.7055342	100.7035098	99.72133008	98.75840848	97.81418139	96.88810701	95.97966434
230315A00116	3/15/2023	4.36	3/16/2026	3/15/2023	107.30305	105.239687	103.2269604	101.2632957	99.3471806	97.47716012	95.65183448	93.86985635	92.12992853
230315A00112	3/15/2023	4.5	3/14/2025	3/15/2023	103.41642	102.3748245	101.3542947	100.354193	99.37390939	98.41285787	97.47047543	96.54622085	95.63957368
230315A00117	3/15/2023	4.17	3/15/2027	3/15/2023	110.88469	107.779561	104.779376	101.8799866	99.07743599	96.36794674	93.74791125	91.21388308	88.76256874
230315A00097	3/15/2023	4.08	3/15/2027	3/15/2023	110.61085	107.5099065	104.5137994	101.6183852	98.81971086	96.11400202	93.49765426	90.96722413	88.51942104
230315A00133	3/15/2023	3.9	3/15/2028	3/15/2023	114.38132	110.1941794	106.1870209	102.3511156	98.67820974	95.16049292	91.79057171	88.56144504	85.46648114
230315A00098	3/15/2023	4.08	3/15/2027	3/15/2023	110.61085	107.5099065	104.5137994	101.6183852	98.81971086	96.11400202	93.49765426	90.96722413	88.51942104
230315A00131	3/15/2023	4.13	3/15/2027	3/15/2023	110.76298	107.6597146	104.661342	101.7637193	98.96289149	96.25508242	93.63668592	91.10425688	88.65450309
230315A00048	3/15/2023	4.61	3/15/2024	3/15/2023	100.13209	100.0904312	100.0488291	100.0072793	99.96578161	99.92433604	99.88294244	99.84160072	99.80031076
230315A00049	3/15/2023	4.28	3/14/2025	3/15/2023	103.1866	102.1462901	101.1270221	100.1281645	99.14910776	98.1892663	97.24807746	96.3250004	95.41951502
230315A00085	3/15/2023	4.43	9/16/2024	3/15/2023	101.64494	101.0941056	100.5492562	100.0102953	99.47712764	98.94965988	98.42780078	97.91146103	97.40055319
230315A00063	3/15/2023	4.09	3/15/2028	3/15/2023	114.59247	110.4164675	106.4195307	102.5929935	98.92865967	95.41877241	92.05598811	88.83335221	85.74427632

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230315A00076	3/15/2023	4.28	3/14/2025	3/15/2023	103.1866	102.1462901	101.1270221	100.1281645	99.14910776	98.1892663	97.24807746	96.3250004	95.41951502
230315A00047	3/15/2023	4.66	3/15/2024	3/15/2023	100.1342	100.0925422	100.0509384	100.0093869	99.96788763	99.92644039	99.88504513	99.84370174	99.80241013
230315A00070	3/15/2023	4.77	3/15/2024	3/15/2023	100.13885	100.0971865	100.055579	100.0140238	99.97252085	99.93106995	99.88967104	99.848324	99.80702874
230315A00072	3/15/2023	4.61	3/15/2024	3/15/2023	100.13209	100.0904312	100.0488291	100.0072793	99.96578161	99.92433604	99.88294244	99.84160072	99.80031076
230315A00074	3/15/2023	4.43	9/16/2024	3/15/2023	101.64494	101.0941056	100.5492562	100.0102953	99.47712764	98.94965988	98.42780078	97.91146103	97.40055319
230315A00030	3/15/2023	4.03	3/15/2028	3/15/2023	114.35005	110.1789272	106.1867104	102.364746	98.70484355	95.19925173	91.84063225	88.62203556	85.53687808
230315A00128	3/15/2023	4.43	3/14/2025	3/15/2023	103.3433	102.302109	101.2819807	100.2822749	99.3023816	98.3417151	97.39971244	96.47583253	95.56955502
230315A00079	3/15/2023	4.43	9/16/2024	3/15/2023	101.64494	101.0941056	100.5492562	100.0102953	99.47712764	98.94965988	98.42780078	97.91146103	97.40055319
230315A00007	3/15/2023	4.2	3/16/2026	3/15/2023	106.9752	104.915266	102.9058989	100.9455282	99.03264324	97.16579101	95.34357337	93.56464465	91.82770925
230315A00013	3/15/2023	4.2	3/16/2026	3/15/2023	106.9752	104.915266	102.9058989	100.9455282	99.03264324	97.16579101	95.34357337	93.56464465	91.82770925
230315A00023	3/15/2023	4.2	3/16/2026	3/15/2023	106.9752	104.915266	102.9058989	100.9455282	99.03264324	97.16579101	95.34357337	93.56464465	91.82770925
230315A00024	3/15/2023	4.03	3/15/2028	3/15/2023	114.35005	110.1789272	106.1867104	102.364746	98.70484355	95.19925173	91.84063225	88.62203556	85.53687808
230315A00045	3/15/2023	4.28	3/14/2025	3/15/2023	103.1866	102.1462901	101.1270221	100.1281645	99.14910776	98.1892663	97.24807746	96.3250004	95.41951502
230315A00042	3/15/2023	4.61	3/15/2024	3/15/2023	100.13209	100.0904312	100.0488291	100.0072793	99.96578161	99.92433604	99.88294244	99.84160072	99.80031076
230315A00043	3/15/2023	4.43	9/16/2024	3/15/2023	101.64494	101.0941056	100.5492562	100.0102953	99.47712764	98.94965988	98.42780078	97.91146103	97.40055319
230315A00125	3/15/2023	4.11	3/15/2027	3/15/2023	110.70213	107.5997913	104.6023249	101.7055857	98.90561923	96.19865026	93.58107326	91.04944378	88.60047027
230315A00130	3/15/2023	4.43	3/14/2025	3/15/2023	103.3433	102.302109	101.2819807	100.2822749	99.3023816	98.3417151	97.39971244	96.47583253	95.56955502
230315A00068	3/15/2023	4.2	3/16/2026	3/15/2023	106.9752	104.915266	102.9058989	100.9455282	99.03264324	97.16579101	95.34357337	93.56464465	91.82770925
230315A00014	3/15/2023	4.61	3/15/2024	3/15/2023	100.13209	100.0904312	100.0488291	100.0072793	99.96578161	99.92433604	99.88294244	99.84160072	99.80031076
230316A00054	3/16/2023	4.62	3/17/2025	3/16/2023	103.57429	102.523733	101.4945789	100.4861773	99.49790375	98.52915891	97.57936687	96.64797424	95.734449
230316A00050	3/16/2023	4.2	3/16/2026	3/16/2023	106.9752	104.915266	102.9058989	100.9455282	99.03264324	97.16579101	95.34357337	93.56464465	91.82770925
230316A00067	3/16/2023	3.89	3/16/2027	3/16/2023	110.45399	107.3431117	104.3376989	101.4335755	98.62675456	95.91343045	93.28996905	90.75289907	88.29890366
230316A00072	3/16/2023	4.1	3/16/2027	3/16/2023	110.68233	107.5775897	104.5778686	101.6790171	98.87707222	96.16825098	93.54894048	91.01568941	88.56519976
230316A00021	3/16/2023	4.2	3/16/2026	3/16/2023	106.9752	104.915266	102.9058989	100.9455282	99.03264324	97.16579101	95.34357337	93.56464465	91.82770925
230316A00055	3/16/2023	4.03	3/16/2028	3/16/2023	114.36059	110.1865237	106.1915839	102.3670984	98.70486273	95.1971127	91.83649805	88.61605812	85.52919901
230316A00039	3/16/2023	4.63	3/17/2025	3/16/2023	103.58482	102.5342023	101.50499	100.4965309	99.50820082	98.53940017	97.58955308	96.65810614	95.74452733
230316A00032	3/16/2023	4.39	3/16/2026	3/16/2023	107.36452	105.300516	103.2871594	101.3228772	99.40615635	97.53554183	95.70963343	93.92708354	92.18659465
230316A00058	3/16/2023	4.1	3/16/2027	3/16/2023	110.68233	107.5775897	104.5778686	101.6790171	98.87707222	96.16825098	93.54894048	91.01568941	88.56519976
230316A00060	3/16/2023	3.89	3/16/2027	3/16/2023	110.45399	107.3431117	104.3376989	101.4335755	98.62675456	95.91343045	93.28996905	90.75289907	88.29890366
230316A00082	3/16/2023	4.3	3/16/2028	3/16/2023	115.45219	111.2561615	107.2399537	103.3948639	99.71266172	96.18555783	92.80617822	89.56753955	86.46302626
230316A00078	3/16/2023	4.34	3/16/2027	3/16/2023	111.41322	108.2973031	105.286689	102.3772183	99.56491911	96.84599966	94.2168387	91.67397687	89.21410845
230316A00001	3/16/2023	3.81	3/16/2028	3/16/2023	114.02706	109.8443219	105.8415465	102.0100049	98.3414382	94.8280313	91.46238673	88.23749981	85.14673563
230316A00052	3/16/2023	4.56	9/16/2024	3/16/2023	101.71682	101.1657587	100.6206847	100.081501	99.54811214	99.02042491	98.49834802	97.98179211	97.47066975

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230316A00113	3/16/2023	4.28	3/16/2026	3/16/2023	107.4109	105.3412516	103.3224817	101.3530036	99.43129548	97.55589346	95.72538918	93.93842716	92.19370246
230316A00076	3/16/2023	4.45	3/16/2026	3/16/2023	107.48746	105.4221738	103.4075575	101.44204	99.52410786	97.65230524	95.82523135	94.04153793	92.29992688
230316A00026	3/16/2023	4.56	9/16/2024	3/16/2023	101.71682	101.1657587	100.6206847	100.081501	99.54811214	99.02042491	98.49834802	97.98179211	97.47066975
230317A00015	3/17/2023	4.13	3/17/2028	3/17/2023	114.77569	110.5905433	106.5849929	102.7503451	99.07837171	95.56128644	92.1917182	88.9626868	85.86757994
230317A00016	3/17/2023	4.22	3/17/2027	3/17/2023	111.05874	107.9455232	104.937638	102.0309135	99.22137352	96.50522238	93.87883533	91.33874982	88.88165718
230317A00051	3/17/2023	4.35	3/17/2026	3/17/2023	107.29374	105.2277796	103.2125622	101.2465074	99.32809803	97.45587472	95.62843344	93.84442286	92.10254199
230317A00032	5/18/2023	4.27	5/19/2025	5/18/2023	103.83581	102.6141953	101.4214331	100.2565095	99.11845646	98.00635053	96.91931007	95.85649305	94.81709481
230317A00026	3/17/2023	4.22	3/17/2027	3/17/2023	111.05874	107.9455232	104.937638	102.0309135	99.22137352	96.50522238	93.87883533	91.33874982	88.88165718
230317A00025	3/17/2023	4.35	3/17/2026	3/17/2023	107.29374	105.2277796	103.2125622	101.2465074	99.32809803	97.45587472	95.62843344	93.84442286	92.10254199
230317A00027	3/17/2023	4.77	9/17/2024	3/17/2023	101.83149	101.277493	100.729538	100.1875302	99.65137285	99.12097137	98.59623322	98.07706785	97.56338661
230317A00033	3/17/2023	4.77	9/17/2024	3/17/2023	101.83149	101.277493	100.729538	100.1875302	99.65137285	99.12097137	98.59623322	98.07706785	97.56338661
230317A00049	3/17/2023	4.1	3/17/2028	3/17/2023	114.65432	110.4716162	106.468432	102.6360765	98.96632446	95.45139232	92.08391167	88.85690483	85.76376192
230317A00050	3/17/2023	4.1	3/17/2028	3/17/2023	114.65432	110.4716162	106.468432	102.6360765	98.96632446	95.45139232	92.08391167	88.85690483	85.76376192
230317A00047	3/17/2023	4.1	3/17/2028	3/17/2023	114.65432	110.4716162	106.468432	102.6360765	98.96632446	95.45139232	92.08391167	88.85690483	85.76376192
230317A00048	3/17/2023	4.1	3/17/2028	3/17/2023	114.65432	110.4716162	106.468432	102.6360765	98.96632446	95.45139232	92.08391167	88.85690483	85.76376192
230317A00031	5/18/2023	4.3	5/19/2025	5/18/2023	103.87257	102.6507211	101.4577254	100.2925722	99.15429322	98.04196495	96.95470565	95.89167319	94.85206283
230320A00033	3/20/2023	4.35	3/20/2026	3/20/2023	107.32728	105.2528824	103.2295606	101.2557164	99.32981818	97.45039268	95.61602282	93.82534493	92.07704632
230320A00092	3/20/2023	4.31	3/20/2026	3/20/2023	107.24488	105.171349	103.1488758	101.1758637	99.25078132	97.372156	95.53857106	93.74866325	92.00112029
230320A00006	3/20/2023	4.25	3/20/2026	3/20/2023	107.12128	105.0490488	103.0278486	101.0560846	99.13222602	97.25480097	95.42239342	93.63364073	91.88723124
230321A00025	3/21/2023	4.57	3/21/2025	3/21/2023	103.56445	102.5031691	101.4637257	100.4454521	99.44770539	98.46986811	97.51134757	96.57157435	95.65000129
230321A00052	3/21/2023	4.62	3/21/2025	3/21/2023	103.61764	102.5560577	101.5163173	100.4977511	99.49971572	98.52159387	97.56279269	96.62274269	95.7008966
230321A00053	3/21/2023	4.27	3/21/2028	3/21/2023	115.38685	111.1784252	107.1508372	103.2953102	99.60354651	96.06769487	92.68032362	89.43439594	86.32324666
230321A00029	3/21/2023	4.57	3/21/2025	3/21/2023	103.56445	102.5031691	101.4637257	100.4454521	99.44770539	98.46986811	97.51134757	96.57157435	95.65000129
230321A00074	3/21/2023	4.23	3/21/2028	3/21/2023	115.22458	111.0194373	106.9950208	103.142566	99.45377925	95.92081295	92.53623899	89.29302398	86.18450599
230321A00002	3/21/2023	4.33	3/19/2027	3/21/2023	111.41654	108.2924164	105.2740763	102.357332	99.53818575	96.81282131	94.17759463	91.62902492	89.16378636
230321A00001	3/21/2023	4.48	3/23/2026	3/21/2023	107.62967	105.5440059	103.5097969	101.5254365	99.58937666	97.70012896	95.85626171	94.05639746	92.29921043
230321A00009	3/21/2023	4.27	3/21/2028	3/21/2023	115.38685	111.1784252	107.1508372	103.2953102	99.60354651	96.06769487	92.68032362	89.43439594	86.32324666
230404A00040	4/4/2023	4.28	4/4/2025	4/4/2023	103.39525	102.2972404	101.222625	100.1706591	99.14063118	98.13185924	97.14368932	96.17549405	95.22667132
230404A00019	4/4/2023	4.45	4/4/2025	4/4/2023	103.58262	102.4835109	101.4078147	100.3547838	99.32370646	98.31390025	97.32471084	96.35551051	95.40569683
230405A00028	4/5/2023	3.78	4/5/2028	4/5/2023	113.54791	109.3354762	105.3059222	101.4502957	97.76013255	94.22742814	90.84460986	87.60451119	84.50034755
230405A00049	4/5/2023	3.81	4/5/2028	4/5/2023	113.67083	109.4558938	105.4239144	101.5659389	97.87350021	94.33859087	90.95363548	87.71146486	84.60529195
230405A00022	4/5/2023	3.8	4/5/2028	4/5/2023	113.62986	109.4157546	105.3845837	101.5273912	97.83571099	94.30153662	90.9172936	87.67581364	84.57031049
230405A00012	4/5/2023	3.8	4/5/2028	4/5/2023	113.62986	109.4157546	105.3845837	101.5273912	97.83571099	94.30153662	90.9172936	87.67581364	84.57031049

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230405A00010	4/5/2023	3.96	4/6/2026	4/5/2023	106.69782	104.5839241	102.522871	100.5129764	98.5526269	96.64027241	94.77442316	92.95364684	91.17656586
230405A00008	4/5/2023	4.01	10/6/2025	4/5/2023	104.91547	103.3145656	101.7460629	100.2090421	98.70262002	97.22594621	95.7782016	94.35859693	92.96637139
230405A00044	4/5/2023	3.8	4/5/2028	4/5/2023	113.62986	109.4157546	105.3845837	101.5273912	97.83571099	94.30153662	90.9172936	87.67581364	84.57031049
230406A00042	4/6/2023	3.99	4/7/2025	4/6/2023	103.27995	102.1719622	101.0877972	100.0266963	98.98792816	97.9707924	96.97461749	95.99875952	95.04260072
230406A00105	4/6/2023	3.84	4/6/2028	4/6/2023	113.80397	109.5835237	105.5463482	101.6834661	97.98639203	94.44710188	91.05800456	87.81191633	84.70203652
230406A00023	4/6/2023	3.84	4/6/2028	4/6/2023	113.80397	109.5835237	105.5463482	101.6834661	97.98639203	94.44710188	91.05800456	87.81191633	84.70203652
230406A00026	4/6/2023	3.92	4/6/2027	4/6/2023	110.34903	107.1921505	104.1435781	101.1989685	98.35417651	95.6052479	92.94840976	90.38006073	87.89676212
230406A00038	4/6/2023	4.24	4/7/2025	4/6/2023	103.38103	102.2750458	101.1928045	100.133542	99.09653098	98.08107462	97.08650493	96.11218128	95.15748904
230406A00029	4/6/2023	3.84	4/6/2028	4/6/2023	113.80397	109.5835237	105.5463482	101.6834661	97.98639203	94.44710188	91.05800456	87.81191633	84.70203652
230406A00017	4/6/2023	3.99	4/7/2025	4/6/2023	103.27995	102.1719622	101.0877972	100.0266963	98.98792816	97.9707924	96.97461749	95.99875952	95.04260072
230406A00050	4/6/2023	3.67	4/6/2027	4/6/2023	109.99132	106.8301068	103.7776137	100.8294706	97.98150852	95.22975121	92.57040492	89.99984875	87.51462568
230410A00011	4/10/2023	4.08	4/9/2027	4/10/2023	110.87816	107.7046853	104.6402475	101.6804595	98.82114081	96.05830412	93.38814527	90.80703353	88.31150256
230410A00012	4/10/2023	3.98	4/10/2028	4/10/2023	114.42036	110.1761467	106.1164944	102.2323486	98.51514963	94.95680384	91.5496555	88.28646051	85.1603619
230411A00018	4/11/2023	4.96	4/11/2024	4/11/2023	100.40159	100.285133	100.1689554	100.0530608	99.93744813	99.82211628	99.70706421	99.59229086	99.47779519
230411A00045	4/11/2023	4.66	10/11/2024	4/11/2023	101.97741	101.3581207	100.7463762	100.1420367	99.54496794	98.95503913	98.37212242	97.79609308	97.22682931
230412A00001	4/12/2023	4.62	10/11/2024	4/12/2023	101.95254	101.3333415	100.721683	100.1174287	99.52044449	98.93059948	98.34776587	97.77181892	97.20263685
230412A00002	4/12/2023	4.42	4/11/2025	4/12/2023	103.62268	102.5045217	101.4105871	100.340095	99.29229639	98.26647386	97.26194006	96.27803604	95.31412986
230412A00033	4/12/2023	4.04	4/12/2027	4/12/2023	110.7861	107.6057131	104.5348398	101.5690641	98.70417809	95.93616905	93.2612089	90.67564457	88.1759888
230412A00028	4/12/2023	3.69	4/12/2028	4/12/2023	113.81323	109.5600082	105.4924894	101.6015348	97.878504	94.31522891	90.9039847	87.63746325	84.5087482
230412A00006	4/12/2023	4.04	4/12/2027	4/12/2023	110.7861	107.6057131	104.5348398	101.5690641	98.70417809	95.93616905	93.2612089	90.67564457	88.1759888
230412A00007	4/12/2023	3.95	4/12/2028	4/12/2023	114.31805	110.0703308	106.0075523	102.1206316	98.40098166	94.84048391	91.4314594	88.16664266	85.03915691
230412A00005	4/12/2023	4.16	4/10/2026	4/12/2023	107.16308	105.0331318	102.9565954	100.9317644	98.95700113	97.03073272	95.15144777	93.31769347	91.52807284
230413A00082	4/13/2023	4.01	4/13/2027	4/13/2023	110.70324	107.5213662	104.4491452	101.4821509	98.61616699	95.84717279	93.17133292	90.58498744	88.08464268
230413A00018	4/13/2023	3.96	4/13/2027	4/13/2023	110.54715	107.367724	104.2978845	101.3332108	98.46948859	95.7026991	93.02900887	90.44475977	87.94645988
230413A00020	4/13/2023	3.88	4/13/2028	4/13/2023	114.04022	109.7953884	105.7355437	101.85159	98.13493258	94.57744554	91.17144358	87.90965539	84.785199
230413A00021	4/13/2023	4.07	4/13/2026	4/13/2023	107.00476	104.8682315	102.7854321	100.7546434	98.77421282	96.84255303	94.95813916	93.11950566	91.32524352
230413A00017	4/13/2023	3.88	4/13/2028	4/13/2023	114.04022	109.7953884	105.7355437	101.85159	98.13493258	94.57744554	91.17144358	87.90965539	84.785199
230119A00075	1/19/2023	4.44	1/21/2025	1/19/2023	102.82549	101.9270379	101.0443382	100.1769761	99.32455381	98.48668699	97.66300451	96.85314778	96.05677018
230120A00027	1/20/2023	4.13	1/20/2026	1/20/2023	106.21471	104.3170736	102.4630662	100.6514229	98.88092549	97.1503989	95.45870904	93.80476131	92.18749886
221114A00002	11/14/2022	4.37	11/15/2027	11/14/2022	114.32462	110.4884545	106.80471	103.2664314	99.86702862	96.60025169	93.46017039	90.44115599	87.53786384
230413A00045	4/13/2023	4.33	4/11/2025	4/13/2023	103.52176	102.4042006	101.310857	100.2409471	99.19372209	98.16846474	97.16448791	96.18113287	95.21776784
230413A00031	4/13/2023	4.07	4/13/2026	4/13/2023	107.00476	104.8682315	102.7854321	100.7546434	98.77421282	96.84255303	94.95813916	93.11950566	91.32524352
230413A00030	4/13/2023	4.33	4/14/2025	4/13/2023	103.55236	102.4265485	101.3253102	100.2478417	99.19337815	98.16118714	97.15056719	96.16084599	95.19137898

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230414A00009	4/14/2023	5.04	4/12/2024	4/14/2023	100.42071	100.3014745	100.1825337	100.0638894	99.94554022	99.82748517	99.70972307	99.59225278	99.4750732
230120A00063	1/20/2023	4.83	7/22/2024	1/20/2023	101.34542	100.94744	100.5526014	100.1608635	99.77218964	99.38654385	99.00389073	98.62419545	98.24742369
230120A00065	1/20/2023	4.52	1/21/2025	1/20/2023	102.89765	101.9988455	101.1157986	100.2480936	99.39533239	98.55713078	97.7331175	96.92293386	96.12623319
230120A00079	1/20/2023	3.68	1/20/2028	1/20/2023	112.92887	108.9249837	105.0876656	101.4091097	97.88191586	94.49906732	91.25390894	88.14012664	85.15172813
230120A00021	1/20/2023	4.13	1/20/2026	1/20/2023	106.21471	104.3170736	102.4630662	100.6514229	98.88092549	97.1503989	95.45870904	93.80476131	92.18749886
230120A00022	1/20/2023	3.9	1/20/2028	1/20/2023	113.25308	109.2572817	105.4272951	101.7553625	98.23413179	94.85663106	91.61624699	88.50670451	85.52204778
230120A00071	1/20/2023	4.31	1/21/2025	1/20/2023	102.85032	101.9497801	101.0650526	100.1957261	99.34140049	98.50168915	97.67621883	96.86462886	96.06657068
230120A00103	1/20/2023	3.92	1/20/2026	1/20/2023	106.08447	104.1831929	102.3257199	100.5107758	98.73713566	97.00361765	95.30908151	93.65242671	92.03259078
230120A00029	1/20/2023	3.9	1/20/2028	1/20/2023	113.25308	109.2572817	105.4272951	101.7553625	98.23413179	94.85663106	91.61624699	88.50670451	85.52204778
230120A00114	1/20/2023	4.13	1/20/2026	1/20/2023	106.21471	104.3170736	102.4630662	100.6514229	98.88092549	97.1503989	95.45870904	93.80476131	92.18749886
230120A00117	1/20/2023	3.9	1/20/2028	1/20/2023	113.25308	109.2572817	105.4272951	101.7553625	98.23413179	94.85663106	91.61624699	88.50670451	85.52204778
230123A00078	1/23/2023	4.41	6/23/2025	1/23/2023	104.40606	103.089823	101.7986787	100.5319298	99.28890671	98.06896462	96.87148213	95.6958603	94.54152154
230123A00051	1/23/2023	3.75	1/21/2028	1/23/2023	113.21191	109.1998233	105.3546946	101.6686933	98.13439889	94.74477551	91.49315008	88.37319166	85.37889216
230417A00034	4/17/2023	4.63	4/17/2025	4/17/2023	103.92428	102.788168	101.6770066	100.5899831	99.52631577	98.48525611	97.46608746	96.46812318	95.49070512
230417A00042	4/17/2023	4.58	4/17/2025	4/17/2023	103.8674	102.7316215	101.6207976	100.5341067	99.4707668	98.43002975	97.41117897	96.41352794	95.4364186
230417A00045	4/17/2023	4.21	4/16/2027	4/17/2023	111.36135	108.1607951	105.0706746	102.0865242	99.20409009	96.4193165	93.72833491	91.1274542	88.61315127
230417A00046	4/17/2023	4.13	4/17/2028	4/17/2023	115.11403	110.8359589	106.744478	102.8303979	99.08503679	95.50018798	92.06809035	88.78140175	85.63317388
230417A00044	4/17/2023	4.32	4/17/2026	4/17/2023	107.58187	105.428005	103.3284709	101.281524	99.28548652	97.33874742	95.43975926	93.58703512	91.77914576
230417A00036	4/17/2023	4.63	4/17/2025	4/17/2023	103.92428	102.788168	101.6770066	100.5899831	99.52631577	98.48525611	97.46608746	96.46812318	95.49070512
230417A00037	4/17/2023	4.39	4/16/2026	4/17/2023	107.71981	105.5672099	103.4688605	101.4230138	99.42799656	97.48220204	95.58408687	93.73216797	91.92501971
221117A00025	11/17/2022	4.28	11/17/2027	11/17/2022	114.01377	110.1777567	106.494407	102.9567474	99.55816808	96.29240039	93.15349724	90.13581426	87.23399238
221117A00012	11/17/2022	4.54	11/14/2025	11/17/2022	106.2126	104.4952786	102.814215	101.1683212	99.55655646	97.97792128	96.43145541	94.91623587	93.43137509
221117A00013	11/17/2022	4.54	11/14/2025	11/17/2022	106.2126	104.4952786	102.814215	101.1683212	99.55655646	97.97792128	96.43145541	94.91623587	93.43137509
221117A00014	11/17/2022	4.54	11/14/2025	11/17/2022	106.2126	104.4952786	102.814215	101.1683212	99.55655646	97.97792128	96.43145541	94.91623587	93.43137509
221117A00008	11/17/2022	4.82	11/15/2024	11/17/2022	102.42533	101.7097915	101.0042803	100.3085899	99.62251574	98.94585912	98.27842666	97.62003029	96.97048701
230124A00041	1/24/2023	4.6	1/24/2025	1/24/2023	103.00113	102.0937271	101.2023632	100.3266177	99.46608215	98.6203621	97.7890767	96.97185805	96.16835069
230124A00015	1/24/2023	4.09	1/25/2027	1/24/2023	110.10149	107.147433	104.2893027	101.5234598	98.84642812	96.25488184	93.74563812	91.31565015	88.9620006
230124A00022	1/24/2023	4.39	1/24/2025	1/24/2023	102.95345	102.0442818	101.1512179	100.2738329	99.41171558	98.56446951	97.73171167	96.91307214	96.10819352
221118A00023	11/18/2022	4.12	11/18/2027	11/18/2022	113.94117	110.0902983	106.3931103	102.8425726	99.4320151	96.15511292	93.00586644	89.97858216	87.06785513
221118A00019	11/18/2022	4.55	11/18/2025	11/18/2022	106.2763	104.5473781	102.8551314	101.1984537	99.57628653	97.98761398	96.43146012	94.90688713	93.41299345
221118A00018	11/18/2022	4.55	11/18/2025	11/18/2022	106.2763	104.5473781	102.8551314	101.1984537	99.57628653	97.98761398	96.43146012	94.90688713	93.41299345
221118A00046	11/18/2022	4.4	11/18/2026	11/18/2022	110.22925	107.4571622	104.7700155	102.1646533	99.63805843	97.18734718	94.80976285	92.50266888	90.26354265
221118A00045	11/18/2022	4.57	11/18/2025	11/18/2022	106.31082	104.581596	102.8890481	101.2320746	99.60961695	98.02065902	96.46422476	94.93937624	93.44521176

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230124A00045	1/24/2023	3.99	1/24/2028	1/24/2023	113.6443	109.6301591	105.7829307	102.0947896	98.55831865	95.16648529	91.91261962	88.79039369	85.79380223
230124A00056	3/28/2023	4.19	3/28/2033	3/28/2023	131.27271	121.5195564	112.6038832	104.4484137	96.98340691	90.14588969	83.87896652	78.13120334	72.85607659
230124A00055	6/15/2023	4.13	6/15/2032	6/15/2023	128.34311	119.4910469	111.3426503	103.8376751	96.92134504	90.54383334	84.65979084	79.22792177	74.2106016
230124A00058	6/15/2023	4.21	6/15/2034	6/15/2023	134.94378	123.8166818	113.7532528	104.6445625	96.39342454	88.91307231	82.12599089	75.96288522	70.36176818
230124A00046	1/24/2023	3.99	1/24/2028	1/24/2023	113.6443	109.6301591	105.7829307	102.0947896	98.55831865	95.16648529	91.91261962	88.79039369	85.79380223
230124A00004	1/24/2023	3.99	1/24/2028	1/24/2023	113.6443	109.6301591	105.7829307	102.0947896	98.55831865	95.16648529	91.91261962	88.79039369	85.79380223
230124A00024	1/24/2023	4.23	1/23/2026	1/24/2023	106.43595	104.5281991	102.6644639	100.8434688	99.0639801	97.32480791	95.6248042	93.96286098	92.33790866
230124A00025	1/24/2023	4.09	1/25/2027	1/24/2023	110.10149	107.147433	104.2893027	101.5234598	98.84642812	96.25488184	93.74563812	91.31565015	88.9620006
230124A00035	1/24/2023	4.23	1/26/2026	1/24/2023	106.46734	104.5513065	102.6796517	100.8510801	99.06434354	97.31823821	95.61160286	93.94331689	92.31229873
221121A00052	11/21/2022	4.35	11/22/2027	11/21/2022	114.3326	110.4766406	106.7745562	103.2193012	99.8041938	96.52289866	93.36940633	90.33801435	87.42330949
221121A00064	11/21/2022	4.34	11/22/2027	11/21/2022	114.29531	110.4400381	106.7386271	103.1840258	99.76955316	96.48887445	93.33598095	90.30517083	87.39103149
221121A00047	11/21/2022	4.89	11/21/2033	11/21/2022	139.89326	129.0955856	119.2736839	110.3326036	102.1871591	94.76087779	87.98506461	81.79797143	76.14405939
230125A00030	1/25/2023	3.91	1/25/2028	1/25/2023	113.34225	109.3312919	105.487285	101.8023955	98.26919883	94.8806556	91.63008975	88.51116773	85.51787917
230125A00023	1/25/2023	3.69	1/25/2028	1/25/2023	113.01711	108.9980167	105.1466408	101.4550964	97.91591015	94.52199756	91.26664022	88.14346514	85.14642514
230502A00034	5/2/2023	4.92	5/2/2024	5/2/2023	100.59579	100.4211597	100.2471398	100.0737246	99.90091085	99.72869549	99.55707539	99.38604748	99.2156087
230502A00122	5/2/2023	3.7	5/3/2027	5/2/2023	110.36064	107.1185342	103.9899819	100.9703255	98.05512939	95.24016798	92.52141388	89.89502746	87.35734661
221122A00029	11/22/2022	4.31	11/22/2027	11/22/2022	114.18342	110.3302307	106.63084	103.0781998	99.66563123	96.38680182	93.2357048	90.20664027	87.29419748
221122A00040	11/22/2022	4.31	11/22/2027	11/22/2022	114.18342	110.3302307	106.63084	103.0781998	99.66563123	96.38680182	93.2357048	90.20664027	87.29419748
230502A00079	5/2/2023	3.6	5/2/2028	5/2/2023	113.64016	109.3344854	105.2189246	101.2840167	97.52082306	93.92089939	90.47626536	87.17937627	84.0230966
230502A00024	5/2/2023	4.38	5/2/2025	5/2/2023	103.79483	102.6191096	101.4701161	100.3469483	99.24874148	98.17466901	97.12394051	96.0957998	95.08952305
230502A00002	5/2/2023	5.05	5/28/2024	5/2/2023	100.87675	100.6302289	100.3849166	100.1408033	99.89788012	99.6561384	99.41556954	99.17616501	98.93791637
230502A00017	5/2/2023	4.26	5/4/2026	5/2/2023	107.64394	105.44262	103.2977047	101.2073482	99.16977796	97.18329371	95.24626373	93.35712155	91.51436277
230502A00045	5/2/2023	4.38	5/2/2025	5/2/2023	103.79483	102.6191096	101.4701161	100.3469483	99.24874148	98.17466901	97.12394051	96.0957998	95.08952305
230502A00047	5/2/2023	4.1	5/1/2026	5/2/2023	107.26315	105.0740617	102.9409326	100.8619307	98.83530272	96.85936679	94.9325086	93.05317812	91.21988649
230502A00052	5/2/2023	3.96	5/3/2027	5/2/2023	110.75766	107.519526	104.3945275	101.3780302	98.46562331	95.65310446	92.93646816	90.31189524	87.77574284
230502A00042	5/2/2023	4.64	11/4/2024	5/2/2023	102.18477	101.4999048	100.8242396	100.1575881	99.49977065	98.85061233	98.20994276	97.57759604	96.95341054
230502A00055	5/2/2023	4.08	5/4/2026	5/2/2023	107.25102	105.0540601	102.91342	100.8272524	98.79378709	96.8113262	94.87824035	92.99296529	91.15399875
230502A00076	5/2/2023	3.95	5/3/2027	5/2/2023	110.72589	107.4882691	104.3637634	101.347746	98.43580665	95.62374346	92.9075513	90.28341137	87.74768118
230502A00081	5/2/2023	3.96	5/3/2027	5/2/2023	110.75766	107.519526	104.3945275	101.3780302	98.46562331	95.65310446	92.93646816	90.31189524	87.77574284
230502A00120	5/2/2023	4.38	5/2/2025	5/2/2023	103.79483	102.6191096	101.4701161	100.3469483	99.24874148	98.17466901	97.12394051	96.0957998	95.08952305
230502A00025	5/2/2023	4.81	11/1/2024	5/2/2023	102.2718	101.5946871	100.9265527	100.2672211	99.61651921	98.97427817	98.34033369	97.71452562	97.09669797
230502A00058	5/2/2023	4.39	5/2/2025	5/2/2023	103.80662	102.6308249	101.481759	100.3585201	99.2602432	98.18610174	97.1353053	96.10709767	95.100755
230502A00086	5/2/2023	4.08	5/1/2026	5/2/2023	107.21965	105.0310488	102.8983914	100.8198515	98.79367639	96.81818435	94.89176132	93.01285752	91.17998432

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230503A00017	5/3/2023	4.41	11/4/2024	5/3/2023	102.16816	101.4815306	100.8041524	100.1358357	99.47639956	98.82566743	98.1834676	97.54963282	96.92400021
230503A00004	5/3/2023	3.94	5/3/2027	5/3/2023	110.69413	107.4570122	104.3329992	101.3174617	98.40599	95.59438247	92.87863444	90.2549275	87.71961952
230503A00012	5/3/2023	3.82	5/3/2028	5/3/2023	113.9949	109.695352	105.585253	101.6551866	97.89625831	94.30006523	90.85866536	87.56454973	84.41061605
230503A00025	5/3/2023	3.84	5/3/2028	5/3/2023	114.07838	109.7770939	105.6653189	101.73363	97.97313092	94.37541641	90.9325426	87.63699863	84.48168045
230503A00029	5/3/2023	4.08	5/4/2026	5/3/2023	107.25102	105.0540601	102.91342	100.8272524	98.79378709	96.8113262	94.87824035	92.99296529	91.15399875
230503A00030	5/3/2023	3.84	5/3/2028	5/3/2023	114.07838	109.7770939	105.6653189	101.73363	97.97313092	94.37541641	90.9325426	87.63699863	84.48168045
230503A00034	5/3/2023	3.84	5/3/2028	5/3/2023	114.07838	109.7770939	105.6653189	101.73363	97.97313092	94.37541641	90.9325426	87.63699863	84.48168045
230503A00014	5/3/2023	3.94	5/3/2027	5/3/2023	110.69413	107.4570122	104.3329992	101.3174617	98.40599	95.59438247	92.87863444	90.2549275	87.71961952
230503A00022	5/3/2023	4.4	5/2/2025	5/3/2023	103.81841	102.6425401	101.493402	100.3700919	99.27174492	98.19753447	97.14667009	96.11839554	95.11198694
221123A00034	11/23/2022	4.43	11/23/2026	11/23/2022	110.37011	107.5821565	104.8799707	102.2603494	99.72023321	97.25669913	94.86695344	92.54832478	90.29825784
221123A00039	11/23/2022	4.29	11/23/2027	11/23/2022	114.12041	110.2655836	106.5647335	103.0107953	99.5970781	96.31723842	93.16525928	90.13543134	87.22233505
230503A00072	5/3/2023	3.83	5/4/2026	5/3/2023	106.99439	104.794612	102.6513435	100.5627281	98.52698664	96.54241297	94.60736972	92.72028517	90.87964993
230503A00020	5/3/2023	3.84	5/3/2028	5/3/2023	114.07838	109.7770939	105.6653189	101.73363	97.97313092	94.37541641	90.9325426	87.63699863	84.48168045
230503A00031	5/3/2023	4.4	5/2/2025	5/3/2023	103.81841	102.6425401	101.493402	100.3700919	99.27174492	98.19753447	97.14667009	96.11839554	95.11198694
230503A00032	5/3/2023	4.08	5/1/2026	5/3/2023	107.21965	105.0310488	102.8983914	100.8198515	98.79367639	96.81818435	94.89176132	93.01285752	91.17998432
230503A00036	5/3/2023	4.15	5/2/2025	5/3/2023	103.71174	102.5337031	101.3824958	100.2572126	99.15698393	98.08097889	97.02840296	95.99849602	94.99053056
230503A00038	5/3/2023	4.15	5/2/2025	5/3/2023	103.71174	102.5337031	101.3824958	100.2572126	99.15698393	98.08097889	97.02840296	95.99849602	94.99053056
230504A00085	5/4/2023	4.24	5/5/2025	5/4/2023	103.65967	102.4767437	101.3209074	100.1912354	99.08684518	98.00689379	96.95057528	95.91711885	94.90578693
230504A00084	5/4/2023	3.5	5/4/2028	5/4/2023	113.24041	108.9376283	104.825141	100.8934642	97.13363928	93.53720354	90.09616001	86.80294882	83.65042068
230504A00054	5/4/2023	3.95	5/4/2026	5/4/2023	106.96724	104.7734335	102.6358812	100.5527388	98.52223812	96.542683	94.61244568	92.72996354	90.89373584
230504A00058	5/4/2023	3.69	5/4/2028	5/4/2023	113.46169	109.1705142	105.0686514	101.1466848	97.39571858	93.80734891	90.37363342	87.08706306	83.94053588
230504A00049	5/4/2023	3.95	5/4/2026	5/4/2023	106.96724	104.7734335	102.6358812	100.5527388	98.52223812	96.542683	94.61244568	92.72996354	90.89373584
230504A00034	5/4/2023	3.95	5/4/2026	5/4/2023	106.96724	104.7734335	102.6358812	100.5527388	98.52223812	96.542683	94.61244568	92.72996354	90.89373584
230504A00055	5/4/2023	4.24	5/5/2025	5/4/2023	103.65967	102.4767437	101.3209074	100.1912354	99.08684518	98.00689379	96.95057528	95.91711885	94.90578693
230504A00064	5/4/2023	4.35	11/4/2024	5/4/2023	101.98536	101.3012541	100.6263434	99.96043943	99.30336245	98.65493765	98.01499478	97.38336804	96.75989592
230321A00020	3/21/2023	4.73	11/18/2024	3/21/2023	102.39711	101.6734923	100.9601329	100.2568158	99.5633295	98.87946857	98.20503323	97.53982919	96.88366749
230322A00015	3/22/2023	4.24	3/22/2028	3/22/2023	115.27626	111.0673265	107.0393705	103.1836048	99.49172054	95.95585621	92.56857075	89.32281867	86.2119268
230322A00004	3/22/2023	4.3	3/22/2028	3/22/2023	115.51981	111.3059653	107.2732459	103.4128658	99.71651044	96.17631267	92.78482605	89.53499999	86.42015644
230322A00007	3/22/2023	4.54	3/21/2031	3/22/2023	127.40089	119.8236772	112.7689345	106.1975331	100.0734817	94.36365719	89.03756165	84.06710124	79.42638464
230322A00009	3/22/2023	4.59	3/22/2032	3/22/2023	131.28656	122.5516757	114.4915523	107.04986	100.1752715	93.82099076	87.94433016	82.50632957	77.47141254
230322A00005	3/22/2023	4.42	3/22/2029	3/22/2023	120.03762	114.7055577	109.6497714	104.8544012	100.3045861	95.98639218	91.8867502	87.99339705	84.29482187
230322A00006	3/22/2023	4.53	3/22/2030	3/22/2023	124.06745	117.6078293	111.5387946	105.8344956	100.4709254	95.42578295	90.67834347	86.20933854	82.00084657
230322A00020	3/22/2023	4.2	3/22/2029	3/22/2023	119.63921	114.2944577	109.2274348	104.4221634	99.86367318	95.53792981	91.43177132	87.53284936	83.82957451

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230322A00029	3/22/2023	4.67	3/21/2025	3/22/2023	103.67083	102.6089463	101.568909	100.55005	99.55172604	98.57331963	97.61423782	96.67391103	95.75179191
230322A00030	3/22/2023	4.86	9/23/2024	3/22/2023	101.93922	101.3686002	100.8043842	100.2464646	99.69473615	99.14909607	98.60944383	98.07568109	97.54771166
230323A00030	3/23/2023	4.72	3/23/2037	3/23/2023	147.46562	132.9396979	120.1030584	108.7453387	98.68361687	89.75869204	81.83188751	74.78230023	68.50443144
230323A00029	3/23/2023	4.39	3/24/2031	3/23/2023	126.37625	118.826073	111.7976694	105.2519027	99.15277622	93.46716563	88.16457549	83.21691748	78.5983084
230323A00065	3/23/2023	3.85	3/23/2028	3/23/2023	114.26231	110.0556228	106.0305312	102.1781984	98.49026298	94.95881484	91.57636813	88.33583606	85.23050732
230323A00054	3/23/2023	3.95	3/23/2028	3/23/2023	114.10938	109.9212887	105.9136397	102.0776623	98.40506255	94.88799293	91.51902626	88.29113059	85.19764593
230323A00056	3/23/2023	4	3/23/2027	3/23/2023	110.4503	107.3301606	104.3160711	101.403815	98.58937187	95.86890468	93.23875003	90.69540927	88.23554001
230323A00058	3/23/2023	3.96	9/23/2027	3/23/2023	112.24425	108.5917033	105.0800657	101.7031168	98.45494354	95.32992656	92.322724	89.42825599	86.64169024
230323A00081	3/23/2023	3.85	3/23/2028	3/23/2023	114.26231	110.0556228	106.0305312	102.1781984	98.49026298	94.95881484	91.57636813	88.33583606	85.23050732
230323A00034	3/23/2023	4.23	3/23/2026	3/23/2023	107.11263	105.0324157	103.003552	101.0244321	99.09351091	97.20930273	95.37037869	93.57536398	91.82293538
230323A00051	3/23/2023	3.85	3/23/2028	3/23/2023	114.26231	110.0556228	106.0305312	102.1781984	98.49026298	94.95881484	91.57636813	88.33583606	85.23050732
230323A00048	3/23/2023	4.07	3/23/2028	3/23/2023	114.59682	110.3988801	106.3816916	102.5364737	98.85492033	95.32917292	91.95179351	88.7157399	85.61434232
230323A00064	3/23/2023	4.25	3/21/2025	3/23/2023	103.22404	102.1646821	101.1271391	100.110739	99.11483931	98.13882327	97.18209876	96.24409698	95.32427131
230324A00029	3/24/2023	4.01	3/24/2025	3/24/2023	103.16651	102.0969254	101.0495657	100.0237464	99.01880714	98.03411426	97.06905964	96.1230593	95.19555221
230324A00031	3/24/2023	4.01	3/24/2025	3/24/2023	103.16651	102.0969254	101.0495657	100.0237464	99.01880714	98.03411426	97.06905964	96.1230593	95.19555221
230324A00009	3/24/2023	4.19	3/24/2025	3/24/2023	103.18918	102.1219534	101.0768619	100.0532252	99.05038642	98.06771566	97.10460801	96.16048263	95.23478148
230324A00023	3/24/2023	3.69	3/24/2028	3/24/2023	113.62066	109.4242248	105.4091928	101.5667219	97.88845271	94.36647711	90.99331158	87.7618718	84.66544916
230324A00006	3/24/2023	4.06	3/24/2026	3/24/2023	106.77143	104.6921227	102.6642068	100.6860687	98.75616034	96.87299352	95.0351368	93.24121302	91.4898968
230324A00032	3/24/2023	3.93	3/24/2028	3/24/2023	114.0384	109.8490205	105.8402465	102.0032969	98.32986548	94.81209381	91.44254442	88.21417586	85.12031937
230327A00045	3/27/2023	4.42	3/27/2025	3/27/2023	103.46661	102.3897105	101.3353042	100.3026912	99.29119981	98.300186	97.3290315	96.3771428	95.44394981
230327A00046	3/27/2023	4.22	3/27/2026	3/27/2023	107.13524	105.0440139	103.0045779	101.0153046	99.07462944	97.18104832	95.33311487	93.52943774	91.76867809
230327A00047	3/27/2023	4.08	3/27/2028	3/27/2023	114.68013	110.4695666	106.4406591	102.5845608	98.89290852	95.35779058	91.97171971	88.72760789	85.61874281
230328A00010	3/28/2023	4.68	9/30/2024	3/28/2023	101.88848	101.2991728	100.7166884	100.1409062	99.57171107	99.00899037	98.45263411	97.90253479	97.35858726
230328A00011	3/28/2023	4.53	3/28/2025	3/28/2023	103.59602	102.5156833	101.4579571	100.4221405	99.40755686	98.41355721	97.43951877	96.48484371	95.54895786
230328A00020	3/28/2023	3.98	3/28/2028	3/28/2023	114.84579	110.6135122	106.5642809	102.6891603	98.97970519	95.42792727	92.02626789	88.7675723	85.64506585
230328A00019	3/28/2023	4.12	3/27/2026	3/28/2023	107.20276	105.1055525	103.0603749	101.065588	99.11961766	97.2209507	95.36813209	93.55976229	91.79449464
230328A00024	3/28/2023	4.2	3/28/2028	3/28/2023	115.17987	110.9564471	106.9152056	103.0472789	99.34427757	95.79826554	92.40173252	89.14756888	86.02904192
230328A00026	3/28/2023	4.34	3/28/2029	3/28/2023	119.69326	114.3532453	109.2907611	104.489831	99.93548823	95.61370243	91.51131625	87.61598621	83.91612802
230328A00098	3/28/2023	4.24	3/29/2027	3/28/2023	111.25184	108.1030596	105.0616091	102.1232044	99.28376254	96.53938756	93.88636068	91.32113111	88.84030734
230328A00111	3/28/2023	4.36	3/27/2026	3/28/2023	107.42632	105.3320022	103.2895416	101.2973033	99.35372085	97.4572887	95.60655887	93.80013851	92.03668733
230328A00100	3/28/2023	4.19	3/28/2028	3/28/2023	115.13912	110.916517	106.8760758	103.0089241	99.30667368	95.76138936	92.36556176	89.11208211	85.99421855
230328A00122	3/28/2023	4.58	3/28/2025	3/28/2023	103.65017	102.5695202	101.5114866	100.4753669	99.46048464	98.46619057	97.49186186	96.53690056	95.60073243
230329A00020	3/29/2023	4.23	3/29/2028	3/29/2023	115.31322	111.0843489	107.0379592	103.1651641	99.45755752	95.90718713	92.50652783	89.24845608	86.12622621

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230329A00055	3/29/2023	4.59	3/28/2025	3/29/2023	103.661	102.5802876	101.5221925	100.4860122	99.4710702	98.47671724	97.50233047	96.54731193	95.61108735
230329A00043	3/29/2023	4.36	3/27/2026	3/29/2023	107.42632	105.3320022	103.2895416	101.2973033	99.35372085	97.4572887	95.60655887	93.80013851	92.03668733
230330A00011	3/30/2023	4.21	3/30/2028	3/30/2023	115.24268	111.0124956	106.9649623	103.091178	99.38272433	95.83163786	92.43038306	89.17182681	86.04921459
230330A00061	3/30/2023	4.65	3/31/2025	3/30/2023	103.75873	102.6693497	101.6029322	100.5587559	99.53612925	98.53438928	97.5528999	96.59105065	95.64825542
230330A00062	3/30/2023	4.42	3/30/2026	3/30/2023	107.58517	105.4810697	103.4291859	101.4278697	99.47553915	97.57067383	95.71181184	93.89754715	92.12652693
230330A00029	3/30/2023	4.6	4/1/2025	3/30/2023	103.71511	102.623298	101.554557	100.5081631	99.48341974	98.47965905	97.49624042	96.53254911	95.58799491
230417A00023	4/17/2023	3.86	4/7/2028	4/17/2023	114.46155	110.2091151	106.141688	102.2501879	98.52603311	94.96110906	91.54774034	88.2786642	85.14700597
230419A00030	4/19/2023	4.39	4/20/2026	4/19/2023	107.76629	105.6020909	103.4926233	101.4361251	99.43090072	97.47532269	95.56782793	93.70691476	91.89113995
230419A00016	4/19/2023	4.41	4/18/2025	4/19/2023	103.86637	102.7251939	101.6091917	100.5175337	99.4494283	98.40411788	97.38087711	96.37901116	95.39785414
230419A00072	4/19/2023	4.53	10/20/2025	4/19/2023	105.90952	104.2628837	102.6500442	101.0700258	99.52189008	98.00473395	96.51768853	95.05991727	93.63061447
230419A00035	4/19/2023	4.16	4/19/2028	4/19/2023	115.2601	110.9734016	106.8738418	102.9521934	99.19974119	95.608247	92.16992066	88.87739299	85.72369053
230419A00005	4/19/2023	5.1	4/19/2024	4/19/2023	100.49759	100.3589563	100.2207169	100.0828719	99.9454194	99.80835783	99.67168545	99.53540057	99.39950152
230419A00024	4/19/2023	4.66	4/18/2025	4/19/2023	103.96952	102.8304345	101.7164271	100.6266737	99.56038697	98.51681328	97.49523104	96.49494895	95.51530449
230420A00067	4/20/2023	4.57	4/21/2025	4/20/2023	103.89943	102.7526866	101.6313656	100.5346291	99.46167344	98.41172987	97.38406239	96.37796613	95.39276575
230420A00071	4/20/2023	4.31	4/20/2026	4/20/2023	107.59472	105.4323909	103.324759	101.2700596	99.26659845	97.31274895	95.40694901	93.54769791	91.7335533
230420A00003	4/20/2023	4.06	4/20/2026	4/20/2023	107.34302	105.1779116	103.0676875	101.0105708	99.00485844	97.04891604	95.14117388	93.28012407	91.46431748
230420A00024	4/20/2023	4.31	4/20/2026	4/20/2023	107.59472	105.4323909	103.324759	101.2700596	99.26659845	97.31274895	95.40694901	93.54769791	91.7335533
230421A00023	4/21/2023	4.04	4/21/2028	4/21/2023	114.78534	110.502794	106.4075203	102.4902761	98.74232818	95.15542207	91.72175273	88.4339375	85.28499072
230421A00025	4/21/2023	4.04	4/21/2028	4/21/2023	114.78534	110.502794	106.4075203	102.4902761	98.74232818	95.15542207	91.72175273	88.4339375	85.28499072
230421A00036	4/21/2023	4.48	4/21/2025	4/21/2023	103.79605	102.6499282	101.5292262	100.4330992	99.36074387	98.31139158	97.2843066	96.27878429	95.2941495
230421A00015	4/21/2023	4.54	4/21/2025	4/21/2023	103.86497	102.7184338	101.5973191	100.5007858	99.42803025	98.37828377	97.35081046	96.34490552	95.35989367
230421A00003	4/21/2023	4.72	10/21/2024	4/21/2023	102.10787	101.4611047	100.8225566	100.1920691	99.56948986	98.95467048	98.34746627	97.74773611	97.15534235
230421A00041	4/21/2023	4.22	4/21/2027	4/21/2023	111.44906	108.2331568	105.128591	102.1308432	99.23561047	96.43879071	93.73647222	91.12492335	88.60058305
230421A00043	4/21/2023	4.1	4/21/2028	4/21/2023	115.0338	110.7461387	106.6459133	102.723875	98.97128425	95.37988048	91.94185296	88.64981356	85.49677142
230421A00044	4/21/2023	4.13	10/21/2027	4/21/2023	113.15804	109.4124992	105.8137123	102.3550885	99.03037294	95.83362736	92.75921234	89.80177023	86.95620933
230421A00020	4/21/2023	4.23	4/21/2026	4/21/2023	107.43433	105.2709818	103.1624142	101.1068592	99.10261799	97.14805975	95.24161847	93.38178967	91.56712753
230421A00064	4/21/2023	4.1	4/21/2028	4/21/2023	115.0338	110.7461387	106.6459133	102.723875	98.97128425	95.37988048	91.94185296	88.64981356	85.49677142
230421A00006	4/21/2023	4.04	4/21/2028	4/21/2023	114.78534	110.502794	106.4075203	102.4902761	98.74232818	95.15542207	91.72175273	88.4339375	85.28499072
230424A00012	4/24/2023	4.28	4/24/2026	4/24/2023	107.57567	105.4024481	103.2844056	101.2197502	99.20676582	97.24380529	95.32928707	93.46169206	91.63956057
230424A00037	4/24/2023	4.79	10/24/2024	4/24/2023	102.18182	101.5266738	100.8799508	100.241489	99.61113058	98.98872165	98.37411232	97.7671564	97.16771135
230424A00026	4/24/2023	4.28	4/24/2026	4/24/2023	107.57567	105.4024481	103.2844056	101.2197502	99.20676582	97.24380529	95.32928707	93.46169206	91.63956057
230424A00010	4/24/2023	4.55	4/24/2025	4/24/2023	103.90885	102.7539604	101.6248517	100.5206664	99.44058431	98.38382115	97.34962629	96.33728107	95.34609704
230424A00011	4/24/2023	4.55	4/24/2025	4/24/2023	103.90885	102.7539604	101.6248517	100.5206664	99.44058431	98.38382115	97.34962629	96.33728107	95.34609704

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230424A00005	4/24/2023	4.08	4/24/2028	4/24/2023	114.98357	110.6885151	106.5815374	102.6533442	98.89515195	95.29865941	91.85601825	88.55980556	85.40299819
230424A00064	4/24/2023	4.28	4/24/2026	4/24/2023	107.57567	105.4024481	103.2844056	101.2197502	99.20676582	97.24380529	95.32928707	93.46169206	91.63956057
230425A00076	4/25/2023	4.95	4/25/2024	4/25/2023	100.53402	100.3787757	100.2240152	100.0697387	99.91594415	99.76262915	99.60979148	99.45742891	99.30553922
230425A00045	4/25/2023	3.95	4/25/2028	4/25/2023	114.45469	110.1677392	106.0687437	102.1484057	98.39794022	94.80904491	91.37387074	88.0849945	84.93539308
230425A00047	4/25/2023	4.01	4/26/2027	4/25/2023	110.84245	107.6221851	104.5138698	101.5129482	98.6150768	95.81611624	93.11211982	90.49932337	87.97413549
230425A00050	4/25/2023	4.14	4/24/2026	4/25/2023	107.27388	105.1039764	102.9891784	100.9277025	98.91783423	96.95792839	95.04640513	93.18174701	91.36249597
230425A00020	4/25/2023	4.62	10/25/2024	4/25/2023	102.0791	101.4216244	100.7726398	100.1319794	99.49948337	98.87499629	98.25836649	97.64944616	97.04809116
230425A00124	4/25/2023	4.42	4/25/2025	4/25/2023	103.76889	102.6121589	101.4813186	100.3755014	99.29388219	98.23567173	97.20011482	96.18648847	95.19410017
230425A00006	4/25/2023	3.89	4/24/2026	4/25/2023	107.02047	104.8477821	102.7303885	100.6664931	98.65437299	96.69237479	94.77891099	92.9124569	91.09154758
230425A00037	4/25/2023	4.65	10/25/2024	4/25/2023	102.0989	101.4413558	100.792299	100.1515669	99.51899994	98.89444254	98.27774306	97.66875366	97.0673302
230425A00053	4/25/2023	4.14	4/24/2026	4/25/2023	107.27388	105.1039764	102.9891784	100.9277025	98.91783423	96.95792839	95.04640513	93.18174701	91.36249597
230425A00031	4/25/2023	3.69	4/25/2028	4/25/2023	113.94599	109.653463	105.5496728	101.6252603	97.87138589	94.27969633	90.84229559	87.55171672	84.40089612
230425A00040	4/25/2023	3.89	4/24/2026	4/25/2023	107.02047	104.8477821	102.7303885	100.6664931	98.65437299	96.69237479	94.77891099	92.9124569	91.09154758
230425A00028	4/25/2023	4.42	4/25/2025	4/25/2023	103.76889	102.6121589	101.4813186	100.3755014	99.29388219	98.23567173	97.20011482	96.18648847	95.19410017
230425A00030	4/25/2023	4.01	4/26/2027	4/25/2023	110.84245	107.6221851	104.5138698	101.5129482	98.6150768	95.81611624	93.11211982	90.49932337	87.97413549
230425A00029	4/25/2023	4.14	4/24/2026	4/25/2023	107.27388	105.1039764	102.9891784	100.9277025	98.91783423	96.95792839	95.04640513	93.18174701	91.36249597
230425A00032	4/25/2023	3.95	4/25/2028	4/25/2023	114.45469	110.1677392	106.0687437	102.1484057	98.39794022	94.80904491	91.37387074	88.0849945	84.93539308
230426A00051	4/26/2023	4.69	10/28/2024	4/26/2023	102.15298	101.487124	100.8299617	100.1813258	99.54105115	98.90897658	98.28494517	97.66880396	97.06040386
230426A00025	4/26/2023	3.62	4/26/2028	4/26/2023	113.66458	109.375066	105.2743258	101.3529941	97.60222335	94.01365316	90.579381	87.29193413	84.14424372
230426A00057	4/26/2023	4.44	4/25/2025	4/26/2023	103.79208	102.6352106	101.5042302	100.398275	99.31651999	98.25817575	97.22248706	96.20873087	95.21621465
230426A00037	4/26/2023	3.94	4/26/2027	4/26/2023	110.62145	107.4046815	104.2997748	101.3021738	98.40753799	95.61173087	92.91080847	90.30100924	87.77874432
230426A00036	4/26/2023	4.06	4/27/2026	4/26/2023	107.1336	104.956922	102.8356882	100.7680912	98.75240089	96.78695726	94.87016655	93.0004982	91.17648172
230426A00043	4/26/2023	4.35	4/22/2025	4/26/2023	103.65696	102.5089954	101.3865525	100.2887842	99.21488207	98.16407273	97.13561585	96.12880249	95.14295343
230426A00030	4/26/2023	3.81	4/27/2026	4/26/2023	106.87904	104.6995799	102.5757448	100.5057237	98.48777819	96.52023979	94.60150707	92.73004215	90.90436762
230426A00063	4/26/2023	4.69	10/25/2024	4/26/2023	102.12531	101.4676643	100.8185112	100.1776836	99.54502204	98.92037089	98.30357848	97.69449699	97.09298225
230228A00010	2/28/2023	4.5	2/26/2027	2/28/2023	112.09576	109.0095315	106.0264684	103.1425369	100.3538888	97.65684822	95.0479022	92.52369286	90.08100948
230228A00009	2/28/2023	4.69	2/27/2026	2/28/2023	108.03913	106.0092652	104.0285478	102.0954815	100.2086228	98.36658217	96.56802129	94.81165104	93.09622927
230331A00057	3/31/2023	4.08	3/31/2028	3/31/2023	114.72281	110.5004445	106.460608	102.5943969	98.89339144	95.34962761	91.95556951	88.70408399	85.5884168
230331A00055	3/31/2023	4.5	3/31/2025	3/31/2023	103.59505	102.5066201	101.4411389	100.3978852	99.37616776	98.37532401	97.39471813	96.43373998	95.49180372
230530A00027	5/30/2023	4.22	5/30/2028	5/30/2023	115.95632	111.5424317	107.3254305	103.2953886	99.44294314	95.75925671	92.23598453	88.86524372	85.63958482
230301A00029	3/1/2023	4.59	3/1/2028	3/1/2023	116.44371	112.269041	108.2716602	104.4430618	100.7751956	97.2604391	93.89157245	90.66175496	87.56450307
230301A00036	3/1/2023	4.91	3/2/2026	3/1/2023	108.25207	106.2166557	104.230573	102.2923167	100.4004353	98.55353152	96.75025984	94.98932431	93.2694763
230504A00046	5/4/2023	4.24	5/5/2025	5/4/2023	103.65967	102.4767437	101.3209074	100.1912354	99.08684518	98.00689379	96.95057528	95.91711885	94.90578693

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230504A00047	5/4/2023	4.5	11/4/2024	5/4/2023	102.0885	101.4040045	100.7287035	100.0624129	99.4049529	98.75614869	98.11582994	97.48383079	96.85998969
230504A00092	5/4/2023	4.5	11/4/2024	5/4/2023	102.0885	101.4040045	100.7287035	100.0624129	99.4049529	98.75614869	98.11582994	97.48383079	96.85998969
230504A00065	5/4/2023	4.11	5/5/2025	5/4/2023	103.50535	102.3233893	101.1685053	100.0397704	98.93630281	97.85725973	96.80183564	95.76926007	94.75879582
230504A00041	5/4/2023	3.95	5/4/2026	5/4/2023	106.96724	104.7734335	102.6358812	100.5527388	98.52223812	96.542683	94.61244568	92.72996354	90.89373584
230504A00042	5/4/2023	3.83	5/4/2027	5/4/2023	110.35464	107.1202506	103.9989949	100.9862404	98.07757212	95.26878371	92.55586617	89.93499713	87.40253084
230504A00043	5/4/2023	3.76	5/4/2028	5/4/2023	113.75404	109.4567936	105.3490574	101.4214054	97.66493444	94.07123335	90.6323529	87.34077747	84.18939888
230504A00069	5/4/2023	3.82	5/4/2026	5/4/2023	106.68346	104.492807	102.3583423	100.2782252	98.25068916	96.27403979	94.34665101	92.46696179	90.63347293
230504A00040	5/4/2023	4.5	11/4/2024	5/4/2023	102.0885	101.4040045	100.7287035	100.0624129	99.4049529	98.75614869	98.11582994	97.48383079	96.85998969
230504A00018	5/4/2023	4.24	5/5/2025	5/4/2023	103.65967	102.4767437	101.3209074	100.1912354	99.08684518	98.00689379	96.95057528	95.91711885	94.90578693
230504A00021	5/4/2023	3.76	5/4/2028	5/4/2023	113.75404	109.4567936	105.3490574	101.4214054	97.66493444	94.07123335	90.6323529	87.34077747	84.18939888
230504A00019	5/4/2023	3.95	5/4/2026	5/4/2023	106.96724	104.7734335	102.6358812	100.5527388	98.52223812	96.542683	94.61244568	92.72996354	90.89373584
230504A00020	5/4/2023	3.83	5/4/2027	5/4/2023	110.35464	107.1202506	103.9989949	100.9862404	98.07757212	95.26878371	92.55586617	89.93499713	87.40253084
230504A00011	5/4/2023	3.7	5/4/2026	5/4/2023	106.7102	104.5135838	102.3734127	100.2878319	98.2550642	96.27340513	94.34121899	92.45693566	90.61904734
230504A00057	5/4/2023	3.86	5/4/2026	5/4/2023	106.77078	104.5791536	102.4437389	100.3626909	98.33424269	96.35669924	94.42843399	92.5478854	90.71355383
230505A00046	5/5/2023	4.33	5/5/2025	5/5/2023	103.76651	102.5829121	101.4264166	100.2960957	99.19106681	98.1104866	97.05354889	96.01948262	95.00755
230505A00048	5/5/2023	4.01	5/5/2026	5/5/2023	107.10848	104.9104356	102.7688006	100.6817229	98.64742757	96.66421224	94.73044327	92.84455246	91.00503381
230505A00022	5/5/2023	3.85	5/5/2028	5/5/2023	114.13973	109.8317688	105.7138059	101.7763825	98.01057006	94.40793386	90.96050261	87.66074005	84.5015186
230505A00016	5/5/2023	3.85	5/5/2028	5/5/2023	114.13973	109.8317688	105.7138059	101.7763825	98.01057006	94.40793386	90.96050261	87.66074005	84.5015186
230505A00014	5/5/2023	3.59	5/5/2028	5/5/2023	113.62682	109.3132799	105.1905261	101.2490408	97.47983963	93.87443634	90.4248117	87.12338503	83.96298753
230505A00027	5/5/2023	4.01	5/5/2026	5/5/2023	107.10848	104.9104356	102.7688006	100.6817229	98.64742757	96.66421224	94.73044327	92.84455246	91.00503381
230505A00017	5/5/2023	4.01	5/5/2026	5/5/2023	107.10848	104.9104356	102.7688006	100.6817229	98.64742757	96.66421224	94.73044327	92.84455246	91.00503381
230505A00035	5/5/2023	3.9	5/5/2027	5/5/2023	110.58727	107.3464822	104.2191034	101.200482	98.28618987	95.47200852	92.75391735	90.12808312	87.59084986
230505A00002	5/5/2023	4.01	5/5/2026	5/5/2023	107.10848	104.9104356	102.7688006	100.6817229	98.64742757	96.66421224	94.73044327	92.84455246	91.00503381
230505A00001	5/5/2023	4.33	5/5/2025	5/5/2023	103.76651	102.5829121	101.4264166	100.2960957	99.19106681	98.1104866	97.05354889	96.01948262	95.00755
230505A00005	5/5/2023	3.99	5/5/2026	5/5/2023	107.06477	104.8672088	102.72605	100.6394388	98.60560068	96.62283345	94.68950375	92.80404362	90.96494731
230505A00013	5/5/2023	4.33	5/5/2025	5/5/2023	103.76651	102.5829121	101.4264166	100.2960957	99.19106681	98.1104866	97.05354889	96.01948262	95.00755
230509A00060	5/9/2023	3.92	5/9/2028	5/9/2023	114.47225	110.1465636	106.0119875	102.0589951	98.27858834	94.66226786	91.20200242	87.89020005	84.71968144
230509A00009	5/9/2023	4.45	5/9/2025	5/9/2023	103.95109	102.7555958	101.5877169	100.4465017	99.33104284	98.24047405	97.17396737	96.13073131	95.11000878
230509A00010	5/9/2023	4.14	5/8/2026	5/9/2023	107.42447	105.2148946	103.0621677	100.9644175	98.91985001	96.92674466	94.98345073	93.08838383	91.24002267
230509A00019	5/9/2023	4.7	11/8/2024	5/9/2023	102.27147	101.5754138	100.8888532	100.2115991	99.54346292	98.88426113	98.23381508	97.59195084	96.95849911
230509A00037	5/9/2023	4.47	11/8/2024	5/9/2023	102.24786	101.5501128	100.8619166	100.1830738	99.51339409	98.85269258	98.20078923	97.55750882	96.92268076
230509A00118	5/9/2023	4.12	5/8/2026	5/9/2023	107.38059	105.1715075	103.0192602	100.9219799	98.87787283	96.88521876	94.94236719	93.047734	91.19979813
230509A00047	5/9/2023	4.43	5/9/2025	5/9/2023	103.92713	102.7317863	101.5640565	100.4229879	99.30767343	98.21724674	97.15087999	96.10778172	95.0871949

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230509A00048	5/9/2023	4.43	5/9/2025	5/9/2023	103.92713	102.7317863	101.5640565	100.4229879	99.30767343	98.21724674	97.15087999	96.10778172	95.0871949
230509A00035	5/9/2023	4.14	5/8/2026	5/9/2023	107.42447	105.2148946	103.0621677	100.9644175	98.91985001	96.92674466	94.98345073	93.08838383	91.24002267
230509A00036	5/9/2023	4.02	5/10/2027	5/9/2023	111.02118	107.760018	104.6133111	101.5763523	98.64465797	95.81395747	93.08018145	90.43945091	87.88806697
230510A00007	5/10/2023	4.39	5/9/2025	5/10/2023	103.87921	102.6841673	101.5167355	100.3759603	99.26093459	98.17079214	97.10470524	96.06188255	95.04156715
230510A00033	5/10/2023	4.39	5/12/2025	5/10/2023	103.91031	102.7070155	101.5317079	100.3834144	99.26120992	98.16421091	97.09157353	96.04249123	95.01619276
230510A00014	5/10/2023	4.07	5/11/2026	5/10/2023	107.30218	105.0859577	102.9269218	100.8231865	98.77294113	96.77444978	94.82604706	92.92613486	91.0731789
230510A00062	8/10/2023	3.78	8/10/2026	8/10/2023	107.54828	105.0840407	102.68957	100.3624957	98.10054053	95.90151797	93.76332823	91.68395414	89.66145732
230510A00057	5/10/2023	3.98	5/11/2026	5/10/2023	107.104	104.8899941	102.733132	100.6315264	98.58336791	96.58692174	94.64052373	92.74257692	90.89154811
230510A00012	5/10/2023	5.02	5/10/2024	5/10/2023	100.69212	100.4953951	100.2994497	100.104281	99.90988433	99.71625499	99.5233884	99.33128	99.13992527
230510A00023	5/10/2023	4.74	9/30/2024	5/10/2023	101.92396	101.3345363	100.751934	100.1760348	99.60672364	99.04388787	98.48741748	97.93720494	97.39314512
230510A00022	5/10/2023	5.01	5/15/2024	5/10/2023	100.73928	100.52874	100.3190981	100.1103451	99.90247548	99.69548351	99.48936356	99.28411005	99.07971746
230510A00009	5/10/2023	4.07	5/11/2026	5/10/2023	107.30218	105.0859577	102.9269218	100.8231865	98.77294113	96.77444978	94.82604706	92.92613486	91.0731789
230510A00031	5/10/2023	4.14	5/9/2025	5/10/2023	103.77082	102.5735704	101.4040291	100.2612436	99.14430202	98.05233361	96.98450637	95.94002494	94.91812857
230511A00034	5/11/2023	4	5/12/2025	5/11/2023	103.63215	102.427701	101.2513265	100.1020499	98.9789413	97.88111321	96.80771779	95.75794478	94.73101946
230511A00053	5/11/2023	4.53	11/12/2024	5/11/2023	102.18953	101.4830098	100.7862838	100.0991509	99.4214136	98.7528797	98.09336234	97.44267965	96.80065465
230511A00052	5/11/2023	4.25	5/12/2025	5/11/2023	103.74143	102.5392126	101.3649618	100.2177084	99.09652739	98.00053585	96.92889031	95.88078463	94.85544795
230511A00069	5/11/2023	3.98	5/12/2026	5/11/2023	107.11418	104.8973917	102.7378717	100.6337276	98.58314417	96.58438116	94.63576925	92.73570653	90.88265524
230511A00068	5/11/2023	4.31	5/12/2025	5/11/2023	103.81381	102.6111281	101.4364244	100.2887253	99.16710562	98.07068231	96.99861169	95.95008746	94.92433858
230511A00067	5/11/2023	4.58	11/13/2024	5/11/2023	102.23436	101.5249633	100.8254427	100.1355895	99.4552041	98.78409207	98.1220644	97.4689372	96.8245315
230511A00038	5/11/2023	3.95	5/11/2026	5/11/2023	107.03794	104.8246728	102.6685354	100.5676397	98.52017684	96.52441239	94.57868263	92.68139093	90.83100451
230511A00044	5/11/2023	3.79	5/11/2027	5/11/2023	110.29604	107.0438108	103.9059071	100.87762	97.95446606	95.13217492	92.40667778	89.77409641	87.2307328
230511A00029	5/11/2023	4.25	5/9/2025	5/11/2023	103.71148	102.5175007	101.3511123	100.2113638	99.09734866	98.00820103	96.94309361	95.90123545	94.88187001
230511A00011	5/11/2023	4.54	11/5/2024	5/11/2023	102.12522	101.4378876	100.7598293	100.0908542	99.4307805	98.7794311	98.13663367	97.50222038	96.87602776
230511A00036	5/11/2023	3.79	5/19/2027	5/11/2023	110.37439	107.0994277	103.940225	100.8919809	97.95013081	95.11032848	92.3684343	89.72050379	87.16277699
230511A00023	5/11/2023	3.95	5/19/2026	5/11/2023	107.11873	104.883196	102.7058005	100.5846058	98.51775607	96.50347264	94.54005008	92.62585246	90.75930988
230511A00015	5/11/2023	4.25	5/12/2025	5/11/2023	103.74143	102.5392126	101.3649618	100.2177084	99.09652739	98.00053585	96.92889031	95.88078463	94.85544795
230511A00032	5/11/2023	3.7	5/11/2026	5/11/2023	106.77871	104.5626125	102.4038321	100.300477	98.25072908	96.25284547	94.30515427	92.40605119	90.55399619
230511A00046	5/11/2023	3.95	5/11/2026	5/11/2023	107.03794	104.8246728	102.6685354	100.5676397	98.52017684	96.52441239	94.57868263	92.68139093	90.83100451
230511A00050	5/11/2023	3.98	5/11/2026	5/11/2023	107.104	104.8899941	102.733132	100.6315264	98.58336791	96.58692174	94.64052373	92.74257692	90.89154811
230512A00026	5/12/2023	4	5/12/2026	5/12/2023	107.15828	104.9409926	102.7809884	100.6763699	98.6253216	96.62610303	94.67704458	92.77654409	90.92306355
230512A00033	5/12/2023	3.75	5/12/2026	5/12/2023	106.8989	104.6787743	102.5161199	100.4090353	98.35569593	96.35435261	94.40332759	92.50101105	90.64585767
230512A00009	5/12/2023	4.08	5/12/2025	5/12/2023	103.72875	102.5236839	101.3467038	100.1968312	99.07313609	97.97473072	96.90076699	95.85043441	94.82295804
230512A00010	5/12/2023	3.75	5/12/2026	5/12/2023	106.8989	104.6787743	102.5161199	100.4090353	98.35569593	96.35435261	94.40332759	92.50101105	90.64585767

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230512A00042	5/12/2023	4	5/12/2026	5/12/2023	107.15828	104.9409926	102.7809884	100.6763699	98.6253216	96.62610303	94.67704458	92.77654409	90.92306355
230512A00037	5/12/2023	3.86	5/12/2027	5/12/2023	110.52989	107.2712273	104.1271614	101.0929708	98.16415857	95.33644204	92.60574073	89.9681654	87.42000772
230512A00008	5/12/2023	3.75	5/12/2026	5/12/2023	106.8989	104.6787743	102.5161199	100.4090353	98.35569593	96.35435261	94.40332759	92.50101105	90.64585767
230512A00007	5/12/2023	4.08	5/12/2025	5/12/2023	103.72875	102.5236839	101.3467038	100.1968312	99.07313609	97.97473072	96.90076699	95.85043441	94.82295804
230515A00034	5/15/2023	4.69	11/15/2024	5/15/2023	102.33201	101.6168356	100.9116906	100.2163628	99.53064773	98.8543467	98.18726641	97.52921883	96.88002102
230515A00011	5/15/2023	4.11	5/15/2026	5/15/2023	107.43241	105.2040288	103.0333628	100.9184964	98.85759502	96.84889996	94.89072458	92.98145063	91.11952484
230515A00024	5/15/2023	4.69	11/15/2024	5/15/2023	102.33201	101.6168356	100.9116906	100.2163628	99.53064773	98.8543467	98.18726641	97.52921883	96.88002102
230515A00045	5/15/2023	4.08	5/15/2026	5/15/2023	107.36602	105.138387	102.9684527	100.854303	98.79410379	96.78609691	94.82859607	92.91998338	91.05870595
230516A00013	5/16/2023	4.11	5/15/2026	5/16/2023	107.43241	105.2040288	103.0333628	100.9184964	98.85759502	96.84889996	94.89072458	92.98145063	91.11952484
230516A00123	5/16/2023	5.01	5/16/2024	5/16/2023	100.7491	100.5357979	100.3234151	100.1119443	99.90137951	99.69171489	99.48294457	99.27506277	99.06806374
230426A00046	4/26/2023	3.95	4/26/2028	4/26/2023	114.4652	110.1752284	106.0734448	102.1505353	98.39769926	94.8066203	91.36943616	88.07871138	84.92741154
230426A00045	4/26/2023	4.34	4/25/2025	4/26/2023	103.67611	102.5199521	101.3896723	100.2844069	99.20333101	98.14565568	97.11062589	96.09751884	95.10564222
230426A00062	4/26/2023	4.13	4/27/2026	4/26/2023	107.28506	105.106719	102.9838508	100.9146522	98.89739225	96.93041002	95.01211087	93.14096337	91.31549626
230426A00026	4/26/2023	4.61	10/25/2024	4/26/2023	102.0725	101.4150473	100.7660868	100.1254502	99.49297784	98.8685142	98.25190764	97.64301033	97.04167815
230426A00049	4/26/2023	4.13	4/27/2026	4/26/2023	107.28506	105.106719	102.9838508	100.9146522	98.89739225	96.93041002	95.01211087	93.14096337	91.31549626
230426A00033	4/26/2023	3.88	4/26/2028	4/26/2023	114.17438	109.890412	105.7944425	101.8771615	98.12977609	94.54397679	91.11190815	87.82614115	84.67964751
230426A00065	6/15/2023	3.87	6/15/2028	6/15/2023	114.63019	110.1997192	105.9690703	101.9281332	98.06736626	94.37776022	90.85080586	87.47846321	84.25313301
230426A00064	6/15/2023	3.87	6/15/2028	6/15/2023	114.63019	110.1997192	105.9690703	101.9281332	98.06736626	94.37776022	90.85080586	87.47846321	84.25313301
230426A00040	4/26/2023	3.9	4/26/2028	4/26/2023	114.25747	109.9717881	105.8741574	101.9552683	98.20632557	94.61901779	91.18548758	87.89830407	84.75043724
230426A00007	4/26/2023	3.92	7/11/2028	4/26/2023	115.10394	110.5917956	106.286118	102.1763675	98.25260048	94.50542888	90.92598575	87.505894	84.23723675
230426A00011	4/26/2023	3.96	9/12/2028	4/26/2023	115.89765	111.1966287	106.7180896	102.4502816	98.38214202	94.50324831	90.80377722	87.27446725	83.90658351
230426A00014	4/26/2023	3.98	10/10/2028	4/26/2023	116.26896	111.4816287	106.9238608	102.5833731	98.44860881	94.50868981	90.75337238	87.17300682	83.75849971
230426A00003	4/26/2023	3.89	5/9/2028	4/26/2023	114.34655	110.0234805	105.8914375	101.9408969	98.16286378	94.54884204	91.09080338	87.78115869	84.61273135
230426A00004	4/26/2023	3.89	5/9/2028	4/26/2023	114.34655	110.0234805	105.8914375	101.9408969	98.16286378	94.54884204	91.09080338	87.78115869	84.61273135
230426A00009	4/26/2023	3.94	8/8/2028	4/26/2023	115.46348	110.8680448	106.4861462	102.3067191	98.31932771	94.51412844	90.88183294	87.41367406	84.10137389
230426A00010	4/26/2023	3.94	8/8/2028	4/26/2023	115.46348	110.8680448	106.4861462	102.3067191	98.31932771	94.51412844	90.88183294	87.41367406	84.10137389
230426A00005	4/26/2023	3.91	6/13/2028	4/26/2023	114.78153	110.3534242	106.1247583	102.0854481	98.22597461	94.5373504	91.01108716	87.63916493	84.41400359
230426A00006	4/26/2023	3.91	6/13/2028	4/26/2023	114.78153	110.3534242	106.1247583	102.0854481	98.22597461	94.5373504	91.01108716	87.63916493	84.41400359
230426A00013	4/26/2023	3.98	10/10/2028	4/26/2023	116.26896	111.4816287	106.9238608	102.5833731	98.44860881	94.50868981	90.75337238	87.17300682	83.75849971
230426A00008	4/26/2023	3.92	7/11/2028	4/26/2023	115.10394	110.5917956	106.286118	102.1763675	98.25260048	94.50542888	90.92598575	87.505894	84.23723675
230426A00012	4/26/2023	3.96	9/12/2028	4/26/2023	115.89765	111.1966287	106.7180896	102.4502816	98.38214202	94.50324831	90.80377722	87.27446725	83.90658351
230427A00069	4/27/2023	4.5	4/28/2025	4/27/2023	103.89364	102.7280581	101.5887329	100.4747821	99.3853635	98.31967208	97.27693759	96.25642283	95.2574219
230427A00066	4/27/2023	4.07	4/27/2027	4/27/2023	111.04276	107.8165268	104.7025061	101.6961224	98.79301994	95.98904757	93.28024761	90.66284554	88.13324021

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230427A00013	4/27/2023	4.74	10/28/2024	4/27/2023	102.1864	101.5204189	100.8631332	100.214375	99.57397922	98.94178461	98.31763426	97.70137518	97.09285826
230427A00077	4/27/2023	4.14	10/27/2026	4/27/2023	109.2793	106.5808737	103.9637514	101.4249658	98.96168103	96.571184	94.25087832	91.99827821	89.81100301
230427A00057	4/27/2023	4.74	10/28/2024	4/27/2023	102.1864	101.5204189	100.8631332	100.214375	99.57397922	98.94178461	98.31763426	97.70137518	97.09285826
230428A00018	4/28/2023	3.99	4/28/2028	4/28/2023	114.65263	110.3531664	106.2424749	102.3111972	98.55049779	94.95202749	91.50789382	88.21063311	85.05318472
230428A00017	4/28/2023	4.17	4/28/2026	4/28/2023	107.38263	105.2004436	103.0738711	101.0011047	98.98040748	97.01011254	95.08861981	93.21439266	91.38595491
230428A00040	4/28/2023	4.78	10/28/2024	4/28/2023	102.21314	101.5470548	100.8896703	100.2408144	99.60032167	98.96803104	98.34378553	97.72743215	97.11882178
230428A00029	4/28/2023	4.23	4/28/2026	4/28/2023	107.51262	105.3290014	103.2010244	101.1268818	99.10483588	97.13321891	95.21043008	93.33493203	91.50524788
230428A00026	4/28/2023	4.56	4/28/2025	4/28/2023	103.96371	102.7977002	101.6579488	100.5435784	99.45374673	98.38764853	97.34451337	96.32360393	95.32421415
230428A00054	4/28/2023	4.62	3/13/2025	4/28/2023	103.53093	102.4913933	101.4728199	100.4745797	99.49606691	98.5366999	97.59591958	96.6731885	95.76798978
230428A00066	4/28/2023	4.78	10/28/2024	4/28/2023	102.21314	101.5470548	100.8896703	100.2408144	99.60032167	98.96803104	98.34378553	97.72743215	97.11882178
230501A00011	5/1/2023	4.09	4/26/2027	5/1/2023	111.09503	107.8707607	104.7585499	101.7538332	98.85226402	96.04969952	93.34218994	90.72596809	88.1974397
230501A00022	5/1/2023	4.54	5/1/2025	5/1/2023	103.97267	102.7985239	101.6510006	100.5292031	99.43227213	98.35938629	97.30976003	96.28264171	95.2773118
230501A00039	5/1/2023	4.33	5/1/2025	5/1/2023	103.9135	102.7368947	101.5870164	100.4629641	99.36387385	98.28891982	97.23731228	96.20829566	95.20114668
230501A00038	5/1/2023	4.33	5/1/2025	5/1/2023	103.9135	102.7368947	101.5870164	100.4629641	99.36387385	98.28891982	97.23731228	96.20829566	95.20114668
230501A00013	5/1/2023	4.54	5/1/2025	5/1/2023	103.97267	102.7985239	101.6510006	100.5292031	99.43227213	98.35938629	97.30976003	96.28264171	95.2773118
230501A00041	5/1/2023	4.58	4/28/2025	5/1/2023	103.98707	102.8209142	101.6810208	100.5665105	99.47654115	98.41030734	97.36703863	96.34599763	95.34647824
230726A00023	7/26/2023	4.24	7/26/2028	7/26/2023	117.27278	112.6550316	108.250263	104.0475116	100.0364332	96.20726704	92.55079967	89.05833123	85.72164437
230726A00058	7/26/2023	4.99	7/28/2025	7/26/2023	105.83291	104.4105988	103.0145916	101.6442242	100.2988499	98.97784327	97.68059954	96.40653344	95.15507856
230726A00060	7/26/2023	4.99	7/28/2025	7/26/2023	105.83291	104.4105988	103.0145916	101.6442242	100.2988499	98.97784327	97.68059954	96.40653344	95.15507856
230726A00012	7/26/2023	4.24	7/26/2028	7/26/2023	117.27278	112.6550316	108.250263	104.0475116	100.0364332	96.20726704	92.55079967	89.05833123	85.72164437
230727A00020	7/27/2023	4.39	7/27/2028	7/27/2023	117.32942	112.7255653	108.333686	104.1428799	100.1428654	96.32393992	92.67694405	89.19322851	85.86462306
230727A00070	7/27/2023	4.75	7/27/2026	7/27/2023	109.75371	107.299674	104.9139592	102.5942783	100.338434	98.14431491	96.00989234	93.93321607	91.91241098
230727A00016	7/27/2023	4.51	7/27/2033	7/27/2023	135.22806	124.9690173	115.6150738	107.0803885	99.28772071	92.16752349	85.65714019	79.70008857	74.24542249
230727A00063	7/27/2023	4.38	7/27/2028	7/27/2023	117.90225	113.2679709	108.847384	104.6294884	100.6039039	96.76083592	93.09103912	89.58578381	86.2368246
230727A00073	7/27/2023	4.81	7/27/2026	7/27/2023	109.89845	107.4426432	105.0551975	102.7338229	100.4763209	98.28057921	96.14456793	94.06633591	92.04400709
230727A00075	7/27/2023	4.5	7/27/2028	7/27/2023	117.81398	113.1995334	108.7974174	104.596717	100.5871362	96.75895874	93.10301237	89.61063545	86.27364604
230728A00017	7/28/2023	5.15	7/22/2025	7/28/2023	105.7561	104.3540075	102.9775325	101.6260358	100.2988945	98.99550578	97.71528658	96.45767236	95.22211659
230728A00004	7/28/2023	4.77	7/28/2026	7/28/2023	109.81425	107.3567872	104.9678036	102.6450066	100.3861914	98.18923999	96.05211703	93.97286615	91.9496064
230728A00006	7/28/2023	4.46	7/28/2028	7/28/2023	117.64893	113.0353714	108.634261	104.4346761	100.4263082	96.59942974	92.94485804	89.45392201	86.118431
230728A00005	7/28/2023	4.59	7/28/2027	7/28/2023	113.79636	110.2731856	106.8805648	103.6129538	100.4650774	97.43191176	94.5086705	91.69079267	88.97393065
230731A00036	7/31/2023	5.1	7/31/2025	7/31/2023	105.79721	104.3708315	102.9709124	101.5967804	100.247783	98.92328968	97.62269034	96.34539479	95.09083187
230731A00037	7/31/2023	4.74	7/31/2026	7/31/2023	109.77844	107.313349	104.9171608	102.5875618	100.3223271	98.1193197	95.97648618	93.89185311	91.86352336
230731A00012	7/31/2023	4.5	7/31/2029	7/31/2023	121.74352	116.0031559	110.5779699	105.44892	100.5982086	96.00919869	91.66633219	87.55505474	83.66174593

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230801A00028	8/1/2023	5.14	8/1/2025	8/1/2023	105.86676	104.4372124	103.034228	101.6571306	100.3052642	98.97799485	97.67470907	96.39481353	95.13773403
230801A00001	8/1/2023	5.14	8/1/2025	8/1/2023	105.86676	104.4372124	103.034228	101.6571306	100.3052642	98.97799485	97.67470907	96.39481353	95.13773403
230530A00161	5/30/2023	5.08	11/29/2024	5/30/2023	102.77681	102.0218142	101.2779378	100.5449402	99.82258365	99.11063754	98.40887771	97.71708645	97.0350522
230530A00184	5/30/2023	5.5	5/30/2024	5/30/2023	101.01005	100.757799	100.5068069	100.2570645	100.0085623	99.76129125	99.51524216	99.27040604	99.02677395
230530A00171	5/30/2023	4.43	5/29/2026	5/30/2023	108.30028	106.0245065	103.808406	101.6499671	99.54726717	97.49846431	95.50179348	93.55556242	91.65814794
230530A00166	5/30/2023	4.81	5/30/2025	5/30/2023	104.62417	103.3677895	102.1417399	100.9449347	99.77633465	98.63494945	97.51983458	96.43008886	95.36485193
230530A00118	5/30/2023	4.4	5/28/2027	5/30/2023	112.44163	109.1088915	105.8943823	102.7931776	99.80059176	96.91216522	94.12365168	91.43100633	88.83037479
230530A00041	5/30/2023	4.93	5/27/2025	5/30/2023	104.73932	103.490281	102.271202	101.0810169	99.91870509	98.78329372	97.67385469	96.58950225	95.52939055
230530A00058	5/30/2023	5.5	5/30/2024	5/30/2023	101.01005	100.757799	100.5068069	100.2570645	100.0085623	99.76129125	99.51524216	99.27040604	99.02677395
230530A00048	5/30/2023	4.45	5/29/2026	5/30/2023	108.3453	106.0690152	103.8524104	101.6934775	99.59029361	97.54101659	95.54388111	93.59719463	91.69933372
230530A00018	5/30/2023	5.13	11/25/2024	5/30/2023	102.77104	102.0268914	101.2935559	100.5707992	99.85839306	99.15611609	98.46375296	97.78109449	97.10793733
230531A00036	5/31/2023	4.79	5/30/2025	5/31/2023	104.59906	103.3428445	102.116958	100.9203132	99.75187101	98.61064103	97.49567888	96.40608345	95.34099444
230531A00037	5/31/2023	4.41	5/29/2026	5/31/2023	108.25525	105.9799977	103.7644016	101.6064568	99.50424074	97.45591203	95.45970585	93.51393021	91.61696217
230531A00042	5/31/2023	4.01	5/28/2027	5/31/2023	111.61688	108.286861	105.0753363	101.9773553	98.98821204	96.10342777	93.31873849	90.63008292	88.03359136
230531A00038	5/31/2023	4.01	5/28/2027	5/31/2023	111.61688	108.286861	105.0753363	101.9773553	98.98821204	96.10342777	93.31873849	90.63008292	88.03359136
230531A00091	5/31/2023	4.26	6/1/2027	5/31/2023	112.03201	108.6950148	105.476798	102.3723976	99.37709582	96.48640305	93.69604455	91.00194873	88.400236
230531A00090	5/31/2023	4.41	6/1/2026	5/31/2023	108.28963	106.005833	103.7820962	101.6163944	99.50679077	97.45142985	95.44853347	93.49639672	91.59338425
230531A00088	5/31/2023	4.79	5/30/2025	5/31/2023	104.59906	103.3428445	102.116958	100.9203132	99.75187101	98.61064103	97.49567888	96.40608345	95.34099444
230531A00099	5/31/2023	4.41	5/29/2026	5/31/2023	108.25525	105.9799977	103.7644016	101.6064568	99.50424074	97.45591203	95.45970585	93.51393021	91.61696217
230531A00062	5/31/2023	4.39	4/30/2026	5/31/2023	107.88251	105.6892484	103.5519586	101.4688155	99.43806766	97.45803476	95.52710391	93.64372636	91.80641439
230531A00063	5/31/2023	4.37	5/29/2026	5/31/2023	108.16521	105.8909801	103.6763928	101.519436	99.41818787	97.37080747	95.37553059	93.43066578	91.53459062
230531A00061	5/31/2023	4.42	4/1/2026	5/31/2023	107.60824	105.498428	103.4410601	101.4344806	99.4770973	97.56737998	95.70385755	93.88511523	92.10979198
230531A00060	5/31/2023	4.44	2/27/2026	5/31/2023	107.272	105.2549749	103.2867376	101.3658036	99.49074175	97.66017447	95.87277491	94.12726484	92.42241251
230531A00006	5/31/2023	5.05	11/25/2024	5/31/2023	102.71141	101.9675027	101.2344094	100.5118924	99.79972366	99.09768163	98.4055511	97.72312291	97.05019376
230601A00012	6/1/2023	4.72	6/2/2025	6/1/2023	104.54794	103.2842623	102.0505769	100.8458161	99.66896595	98.51905996	97.39517574	96.29643272	95.22198978
230601A00006	6/1/2023	4.77	6/2/2025	6/1/2023	104.61112	103.3470303	102.112932	100.9077651	99.73051569	98.58021693	97.4559463	96.35682306	95.28200593
230601A00007	6/1/2023	5.04	12/2/2024	6/1/2023	102.78721	102.0239714	101.2720967	100.5313376	99.80144865	99.08219156	98.37333496	97.67465414	96.98593085
230601A00040	6/1/2023	4.35	6/1/2026	6/1/2023	108.15406	105.8718262	103.6496133	101.4854041	99.37726248	97.32333397	95.32184123	93.37108016	91.4694162
230601A00018	6/1/2023	4.1	6/1/2026	6/1/2023	107.88968	105.6044936	103.3795357	101.2127757	99.10226786	97.04614834	95.04263111	93.09000383	91.18662415
230601A00025	6/1/2023	4.12	6/1/2028	6/1/2023	115.55285	111.1419546	106.928133	102.9014424	99.05250198	95.37245765	91.85294892	88.48607831	85.26438278
230601A00022	6/1/2023	5.04	12/2/2024	6/1/2023	102.78721	102.0239714	101.2720967	100.5313376	99.80144865	99.08219156	98.37333496	97.67465414	96.98593085
230602A00012	6/2/2023	4.39	6/2/2026	6/2/2023	108.25605	105.9698776	103.743888	101.5760613	99.46445861	97.40722217	95.40257141	93.44879891	91.54426668
230602A00027	6/2/2023	4.2	6/2/2026	6/2/2023	108.12744	105.8367434	103.6064689	101.4345839	99.31913876	97.25826558	95.25017418	93.29314805	91.38554059

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230602A00030	6/2/2023	4.2	6/2/2026	6/2/2023	108.12744	105.8367434	103.6064689	101.4345839	99.31913876	97.25826558	95.25017418	93.29314805	91.38554059
230602A00020	6/2/2023	3.94	6/2/2028	6/2/2023	115.38651	110.9595293	106.7309386	102.6907056	98.82936728	95.13799316	91.60815114	88.23187685	85.0016447
230605A00022	6/5/2023	4.39	6/4/2027	6/5/2023	112.49041	109.1375606	105.9042561	102.7855095	99.77657509	96.87293525	94.07028805	91.36453528	88.75177137
230606A00015	6/6/2023	4.24	6/6/2028	6/6/2023	116.11839	111.6814988	107.4432857	103.3937222	99.52334573	95.82322392	92.28492128	88.90046858	85.66233426
230606A00014	6/6/2023	4.35	6/7/2027	6/6/2023	112.39475	109.0350843	105.7954959	102.6709758	99.65675781	96.7483041	93.94129275	91.23160586	88.6153185
230303A00059	3/3/2023	4.56	3/3/2027	3/3/2023	112.33889	109.2347829	106.2347961	103.3348475	100.5310391	97.81964787	95.19711687	92.66004661	90.20518724
230303A00057	3/3/2023	4.77	3/3/2027	3/3/2023	112.56077	109.4628122	106.4685394	103.573891	100.7749923	98.06814233	95.44980493	92.91660014	90.46529652
230303A00041	4/14/2023	4.56	4/14/2028	4/14/2023	116.85346	112.5481678	108.4299295	104.4895594	100.718377	97.10817554	93.65119262	90.34008399	87.16789835
230303A00037	5/15/2023	4.81	5/15/2026	5/15/2023	108.98148	106.7356707	104.5479338	102.4163441	100.3390571	98.31430437	96.34038993	94.41568657	92.53863235
230303A00035	5/15/2023	4.65	5/15/2030	5/15/2023	125.29193	118.6446379	112.407053	106.5515238	101.0524179	95.88596125	91.03009413	86.46433783	82.16967308
230303A00036	5/15/2023	4.53	5/15/2028	5/15/2023	117.09812	112.7012918	108.4987128	104.4806773	100.6380259	96.96210842	93.44475205	90.07823233	86.85524558
230303A00038	4/14/2023	4.56	4/14/2028	4/14/2023	116.85346	112.5481678	108.4299295	104.4895594	100.718377	97.10817554	93.65119262	90.34008399	87.16789835
230516A00067	5/16/2023	4.44	5/16/2025	5/16/2023	104.01263	102.7979385	101.6117412	100.4530431	99.32089442	98.21438835	97.1326592	96.07487984	95.04025966
230516A00069	5/16/2023	4.1	5/15/2026	5/16/2023	107.41028	105.1821482	103.0117261	100.8970986	98.83643127	96.82796561	94.87001508	92.96096155	91.09925188
230516A00009	5/16/2023	4.46	5/16/2025	5/16/2023	104.03698	102.8221268	101.6357758	100.4769266	99.34462919	98.23797676	97.15610353	96.09818232	95.06342246
230516A00035	5/16/2023	4.11	5/15/2026	5/16/2023	107.43241	105.2040288	103.0333628	100.9184964	98.85759502	96.84889996	94.89072458	92.98145063	91.11952484
230517A00048	5/17/2023	4.17	5/15/2026	5/17/2023	107.56519	105.3353124	103.1631832	101.0468834	98.98457748	96.97450605	95.01498161	93.10438514	91.24116263
230517A00020	5/17/2023	4.47	7/17/2025	5/17/2023	104.75052	103.3690164	102.0125527	100.6805049	99.3722693	98.08726154	96.82491608	95.58468531	94.36603887
230517A00014	5/17/2023	4.14	5/18/2026	5/17/2023	107.53065	105.2931365	103.1137323	100.9905038	98.92159821	96.90523988	94.93972603	93.0234232	91.15476379
230517A00046	5/17/2023	4.53	5/16/2025	5/17/2023	104.12218	102.9067857	101.719897	100.5605189	99.42770091	98.32053619	97.23815868	96.179741	95.14449227
230518A00019	5/18/2023	3.81	5/18/2028	5/18/2023	114.67998	110.3090678	106.1325949	102.1407996	98.32446902	94.67490488	91.18389117	87.84366453	84.64688649
230518A00017	5/18/2023	4.28	5/18/2026	5/18/2023	107.84161	105.6005867	103.4177436	101.2911464	99.21894035	97.19934771	95.23066386	93.31125353	91.43954737
230519A00028	5/19/2023	4.73	5/19/2025	5/19/2023	104.39951	103.1742566	101.9779153	100.8094707	99.66795338	98.55243824	97.46204222	96.39592188	95.35327121
230519A00029	5/19/2023	4.39	5/19/2026	5/19/2023	108.09724	105.850643	103.6624137	101.5306065	99.45335914	97.42888677	95.45547801	93.53149122	91.65535097
230519A00038	5/19/2023	3.92	5/19/2028	5/19/2023	115.15526	110.7716381	106.5830082	102.579579	98.75210926	95.09187424	91.59063312	88.24059928	85.03441241
230519A00026	5/19/2023	4.73	5/19/2025	5/19/2023	104.39951	103.1742566	101.9779153	100.8094707	99.66795338	98.55243824	97.46204222	96.39592188	95.35327121
230519A00025	5/19/2023	4.95	11/19/2024	5/19/2023	102.56008	101.8332034	101.1166633	100.410243	99.71372871	99.02691275	98.34959315	97.68157356	97.02266298
230519A00027	5/19/2023	4.39	5/19/2026	5/19/2023	108.09724	105.850643	103.6624137	101.5306065	99.45335914	97.42888677	95.45547801	93.53149122	91.65535097
230519A00011	5/19/2023	4.73	5/19/2025	5/19/2023	104.39951	103.1742566	101.9779153	100.8094707	99.66795338	98.55243824	97.46204222	96.39592188	95.35327121
230519A00013	5/19/2023	4.39	5/19/2026	5/19/2023	108.09724	105.850643	103.6624137	101.5306065	99.45335914	97.42888677	95.45547801	93.53149122	91.65535097
230519A00041	5/19/2023	3.92	5/19/2028	5/19/2023	115.15526	110.7716381	106.5830082	102.579579	98.75210926	95.09187424	91.59063312	88.24059928	85.03441241
230522A00058	5/22/2023	4.7	5/19/2025	5/22/2023	104.36275	103.1377309	101.9416229	100.773408	99.63211662	98.51682383	97.42664664	96.36074174	95.31830319
230522A00046	5/22/2023	4.17	5/22/2028	5/22/2023	115.65856	111.2727576	107.0818142	103.0759456	99.24592201	95.58302913	92.07903609	88.72616558	85.51706596

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230522A00093	5/22/2023	4.17	5/22/2028	5/22/2023	115.65856	111.2727576	107.0818142	103.0759456	99.24592201	95.58302913	92.07903609	88.72616558	85.51706596
230522A00029	5/22/2023	4.67	5/22/2025	5/22/2023	104.35938	103.1262987	101.9225103	100.7469739	99.59870124	98.47674994	97.38022059	96.3082544	95.2600309
230522A00026	5/22/2023	4.35	5/22/2026	5/22/2023	108.04185	105.7878338	103.5925415	101.4540152	99.37037517	97.33982046	95.36062435	93.43113079	91.54975076
230522A00014	5/23/2023	5.14	5/22/2024	5/23/2023	100.83791	100.6079715	100.3790918	100.151265	99.92448371	99.69874076	99.47402895	99.25034118	99.02767041
230522A00043	5/22/2023	4.17	5/16/2028	5/22/2023	115.5945	111.2263852	107.0517213	103.0608306	99.24457813	95.59433704	92.10195745	88.75973694	85.56039322
230523A00048	5/23/2023	4.44	5/26/2026	5/23/2023	108.28848	106.0209139	103.8126327	101.661651	99.56606382	97.52404634	95.53384938	93.59379565	91.70227609
230523A00047	5/23/2023	4.77	5/23/2025	5/23/2023	104.49414	103.2574951	102.0502765	100.871444	99.72000281	98.59500428	97.49554316	96.42075512	95.36981451
230523A00045	5/23/2023	5	11/22/2024	5/23/2023	102.63525	101.8998661	101.175056	100.4605933	99.75625689	99.06183238	98.37711115	97.70189048	97.03597327
230523A00031	5/23/2023	4.76	11/22/2024	5/23/2023	102.59615	101.8591217	101.1327133	100.4167005	99.71086102	99.01497862	98.32884332	97.65225094	96.98500303
230523A00008	5/23/2023	4.44	5/26/2026	5/23/2023	108.28848	106.0209139	103.8126327	101.661651	99.56606382	97.52404634	95.53384938	93.59379565	91.70227609
230523A00030	5/23/2023	5.3	5/23/2024	5/23/2023	100.88533	100.6525657	100.4208844	100.1902802	99.96074551	99.73227283	99.50485479	99.27848404	99.05315331
230523A00014	5/23/2023	5.3	5/22/2024	5/23/2023	100.87471	100.6447182	100.4157822	100.1878992	99.96106201	99.73526333	99.51049598	99.28675287	99.06402694
230523A00027	5/23/2023	5.3	5/23/2024	5/23/2023	100.88533	100.6525657	100.4208844	100.1902802	99.96074551	99.73227283	99.50485479	99.27848404	99.05315331
230523A00091	5/23/2023	4.77	5/23/2036	5/23/2023	145.95656	132.3331008	120.2072685	109.4026035	99.76446911	91.15723877	83.46186228	76.57375487	70.40096532
230523A00090	5/23/2023	4.71	5/23/2035	5/23/2023	142.66707	130.2162268	119.0395676	108.9972083	99.96541598	91.83466276	84.50792322	77.89918374	71.93213689
230523A00083	5/23/2023	4.21	5/23/2028	5/23/2023	115.83836	111.446057	107.2489618	103.2372701	99.40173171	95.73361333	92.22466647	88.86709738	85.65353912
230523A00086	5/23/2023	4.42	5/23/2030	5/23/2023	123.93717	117.309248	111.0917801	105.2569539	99.77899757	94.63401485	89.79983874	85.25589682	80.98308803
230523A00085	5/23/2023	4.39	5/23/2029	5/23/2023	120.50139	114.9846917	109.7617569	104.8152546	100.1289782	95.68776255	91.47741067	87.48462635	83.69695196
230523A00088	5/23/2023	4.59	5/23/2033	5/23/2023	135.37764	125.28967	116.0763751	107.6561031	99.9552726	92.90753141	86.45301	80.53765518	75.11263575
230523A00089	5/23/2023	4.65	5/23/2034	5/23/2023	139.1959	127.9225616	117.7155888	108.4666119	100.0788794	92.46595095	85.55054628	79.2635283	73.54300399
230524A00009	5/24/2023	3.9	5/24/2028	5/24/2023	115.12238	110.7257754	106.525283	102.5110273	98.67368957	95.00447353	91.49507234	88.13763834	84.92475479
230524A00028	5/24/2023	4.36	5/26/2026	5/24/2023	108.10904	105.8435193	103.6372413	101.4882215	99.39455644	97.35442225	95.36607092	93.42782622	91.53808012
230524A00021	5/24/2023	4.44	5/23/2025	5/24/2023	104.28384	103.0455273	101.8367463	100.6564467	99.50362894	98.37733966	97.2766692	96.2007491	95.14874982
230524A00020	5/24/2023	4.44	5/23/2025	5/24/2023	104.28384	103.0455273	101.8367463	100.6564467	99.50362894	98.37733966	97.2766692	96.2007491	95.14874982
230524A00038	5/24/2023	4.36	5/26/2026	5/24/2023	108.10904	105.8435193	103.6372413	101.4882215	99.39455644	97.35442225	95.36607092	93.42782622	91.53808012
230524A00036	5/24/2023	5.34	5/24/2024	5/24/2023	100.90537	100.669819	100.4353774	100.202037	99.9697901	99.73862896	99.50854593	99.27953346	99.05158403
230524A00037	5/24/2023	4.69	5/23/2025	5/24/2023	104.39523	103.1592281	101.9526428	100.7744331	99.62360474	98.49920916	97.40034142	96.32613744	95.27577182
230525A00024	5/25/2023	5.06	11/25/2024	5/25/2023	102.71886	101.9749263	101.2418027	100.5192558	99.80705734	99.10498594	98.41282633	97.73036936	97.05741171
230525A00094	5/25/2023	4.31	5/25/2028	5/25/2023	116.28329	111.8761709	107.6650224	103.639992	99.79178653	96.11163249	92.59124398	89.2227923	85.99887793
230525A00014	5/25/2023	5.22	8/23/2024	5/25/2023	101.84466	101.3581486	100.8762985	100.3990455	99.92632373	99.45806881	98.99421747	98.53470763	98.07947842
230801A00022	8/1/2023	4.65	8/2/2027	8/1/2023	114.06152	110.5202625	107.1106584	103.8271033	100.6642598	97.6170455	94.68061944	91.85036926	89.12189916
230801A00021	8/1/2023	4.49	8/1/2028	8/1/2023	117.82606	113.1977109	108.7829251	104.570699	100.5506492	96.71297896	93.04844122	89.54830537	86.20432559
230801A00024	8/1/2023	4.82	8/3/2026	8/1/2023	110.00966	107.5336769	105.1270997	102.7875885	100.5128958	98.30086303	96.14941649	94.0565634	92.02038829

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230802A00007	8/2/2023	5.46	8/2/2024	8/2/2023	101.72124	101.2922724	100.8669261	100.4451567	100.0269193	99.61216953	99.20086395	98.79295974	98.38841478
230802A00022	9/8/2023	4.41	9/8/2028	9/8/2023	117.89201	113.1575276	108.6460928	104.3459713	100.2461056	96.33607597	92.60606034	89.04679668	85.6495481
230802A00017	8/2/2023	4.79	8/3/2026	8/2/2023	109.93672	107.4616328	105.0559344	102.7172831	100.4434319	98.23222275	96.08158251	93.98951891	91.95411696
230526A00009	5/26/2023	5.33	8/23/2024	5/26/2023	101.89822	101.4115506	100.9295502	100.4521479	99.97927798	99.51087586	99.0468783	98.58722325	98.13184979
230526A00026	5/26/2023	4.49	5/26/2027	5/26/2023	112.71023	109.3785593	106.1648785	103.0642806	100.0720967	97.18388251	94.39540616	91.70263608	89.10173022
230526A00033	5/26/2023	4.63	5/27/2031	5/26/2023	128.67851	120.8709888	113.6130352	106.8626289	100.5811923	94.73328854	89.28634893	84.21042596	79.47796867
230526A00027	5/26/2023	4.49	5/26/2027	5/26/2023	112.71023	109.3785593	106.1648785	103.0642806	100.0720967	97.18388251	94.39540616	91.70263608	89.10173022
230526A00028	5/26/2023	4.38	5/26/2028	5/26/2023	116.59088	112.1745613	107.9546441	103.9212594	100.0650899	96.37733978	92.84970239	89.47432954	86.24380349
230526A00031	5/26/2023	4.54	5/24/2030	5/26/2023	124.69035	118.036718	111.7948912	105.9369773	100.4371223	95.27135411	90.4174354	85.85472855	81.564072
230526A00029	5/26/2023	4.53	5/25/2029	5/26/2023	121.25211	115.710557	110.4640721	105.4952438	100.7877877	96.32646618	92.09701524	88.08607638	84.2811341
230526A00034	5/26/2023	4.66	5/26/2032	5/26/2023	132.49151	123.5287007	115.2705025	107.6570505	100.6338908	94.1514632	88.16463669	82.63229059	77.51693792
230526A00016	5/26/2023	4.46	5/26/2027	5/26/2023	112.61306	109.2829667	106.0708213	102.9717185	99.98099056	97.09419478	94.30710041	91.61567714	89.0160841
230807A00024	8/7/2023	5.03	8/7/2025	8/7/2023	105.7831	104.3382594	102.9205473	101.5292626	100.1637293	98.82329402	97.50732496	96.21521112	94.94636146
230807A00023	8/7/2023	5.26	2/7/2025	8/7/2023	103.77425	102.8251634	101.8935261	100.978859	100.0807006	99.19860578	98.3321456	97.48090611	96.64448794
230807A00010	8/7/2023	4.4	8/7/2028	8/7/2023	117.49393	112.85651	108.4338965	104.2149785	100.1892768	96.34690599	92.67853779	89.17536649	85.82907714
230807A00033	8/7/2023	4.57	8/7/2026	8/7/2023	109.77681	107.2861812	104.8658104	102.5133094	100.2263905	98.00285661	95.84059801	93.73758762	91.69187748
221128A00034	11/28/2022	4.27	11/26/2027	11/28/2022	114.08033	110.2178389	106.5099226	102.9494816	99.52978636	96.24445733	93.08744414	90.05300642	87.13569577
221129A00032	11/29/2022	5.04	5/22/2024	11/29/2022	100.81491	100.5850048	100.3561603	100.1283686	99.90162227	99.67591415	99.45123706	99.22758388	99.00494758
221129A00038	11/29/2022	4.56	11/26/2025	11/29/2022	106.38686	104.634862	102.9203737	101.2422574	99.59941933	97.99081013	96.4154222	94.87228785	93.3604772
221129A00039	11/29/2022	4.56	11/26/2025	11/29/2022	106.38686	104.634862	102.9203737	101.2422574	99.59941933	97.99081013	96.4154222	94.87228785	93.3604772
221129A00046	11/29/2022	4.56	12/1/2025	11/29/2022	106.44485	104.6786033	102.950397	101.2590762	99.60352905	97.98268844	96.39553019	94.84107059	93.31836444
221129A00054	11/29/2022	4.56	12/3/2025	11/29/2022	106.46754	104.6957444	102.9622109	101.2657826	99.60534672	97.97983509	96.38822197	94.82952183	93.3027873
221129A00055	11/29/2022	4.56	12/3/2025	11/29/2022	106.46754	104.6957444	102.9622109	101.2657826	99.60534672	97.97983509	96.38822197	94.82952183	93.3027873
221129A00073	11/29/2022	4.39	12/2/2026	11/29/2022	110.36533	107.5525408	104.8269357	102.1852389	99.62432474	97.14120751	94.73303388	92.39707599	90.13072487
221129A00053	11/29/2022	4.56	12/2/2025	11/29/2022	106.4562	104.6871742	102.9563045	101.2624301	99.60443862	97.98126248	96.39187672	94.83529672	93.3105762
221129A00064	11/29/2022	4.28	11/30/2027	11/29/2022	114.16394	110.2886603	106.5688379	102.997317	99.56731346	96.27239689	93.10646973	90.06374765	87.13874137
221129A00067	11/29/2022	4.28	11/29/2027	11/29/2022	114.15239	110.2801327	106.563118	102.9942031	99.5666171	96.27394236	93.11009289	90.06929524	87.14607019
221129A00068	11/29/2022	4.28	11/29/2027	11/29/2022	114.15239	110.2801327	106.563118	102.9942031	99.5666171	96.27394236	93.11009289	90.06929524	87.14607019
221129A00075	11/29/2022	4.38	12/1/2026	11/29/2022	110.32641	107.5168605	104.794319	102.155519	99.59733951	97.11679982	94.71105153	92.37737169	90.11315629
221129A00076	11/29/2022	4.38	12/1/2026	11/29/2022	110.32641	107.5168605	104.794319	102.155519	99.59733951	97.11679982	94.71105153	92.37737169	90.11315629
221129A00078	11/29/2022	4.38	12/1/2026	11/29/2022	110.32641	107.5168605	104.794319	102.155519	99.59733951	97.11679982	94.71105153	92.37737169	90.11315629
221129A00048	11/29/2022	4.56	12/1/2025	11/29/2022	106.44485	104.6786033	102.950397	101.2590762	99.60352905	97.98268844	96.39553019	94.84107059	93.31836444
221129A00049	11/29/2022	4.56	12/1/2025	11/29/2022	106.44485	104.6786033	102.950397	101.2590762	99.60352905	97.98268844	96.39553019	94.84107059	93.31836444

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221129A00070	11/29/2022	4.28	11/26/2027	11/29/2022	114.11774	110.2545463	106.5459528	102.9848544	99.56452089	96.27857202	93.12095674	90.08593402	87.16805484
221129A00072	11/29/2022	4.39	12/2/2026	11/29/2022	110.36533	107.5525408	104.8269357	102.1852389	99.62432474	97.14120751	94.73303388	92.39707599	90.13072487
221129A00084	11/29/2022	4.38	11/30/2026	11/29/2022	110.31511	107.5084119	104.7885584	102.1522883	99.59648552	97.11817373	94.71450922	92.38277375	90.12036796
221129A00086	11/29/2022	4.38	11/30/2026	11/29/2022	110.31511	107.5084119	104.7885584	102.1522883	99.59648552	97.11817373	94.71450922	92.38277375	90.12036796
221129A00040	11/29/2022	4.56	11/26/2025	11/29/2022	106.38686	104.634862	102.9203737	101.2422574	99.59941933	97.99081013	96.4154222	94.87228785	93.3604772
221129A00041	11/29/2022	4.56	11/28/2025	11/29/2022	106.41019	104.6524483	102.9324332	101.2489919	99.6010216	97.98746438	96.40730476	94.85956751	93.34331564
221129A00042	11/29/2022	4.56	11/28/2025	11/29/2022	106.41019	104.6524483	102.9324332	101.2489919	99.6010216	97.98746438	96.40730476	94.85956751	93.34331564
221129A00059	11/29/2022	4.39	11/27/2026	11/29/2022	110.30751	107.5092769	104.7974162	102.1686915	99.6200114	97.14842287	94.75110394	92.42535681	90.1686013
221129A00060	11/29/2022	4.39	11/27/2026	11/29/2022	110.30751	107.5092769	104.7974162	102.1686915	99.6200114	97.14842287	94.75110394	92.42535681	90.1686013
221129A00061	11/29/2022	4.39	11/27/2026	11/29/2022	110.30751	107.5092769	104.7974162	102.1686915	99.6200114	97.14842287	94.75110394	92.42535681	90.1686013
221129A00071	11/29/2022	4.28	11/26/2027	11/29/2022	114.11774	110.2545463	106.5459528	102.9848544	99.56452089	96.27857202	93.12095674	90.08593402	87.16805484
221129A00037	11/29/2022	4.56	11/26/2025	11/29/2022	106.38686	104.634862	102.9203737	101.2422574	99.59941933	97.99081013	96.4154222	94.87228785	93.3604772
230626A00020	6/26/2023	4.49	6/26/2026	6/26/2023	108.76755	106.4088262	104.1137735	101.8803074	99.70642613	97.59020552	95.52979515	93.52341517	91.56935312
230626A00019	6/26/2023	4.91	6/20/2025	6/26/2023	105.02689	103.7140281	102.427028	101.1651354	99.92762841	98.71381309	97.52302199	96.35461292	95.20796774
230626A00026	6/26/2023	4.84	6/26/2025	6/26/2023	105.01343	103.685315	102.3816667	101.1018441	99.84522655	98.61121499	97.39923092	96.20871551	95.03912883
230626A00021	6/26/2023	4.49	6/26/2026	6/26/2023	108.76755	106.4088262	104.1137735	101.8803074	99.70642613	97.59020552	95.52979515	93.52341517	91.56935312
230626A00022	6/26/2023	4.34	6/25/2027	6/26/2023	112.57081	109.1578987	105.8686093	102.6977953	99.64055417	96.69221326	93.84831766	91.1046189	88.45706417
230626A00023	6/26/2023	4.18	6/26/2028	6/26/2023	116.08	111.5876937	107.2989281	103.2033928	99.29135624	95.55362743	91.98152309	88.56683695	85.30181104
230627A00035	6/27/2023	4.21	6/27/2028	6/27/2023	116.22058	111.7224433	107.4281923	103.3274993	99.41061535	95.66833242	92.09195103	88.67324942	85.40445486
230627A00037	6/27/2023	4.56	6/26/2026	6/27/2023	108.93048	106.5698379	104.2729015	102.0375911	99.86190402	97.74391481	95.68177201	93.67369474	91.71796954
230627A00036	6/27/2023	4.38	6/28/2027	6/27/2023	112.73876	109.3146518	106.0148207	102.8340983	99.76755645	96.81049758	93.95844219	91.2071177	88.5524478
230627A00049	6/27/2023	4.95	6/27/2025	6/27/2023	105.17305	103.8412621	102.5337284	101.2498259	99.98895054	98.75051872	97.53396645	96.33874854	95.16433777
230627A00030	6/27/2023	4.17	6/27/2028	6/27/2023	116.04764	111.5532183	107.2625569	103.1653353	99.25180942	95.51277584	91.93953952	88.5238829	85.25803725
230627A00087	6/27/2023	4.95	6/30/2025	6/27/2023	105.21318	103.8734266	102.5572373	101.2640461	99.99330003	98.7444637	97.51701823	96.31046076	95.1243038
230627A00089	6/27/2023	4.56	6/30/2026	6/27/2023	108.97879	106.6064372	104.298375	102.05251	99.86682845	97.73939335	95.6683411	93.65187824	91.68827844
230627A00065	6/27/2023	4.95	6/27/2025	6/27/2023	105.17305	103.8412621	102.5337284	101.2498259	99.98895054	98.75051872	97.53396646	96.33874854	95.16433777
230807A00018	8/7/2023	4.65	8/7/2026	8/7/2023	109.64427	107.1620711	104.7497638	102.4049849	100.1254617	97.90901186	95.75353917	93.65702967	91.61754781
230808A00014	8/8/2023	4.6	8/7/2026	8/8/2023	109.52216	107.0414646	104.6306348	102.2873013	100.0091925	97.79412701	95.64000947	93.54482677	91.50664418
230808A00057	8/8/2023	4.19	8/8/2028	8/8/2023	117.19223	112.5406368	108.1051987	103.874702	99.83857574	95.98684906	92.31011452	88.79949308	85.44660172
230808A00060	8/8/2023	4.19	8/8/2028	8/8/2023	117.19223	112.5406368	108.1051987	103.874702	99.83857574	95.98684906	92.31011452	88.79949308	85.44660172
230808A00008	8/8/2023	4.67	4/24/2026	8/8/2023	108.41635	106.233905	104.1068241	102.0333118	100.0116467	98.04017666	96.11731534	94.24153897	92.41138341
230808A00054	8/8/2023	4.19	8/8/2028	8/8/2023	117.19223	112.5406368	108.1051987	103.874702	99.83857574	95.98684906	92.31011452	88.79949308	85.44660172
230808A00010	8/8/2023	4.95	8/8/2025	8/8/2023	105.67956	104.2328478	102.8133452	101.4203493	100.053181	98.7111839	97.3937234	96.10018583	94.82997755

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230809A00020	8/9/2023	4.51	11/9/2026	8/9/2023	110.42039	107.6707358	105.0046966	102.4191859	99.91125647	97.47809097	95.11699456	92.8253888	90.60080565
230627A00090	6/27/2023	4.21	6/27/2028	6/27/2023	116.22058	111.7224433	107.4281923	103.3274993	99.41061535	95.66833242	92.09195103	88.67324942	85.40445486
230627A00102	6/27/2023	4.95	6/27/2025	6/27/2023	105.17305	103.8412621	102.5337284	101.2498259	99.98895054	98.75051872	97.53396646	96.33874854	95.16433777
230627A00078	6/27/2023	4.95	6/27/2025	6/27/2023	105.17305	103.8412621	102.5337284	101.2498259	99.98895054	98.75051872	97.53396646	96.33874854	95.16433777
230627A00060	6/27/2023	4.89	6/27/2025	6/27/2023	105.09312	103.7618868	102.4549015	101.1715381	99.91119289	98.67328248	97.45724312	96.26252984	95.08861564
230627A00004	6/27/2023	4.47	6/29/2026	6/27/2023	108.75649	106.3895534	104.086712	101.8458736	99.66502852	97.54224424	95.47566158	93.46349161	91.5040125
230627A00005	6/27/2023	4.3	6/28/2027	6/27/2023	112.47244	109.052773	105.7572611	102.5807417	99.51829113	96.56521543	93.71703887	90.96949246	88.31850327
230627A00006	6/27/2023	4.12	6/27/2028	6/27/2023	115.83147	111.3416871	107.0555126	102.9626304	99.05330201	95.31833013	91.74902514	88.33717474	85.07501523
230628A00028	6/28/2023	4.58	6/24/2026	6/28/2023	108.95277	106.5974309	104.3055192	102.0749602	99.90375611	97.789987	95.73180705	93.7274413	91.7751824
230628A00045	6/28/2023	4.18	6/28/2028	6/28/2023	116.10175	111.6033549	107.3090024	103.2083588	99.29166446	95.54970153	91.97376089	88.55561156	85.28747205
230628A00017	6/28/2023	4.41	6/28/2027	6/28/2023	112.83863	109.4128563	106.1114056	102.9291069	99.86103094	96.90247839	94.04896843	91.29622717	88.640177
230628A00015	6/28/2023	4.98	6/27/2025	6/28/2023	105.21302	103.8809498	102.5731419	101.2889698	100.0278294	98.78913684	97.57232812	96.37685789	95.20219884
230628A00016	6/28/2023	4.58	6/26/2026	6/28/2023	108.97704	106.6158413	104.3183666	102.0825293	99.90632627	97.78783175	95.72519397	93.71663176	91.76043138
230628A00018	6/28/2023	4.23	6/28/2028	6/28/2023	116.31806	111.8150164	107.5161714	103.4111833	99.49028636	95.74425695	92.1643804	88.74242049	85.47059069
230628A00053	6/28/2023	5.47	6/28/2024	6/28/2023	101.32823	100.9958594	100.6656716	100.3376444	100.0117568	99.68798785	99.36631695	99.04672376	98.7291882
230628A00059	6/28/2023	4.87	6/27/2025	6/28/2023	105.06647	103.7354284	102.4286258	101.1454422	99.88527367	98.64753706	97.43166868	96.2371236	95.06337493
230628A00068	6/28/2023	4.29	6/28/2027	6/28/2023	112.43915	109.0200382	105.7250661	102.5490722	99.48713297	96.53455516	93.68686346	90.9397893	88.2892602
230628A00055	6/28/2023	5.19	12/27/2024	6/28/2023	103.20181	102.3690741	101.5498273	100.7437472	99.9505177	99.16983267	98.40139578	97.64491991	96.90012687
230628A00061	6/28/2023	4.47	6/26/2026	6/28/2023	108.72099	106.3628228	104.0683084	101.8353692	99.66200387	97.54628858	95.48637319	93.48047814	91.52689129
230628A00038	6/28/2023	4.58	6/24/2026	6/28/2023	108.95277	106.5974309	104.3055192	102.0749602	99.90375611	97.789987	95.73180705	93.7274413	91.7751824
230629A00019	6/29/2023	4.51	6/24/2027	6/29/2023	113.12328	109.7039926	106.4083773	103.2312903	100.1678282	97.21331794	94.36330426	91.61353863	88.95996833
230629A00025	6/29/2023	4.7	6/24/2026	6/29/2023	109.23144	106.872811	104.5776849	102.3439788	100.169693	98.05290572	95.99176921	93.98450677	92.02940934
230629A00045	6/29/2023	4.69	6/29/2026	6/29/2023	109.27038	106.8973501	104.5885472	102.3418726	100.1553131	98.02693249	95.95486828	93.9373282	91.97258726
230629A00108	6/29/2023	5.52	6/28/2024	6/29/2023	101.34484	101.01244	100.682218	100.3541569	100.0282354	99.70443276	99.38272835	99.0631018	98.74553304
230629A00120	6/29/2023	5.03	6/27/2025	6/29/2023	105.27963	103.9470959	102.638831	101.3542097	100.0926274	98.85350038	97.63626423	96.44037348	95.26530062
230629A00109	6/29/2023	5.3	12/27/2024	6/29/2023	103.29348	102.4603285	101.6406704	100.8341837	100.0405521	99.25946946	98.49063939	97.73377468	96.98859704
230629A00046	6/29/2023	4.51	6/29/2027	6/29/2023	113.18359	109.7492562	106.439597	103.2494276	100.1738054	97.20801864	94.3475743	91.58818651	88.92576608
230629A00008	6/29/2023	4.34	6/29/2028	6/29/2023	116.80525	112.2889186	107.9773782	103.8602609	99.92777326	96.17066534	92.58019732	89.14810898	85.86659094
230629A00037	6/29/2023	4.69	6/29/2026	6/29/2023	109.27038	106.8973501	104.5885472	102.3418726	100.1553131	98.02693249	95.95486828	93.9373282	91.97258726
230809A00026	8/9/2023	4.59	8/7/2026	8/9/2023	109.49773	107.0173434	104.606809	102.2637646	99.98593868	97.77115004	95.61730353	93.52238618	91.48446345
230809A00034	8/9/2023	4.59	8/10/2026	8/9/2023	109.53321	107.0443392	104.6257797	102.2751387	99.99012333	97.76853212	95.60825076	93.50724811	91.46357241
230810A00046	8/10/2023	4.88	11/18/2025	8/10/2023	106.84595	105.1119736	103.4147571	101.7531989	100.1262384	98.53285708	96.97207678	95.4429575	93.94459556
230810A00053	8/10/2023	4.82	1/20/2026	8/10/2023	107.52472	105.6143534	103.7478508	101.9239467	100.1414165	98.39907873	96.69579327	95.03045972	93.40201564

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230810A00010	8/10/2023	4.62	8/10/2026	8/10/2023	109.60672	107.1169428	104.6974911	102.3459773	100.0601079	97.83768079	95.67658122	93.57477752	91.53031741
230810A00057	8/10/2023	4.62	8/10/2026	8/10/2023	109.60672	107.1169428	104.6974911	102.3459773	100.0601079	97.83768079	95.67658122	93.57477752	91.53031741
230810A00001	8/10/2023	4.22	8/10/2028	8/10/2023	117.34743	112.6869254	108.243195	104.0049795	99.96166728	96.10325017	92.42028587	88.90386311	85.54556894
230810A00013	8/10/2023	4.34	8/10/2028	8/10/2023	117.26011	112.619666	108.1945992	103.9737477	99.94658638	96.10318742	92.43418344	88.93073289	85.58448781
230810A00026	8/10/2023	4.4	1/10/2028	8/10/2023	115.08438	111.080176	107.2406832	103.5582586	100.0256502	96.63597852	93.38271528	90.25966382	87.26094045
230810A00024	8/10/2023	4.34	8/7/2028	8/10/2023	117.22783	112.5962632	108.1793071	103.9658563	99.94543952	96.10817907	92.44475376	88.94636482	85.60470382
230810A00025	8/10/2023	4.37	5/8/2028	8/10/2023	116.34654	111.9845515	107.8147105	103.8274571	100.0137595	96.36508597	92.87337394	89.53100124	86.33075939
230811A00018	8/11/2023	5.1	8/11/2025	8/11/2023	105.93391	104.4773179	103.0482546	101.6460079	100.2698875	98.91922611	97.59337899	96.29172259	95.01365384
230811A00017	8/11/2023	4.78	8/11/2026	8/11/2023	110.01115	107.5136656	105.0867676	102.7280542	100.4352215	98.20605773	96.03843884	93.93032431	91.87975346
230814A00029	8/14/2023	4.71	2/12/2027	8/14/2023	112.13431	109.098617	106.1628822	103.3232579	100.5760683	97.91779879	95.34508884	92.85472376	90.4436277
230814A00028	8/14/2023	4.86	8/14/2026	8/14/2023	110.24509	107.7366331	105.299269	102.930573	100.6282181	98.38997056	96.21368551	94.09730274	92.03884288
230815A00038	8/15/2023	4.57	8/16/2027	8/15/2023	114.43089	110.833301	107.3710537	104.0383134	100.829531	97.73942628	94.76297261	91.89538378	89.13210101
230815A00037	8/15/2023	4.53	8/15/2028	8/15/2023	118.16071	113.4867284	109.0300517	104.7793876	100.7240944	96.8541362	93.16004494	89.63288544	86.26422253
230629A00076	6/29/2023	4.51	6/29/2027	6/29/2023	113.18359	109.7492562	106.439597	103.2494276	100.1738054	97.20801864	94.3475743	91.58818651	88.92576608
230629A00070	6/29/2023	5.09	6/30/2025	6/29/2023	105.40085	104.0597698	102.7422853	101.4478206	100.1758223	98.92575422	97.69709706	96.48934739	95.30201724
230629A00072	6/29/2023	4.69	6/29/2026	6/29/2023	109.27038	106.8973501	104.5885472	102.3418726	100.1553131	98.02693249	95.95486828	93.9373282	91.97258726
230629A00042	6/29/2023	4.69	6/29/2026	6/29/2023	109.27038	106.8973501	104.5885472	102.3418726	100.1553131	98.02693249	95.95486828	93.9373282	91.97258726
230629A00041	6/29/2023	5.09	6/30/2025	6/29/2023	105.40085	104.0597698	102.7422853	101.4478206	100.1758223	98.92575422	97.69709706	96.48934739	95.30201724
230630A00086	6/30/2023	4.72	6/30/2026	6/30/2023	109.35296	106.9761706	104.6637626	102.4136434	100.2237964	98.09228203	96.01723424	93.99685714	92.02942208
230630A00088	6/30/2023	4.54	6/30/2027	6/30/2023	113.29569	109.8566697	106.5425757	103.3482079	100.2686143	97.29907411	94.43508504	91.67235246	89.00677855
230630A00011	6/30/2023	5.37	12/27/2024	6/30/2023	103.35182	102.5183995	101.6984797	100.8917341	100.0978467	99.31651105	98.54743079	97.79031862	97.04489624
230630A00003	6/30/2023	4.54	6/30/2027	6/30/2023	113.29569	109.8566697	106.5425757	103.3482079	100.2686143	97.29907411	94.43508504	91.67235246	89.00677855
230630A00079	6/30/2023	4.65	6/30/2026	6/30/2023	109.18926	106.8144122	104.5039056	102.2556475	100.0676229	97.93789323	95.86459349	93.84592887	91.88017174
230630A00080	6/30/2023	5.02	6/30/2025	6/30/2023	105.30702	103.9665982	102.6497613	101.3559334	100.0845612	98.83510896	97.60705765	96.39990408	95.21316052
230630A00081	6/30/2023	5.53	6/28/2024	6/30/2023	101.34817	101.0157562	100.6855273	100.3574593	100.0315311	99.70772174	99.38601062	99.06637741	98.74880201
230630A00062	6/30/2023	4.6	6/30/2026	6/30/2023	109.38589	107.0023551	104.6835088	102.4272375	100.2315121	98.09438093	96.01396642	93.98846184	92.01612817
230630A00030	6/30/2023	4.23	6/30/2028	6/30/2023	116.94415	112.4046239	108.0714806	103.9342518	99.98304944	96.20853446	92.60188382	89.1547593	85.85927847
230630A00028	6/30/2023	4.42	6/30/2027	6/30/2023	113.35238	109.9011884	106.5756038	103.3703957	100.2805766	97.30139188	94.4283078	91.65699983	88.98334208
230630A00094	6/30/2023	4.42	6/30/2027	6/30/2023	113.35238	109.9011884	106.5756038	103.3703957	100.2805766	97.30139188	94.4283078	91.65699983	88.98334208
230630A00066	6/30/2023	5.26	2/7/2025	6/30/2023	103.77425	102.8251634	101.8935261	100.978859	100.0807006	99.19860578	98.3321456	97.48090611	96.64448794
230630A00061	6/30/2023	5	7/11/2025	6/30/2023	105.41313	104.0427703	102.696986	101.3751723	100.076742	98.80112683	97.54777643	96.31615778	95.10575446
230630A00055	6/30/2023	4.35	6/30/2028	6/30/2023	116.85988	112.339549	108.0242959	103.9037361	99.96806095	96.20800564	92.61481629	89.18021923	85.89639219
230703A00015	7/3/2023	4.34	7/3/2028	7/3/2023	116.84909	112.3208521	107.9984136	103.8713283	99.92973755	96.16433018	92.5663095	89.12736214	85.83962913

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230703A00013	7/3/2023	4.34	7/3/2028	7/3/2023	116.84909	112.3208521	107.9984136	103.8713283	99.92973755	96.16433018	92.5663095	89.12736214	85.83962913
230703A00019	7/3/2023	4.61	7/3/2026	7/3/2023	109.44604	107.0537273	104.726537	102.4623386	100.259083	98.11479975	96.02759334	93.99564002	92.01718463
230703A00021	7/3/2023	4.99	7/3/2025	7/3/2023	105.52035	104.167048	102.8377286	101.531806	100.2487139	98.98790361	97.74884397	96.53102013	95.33393321
230703A00018	7/3/2023	4.61	7/3/2026	7/3/2023	109.44604	107.0537273	104.726537	102.4623386	100.259083	98.11479975	96.02759334	93.99564002	92.01718463
230703A00025	7/3/2023	4.73	7/3/2026	7/3/2023	109.41292	107.0273878	104.7066716	102.4486588	100.2513129	98.11267577	96.03086341	94.00406309	92.03053011
230703A00043	7/3/2023	4.53	7/6/2027	7/3/2023	113.33293	109.8771017	106.5473579	103.3384313	100.245303	97.26318904	94.38752837	91.61397099	88.9383672
230703A00029	7/3/2023	4.89	2/3/2026	7/3/2023	107.83255	105.8809192	103.9749152	102.1131922	100.2944545	98.5174524	96.78098131	95.08387909	93.42502453
230703A00027	7/3/2023	5.45	11/4/2024	7/3/2023	102.74175	102.054757	101.3769839	100.7082447	100.0483591	99.39715197	98.75445266	98.12009493	97.4939169
230703A00028	7/3/2023	5.11	7/3/2025	7/3/2023	105.46482	104.115328	102.7897064	101.4873693	100.2077541	98.95031558	97.71452601	96.49987378	95.30586306
230606A00008	6/6/2023	3.98	6/6/2028	6/6/2023	115.6002	111.1574069	106.91413	102.8602735	98.9863153	95.28326772	91.74264415	88.35642796	85.11704367
230606A00029	6/6/2023	4.45	6/5/2026	6/6/2023	108.42712	106.130662	103.8948497	101.7176482	99.5971103	97.53136967	95.51863677	93.55719486	91.64539643
230607A00001	6/7/2023	4.9	6/6/2025	6/7/2023	104.82838	103.5526367	102.3059814	101.0874175	99.89599423	98.73080378	97.59097855	96.47568912	95.38414215
230306A00019	3/6/2023	5.26	3/6/2025	3/6/2023	104.10955	103.0856988	102.0821013	101.0981571	100.1332916	99.18695268	98.25860917	97.34775015	96.45388391
230821A00004	8/21/2023	5.38	2/21/2025	8/21/2023	104.06585	103.0773918	102.1078171	101.1565884	100.2231876	99.30711555	98.407892	97.52505411	96.65815595
230821A00087	8/21/2023	5.37	3/3/2025	8/21/2023	104.18334	103.1671864	102.1709688	101.1941015	100.2360236	99.29619562	98.37409862	97.46923317	96.58111849
230821A00074	8/21/2023	5.18	8/21/2025	8/21/2023	106.17676	104.6917253	103.2352249	101.8065077	100.4048472	99.02954186	97.67991398	96.35530855	95.05509239
230607A00012	6/7/2023	4.24	6/7/2028	6/7/2023	116.12943	111.6894985	107.448492	103.3963714	99.52366071	95.82141432	92.28118421	88.89498916	85.65528614
230607A00007	6/7/2023	4.24	6/7/2028	6/7/2023	116.12943	111.6894985	107.448492	103.3963714	99.52366071	95.82141432	92.28118421	88.89498916	85.65528614
230608A00049	6/8/2023	4.47	6/8/2026	6/8/2023	108.50802	106.2023162	103.9576891	101.772101	99.64359723	97.57030332	95.55042117	93.58222517	91.66405868
230608A00003	6/8/2023	4.23	6/8/2028	6/8/2023	116.09776	111.6556869	107.4127633	103.3589335	99.48470912	95.78113254	92.23974423	88.85255194	85.61200212
230608A00015	6/8/2023	4.81	6/9/2025	6/8/2023	104.75264	103.4697511	102.2152426	100.9881705	99.78763285	98.61276704	97.46274796	96.33678586	95.23412447
230609A00034	6/9/2023	3.99	6/9/2028	6/9/2023	115.67531	111.2224555	106.969902	102.9075109	99.02571794	95.31549458	91.76831516	88.37612572	85.13131507
230526A00013	5/26/2023	4.39	5/26/2026	5/26/2023	108.4755	106.1998665	103.98383	101.8253877	99.7226224	97.67369707	95.67685123	93.73039679	91.83271448
230905A00030	9/5/2023	4.55	9/5/2028	9/5/2023	118.48986	113.7505026	109.2339323	104.9284433	100.8230102	96.90724274	93.17134527	89.60607982	86.20273125
230905A00033	9/5/2023	4.71	9/4/2026	9/5/2023	110.47259	107.8971506	105.3962978	102.9674349	100.6080679	98.31580535	96.08835292	93.92350919	91.81916112
230609A00076	7/10/2023	4.19	7/10/2028	7/10/2023	116.27113	111.7364207	107.4087793	103.2776519	99.33307846	95.56565433	91.96649672	88.52721293	85.23987095
230609A00036	6/9/2023	4.91	6/6/2025	6/9/2023	104.84113	103.5652985	102.3185592	101.0999128	99.90840839	98.74313813	97.60323438	96.4878677	95.39624472
230609A00043	6/9/2023	4.32	9/29/2027	6/9/2023	113.59876	109.9051476	106.3542977	102.9398834	99.65589832	96.49663573	93.45667146	90.53084842	87.71426172
230609A00038	6/9/2023	4.91	6/10/2025	6/9/2023	104.8942	103.6078057	102.3495735	101.1185785	99.91393424	98.73479299	97.58034337	96.44980846	95.34244402
230609A00039	6/9/2023	4.73	12/10/2025	6/9/2023	106.85062	105.0566085	103.3016828	101.5846851	99.90449858	98.26004937	96.65030478	95.07427119	93.53099222
230609A00042	6/9/2023	4.46	11/25/2026	6/9/2023	110.47605	107.6810565	104.97218	102.3461967	99.8000299	97.33074034	94.93551892	92.61167986	90.35665426
230609A00040	6/9/2023	4.38	5/12/2027	6/9/2023	112.19432	108.9089487	105.7388775	102.6793596	99.72587515	96.8741191	94.11998974	91.45957744	88.88915432
230609A00041	6/9/2023	4.53	7/13/2026	6/9/2023	109.06001	106.6519337	104.3099952	102.0320135	99.81588978	97.65960632	95.56122298	93.51887372	91.5307633

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230609A00016	6/9/2023	4.91	6/9/2025	6/9/2023	104.88093	103.5971798	102.3418217	101.1139144	99.91255536	98.73688179	97.58606814	96.4593243	95.35589365
221118A00080	11/18/2022	4.61	11/18/2025	11/18/2022	106.37987	104.6500318	102.9568815	101.2993164	99.67627778	98.08674909	96.52975405	95.00435447	93.50964838
230906A00020	9/6/2023	5.19	9/8/2025	9/6/2023	106.42518	104.8893319	103.3836987	101.9074627	100.4598334	99.04004827	97.64737146	96.28109257	94.94052557
230821A00006	8/21/2023	4.66	8/21/2028	8/21/2023	118.80987	114.1050646	109.6195576	105.3419201	101.2613829	97.3677918	93.65156899	90.10367734	86.71558706
230821A00035	8/21/2023	5.36	2/21/2025	8/21/2023	104.04611	103.0577557	102.088284	101.137157	100.2038564	99.28788343	98.38875762	97.50601622	96.63921332
230823A00066	8/23/2023	4.68	8/23/2027	8/23/2023	114.42063	110.816132	107.3476472	104.0092921	100.7954731	97.70086796	94.72041128	91.84928067	89.08288363
230612A00023	6/12/2023	4.32	6/12/2026	6/12/2023	108.51744	106.1944034	103.9332862	101.7320224	99.58863561	97.50122982	95.46798523	93.48715468	91.55706014
230612A00024	6/12/2023	4.69	6/12/2025	6/12/2023	104.84386	103.5494774	102.282907	101.0432529	99.82965648	98.641296	97.47738427	96.33716702	95.21992108
230612A00058	6/12/2023	5.16	12/12/2024	6/12/2023	102.99487	102.2037449	101.4248243	100.6578292	99.9024865	99.15853159	98.42570772	97.70376587	96.99246436
230907A00051	9/7/2023	4.79	9/8/2026	9/7/2023	110.72782	108.1378308	105.6230613	103.1808746	100.8087477	98.50426168	96.26509634	94.08902585	91.97391405
230907A00050	9/7/2023	5.05	9/5/2025	9/7/2023	106.4182	104.8866737	103.385261	101.9131435	100.469536	99.05368081	97.66484669	96.30232766	94.96544186
230907A00012	9/7/2023	5.17	9/8/2025	9/7/2023	106.39454	104.858936	103.353542	101.877541	100.4301426	99.01058457	97.61813101	96.25207165	94.91172056
230613A00091	6/13/2023	4.58	6/15/2026	6/13/2023	108.84359	106.5145512	104.2476526	102.0408335	99.89211958	97.79961611	95.76150358	93.77603433	91.84152907
230613A00019	6/13/2023	4.49	6/15/2026	6/13/2023	108.6368	106.3101771	104.0456397	101.8411325	99.69468294	97.60439745	95.5684579	93.58511793	91.65269949
230613A00021	6/13/2023	4.35	6/14/2027	6/13/2023	112.47613	109.0955681	105.8364567	102.6937382	99.66259371	96.73843345	93.9168842	91.19377769	88.56513964
230613A00010	6/13/2023	4.9	6/13/2025	6/13/2023	104.92107	103.6268282	102.3600574	101.1198819	99.90546427	98.71600237	97.55072756	96.40890288	95.28982144
230907A00047	9/7/2023	5.08	9/5/2025	9/7/2023	106.23285	104.7066086	103.2103178	101.7431688	100.3043818	98.89320441	97.5089102	96.15079787	94.81819002
230815A00031	8/15/2023	5.14	8/13/2025	8/15/2023	106.0172	104.5546563	103.1198522	101.7120613	100.3305858	98.9747518	97.64390775	96.33742381	95.05469083
230815A00084	8/15/2023	5.14	8/15/2025	8/15/2023	106.04226	104.5742164	103.1341031	101.7211926	100.3347802	98.97418515	97.63874943	96.327837	95.04083282
230613A00061	6/13/2023	4.56	6/15/2026	6/13/2023	108.79763	106.4691347	104.2027608	101.9964555	99.84824477	97.75623419	95.71860454	93.73360846	91.79956694
230613A00062	6/13/2023	4.97	6/13/2025	6/13/2023	105.01164	103.7167852	102.4494099	101.2086402	99.99363827	98.80360177	97.63776175	96.49538102	95.37575244
230613A00055	6/13/2023	5.14	2/13/2025	6/13/2023	103.73266	102.7675851	101.8205562	100.8910725	99.9786485	99.08281668	98.20312642	97.3391433	96.49044841
230613A00034	6/13/2023	4.56	6/12/2026	6/13/2023	108.7614	106.4416562	104.1836091	101.985209	99.84448969	97.75956479	95.72862363	93.74992771	91.82180717
230613A00080	6/13/2023	5.22	12/13/2024	6/13/2023	103.04631	102.2523636	101.4707049	100.7010517	99.94312856	99.19666801	98.46141087	97.73710568	97.02350847
230614A00029	6/14/2023	4.55	6/15/2026	6/14/2023	108.77466	106.4464265	104.180315	101.9742665	99.82630737	97.73454322	95.69715502	93.71239553	91.77858588
230614A00031	6/14/2023	4.94	6/16/2025	6/14/2023	105.01288	103.7103431	102.4345941	101.1848072	99.96019411	98.75999857	97.58349489	96.42998631	95.29880359
230614A00047	6/14/2023	4.94	6/16/2025	6/14/2023	105.01288	103.7103431	102.4345941	101.1848072	99.96019411	98.75999857	97.58349489	96.42998631	95.29880359
230614A00048	6/14/2023	4.55	6/15/2026	6/14/2023	108.77466	106.4464265	104.180315	101.9742665	99.82630737	97.73454322	95.69715502	93.71239553	91.77858588
230911A00001	9/11/2023	4.49	9/11/2028	9/11/2023	118.92581	114.1407774	109.581729	105.236735	101.0945647	97.14463724	93.37698019	89.78219151	86.35140376
230911A00010	9/11/2023	4.9	9/11/2026	9/11/2023	110.70462	108.1136823	105.5980165	103.1549856	100.7820626	98.47682453	96.2369478	94.06020327	91.94445179
230911A00014	9/11/2023	4.61	9/11/2028	9/11/2023	118.83218	114.0680532	109.5284394	105.2015106	101.0761285	97.14179781	93.38862615	89.80728565	86.38897801
230911A00030	9/11/2023	5.09	9/11/2025	9/11/2023	106.31126	104.7679795	103.2551452	101.771932	100.3175395	98.8911959	97.49215646	96.1197024	94.77313975
230614A00001	6/14/2023	4.55	6/12/2026	6/14/2023	108.73851	106.419028	104.1612414	101.9630965	99.82262706	97.73794692	95.70724558	93.72878467	91.80089446

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230615A00023	6/15/2023	4.58	6/15/2026	6/15/2023	108.84359	106.5145512	104.2476526	102.0408335	99.89211958	97.79961611	95.76150358	93.77603433	91.84152907
230615A00033	6/15/2023	4.58	6/15/2026	6/15/2023	108.84359	106.5145512	104.2476526	102.0408335	99.89211958	97.79961611	95.76150358	93.77603433	91.84152907
230615A00103	6/15/2023	4.99	6/16/2025	6/15/2023	105.07798	103.7750035	102.4988174	101.2486009	100.0235653	98.82295435	97.64604204	96.49213144	95.36055314
230615A00105	6/15/2023	5.55	6/10/2024	6/15/2023	101.14864	100.8660093	100.5849674	100.3055033	100.0276037	99.75125532	99.47644514	99.20316024	98.93138788
230911A00026	9/11/2023	5.08	9/11/2025	9/11/2023	106.29586	104.7527007	103.2399873	101.7568928	100.3026169	98.87638802	97.47746133	96.10511815	94.75866454
230912A00053	9/12/2023	4.74	9/7/2027	9/12/2023	114.81898	111.1659134	107.6519974	104.2711547	101.0176088	97.88586667	94.87070325	91.96714673	89.17046482
230912A00026	9/12/2023	4.84	9/14/2026	9/12/2023	110.5916	107.9936845	105.4714247	103.0221607	100.6433462	98.33254001	96.08740149	93.90568541	91.78523744
230912A00036	9/12/2023	4.57	9/12/2028	9/12/2023	118.66277	113.8996026	109.3610575	105.0352973	100.9111719	96.97817543	93.2264056	89.64652575	86.22972948
230817A00036	8/17/2023	4.91	8/17/2026	8/17/2023	110.40625	107.8877092	105.44075	103.0629249	100.7518842	98.50537269	96.32122509	94.1973619	92.13178544
230818A00024	8/18/2023	4.81	8/18/2026	8/18/2023	110.17171	107.6534107	105.2067778	102.8293578	100.5187958	98.27283144	96.0892949	93.96610224	91.90125164
230818A00025	8/18/2023	4.68	8/18/2027	8/18/2023	114.35959	110.7697555	107.3148978	103.9892035	100.7871401	97.70344265	94.7330995	91.8713384	89.1136138
230818A00065	8/18/2023	4.82	8/18/2026	8/18/2023	110.19643	107.677825	105.2308895	102.8531735	100.5423219	98.29607427	96.1122604	93.98879625	91.92367985
230818A00064	8/18/2023	5.09	8/18/2025	8/18/2023	106.00613	104.5303878	103.0828627	101.6628167	100.2695344	98.90232522	97.56052157	96.2434783	94.95057164
230818A00007	8/18/2023	4.73	8/18/2026	8/18/2023	110.30669	107.7797802	105.3249072	102.939599	100.6214848	98.36828921	96.17782816	94.04800414	91.97680249
230818A00005	8/18/2023	5.01	8/18/2025	8/18/2023	106.1263	104.6457572	103.1935794	101.7690239	100.3713707	98.99992415	97.65401223	96.33298543	95.03621586
230913A00030	9/13/2023	5.16	9/15/2025	9/13/2023	106.47221	104.9165086	103.3916149	101.8966853	100.4309053	98.99348937	97.58367986	96.20074569	94.84398122
230913A00032	9/13/2023	4.74	9/15/2027	9/13/2023	114.9224	111.2448374	107.7080041	104.3057276	101.0321388	97.88165844	94.84898069	91.92905844	89.11708898
230913A00031	9/13/2023	4.91	9/15/2026	9/13/2023	110.7831	108.1799068	105.6525644	103.1984025	100.8148663	98.49950687	96.24997593	94.06402115	91.93948147
230913A00014	9/13/2023	5.34	3/13/2025	9/13/2023	104.28108	103.2373713	102.214689	101.2123972	100.2298888	99.26658097	98.32191324	97.395347	96.4863642
230913A00013	9/13/2023	4.87	9/14/2026	9/13/2023	110.66798	108.0690833	105.5458625	103.0956588	100.7159253	98.40422029	96.1582024	93.97562584	91.85433575
230808A00029	8/8/2023	4.6	8/7/2026	8/8/2023	109.52216	107.0414646	104.6306348	102.2873013	100.0091925	97.79412701	95.64000947	93.54482677	91.50664418
230807A00025	8/7/2023	4.69	8/7/2026	8/7/2023	109.74197	107.2585562	104.8450671	102.4991318	100.2184771	98.00091974	95.84436293	93.74679199	91.70627071
230705A00033	7/5/2023	5.12	7/7/2025	7/5/2023	105.52795	104.167397	102.8310717	101.5183834	100.2287568	98.96163522	97.71647918	96.49276622	95.28999004
230705A00034	7/5/2023	4.75	7/6/2026	7/5/2023	109.4966	107.1020268	104.7727199	102.5065381	100.3014251	98.15540351	96.06657135	94.03309875	92.05322475
230705A00036	7/5/2023	5.39	12/13/2024	7/5/2023	103.18144	102.3869032	101.604664	100.8344367	100.0759456	99.32892314	98.59311003	97.86825473	97.15411315
230705A00035	7/5/2023	5.03	8/8/2025	7/5/2023	105.79533	104.3477492	102.9273895	101.533551	100.1655543	98.82274259	97.50448097	96.21015539	94.93917186
230705A00103	7/5/2023	4.56	7/6/2027	7/5/2023	113.43345	109.9759392	106.644555	103.4340324	100.3393507	97.3557247	94.47859171	91.70360044	89.0265999
230705A00111	7/5/2023	4.9	1/6/2026	7/5/2023	107.50447	105.6316611	103.8010842	102.0115435	100.2618801	98.55097556	96.87774947	95.24115848	93.64019457
230705A00019	7/5/2023	4.44	7/6/2027	7/5/2023	113.4907	110.0209019	106.6779307	103.4564793	100.3514907	97.35814557	94.47184914	91.68821985	89.00307817
230705A00006	7/5/2023	4.26	7/5/2028	7/5/2023	117.1296	112.5724107	108.2229572	104.0706685	100.1055664	96.31822826	92.69975367	89.24173257	85.9362159
230705A00008	7/5/2023	4.63	7/6/2026	7/5/2023	109.52994	107.1285583	104.7927405	102.5203388	100.3092839	98.15758605	96.06333169	94.02467979	92.03985882
230705A00040	7/5/2023	4.38	7/5/2028	7/5/2023	117.04457	112.5066996	108.1752441	104.0397221	100.0902357	96.3174374	92.71249655	89.26706829	85.97326437
230706A00034	7/6/2023	5.18	7/7/2025	7/6/2023	105.60953	104.248393	102.9114976	101.5982488	100.308071	99.04040729	97.79471795	96.5704803	95.3671878

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230706A00006	7/6/2023	4.59	7/6/2028	7/6/2023	117.96859	113.4080559	109.0548464	104.8984313	100.9288697	97.13677306	93.51327256	90.04998717	86.73899456
230706A00029	7/6/2023	5.53	1/6/2025	7/6/2023	103.61367	102.7519729	101.9046871	101.0714483	100.2519085	99.44573112	98.65259062	97.87217187	97.10416989
230706A00032	7/6/2023	5.53	1/6/2025	7/6/2023	103.61367	102.7519729	101.9046871	101.0714483	100.2519085	99.44573112	98.65259062	97.87217187	97.10416989
230706A00031	7/6/2023	5.72	7/8/2024	7/6/2023	101.53156	101.1714188	100.8138446	100.4588099	100.1062876	99.75625104	99.40867385	99.06353007	98.72079411
230707A00031	7/7/2023	4.84	7/7/2026	7/7/2023	109.72104	107.3211018	104.9866299	102.7154726	100.5055655	98.3549235	96.26163723	94.22386981	92.2398536
230707A00038	7/7/2023	5.35	1/7/2025	7/7/2023	103.47123	102.6074975	101.7582582	100.9231463	100.1018106	99.29391168	98.4991209	97.71712047	96.94760273
230707A00035	7/7/2023	5.07	7/7/2025	7/7/2023	105.45997	104.0999003	102.7640501	101.4518289	100.1626617	98.89599183	97.6512802	96.42800449	95.22565857
230707A00021	9/1/2023	4.61	8/30/2030	9/1/2023	125.99736	119.033346	112.5164841	106.4154684	100.701345	95.34732573	90.32861562	85.62225468	81.20697295
230707A00022	9/1/2023	4.61	8/30/2030	9/1/2023	125.99736	119.033346	112.5164841	106.4154684	100.701345	95.34732573	90.32861562	85.62225468	81.20697295
230707A00023	9/1/2023	4.61	8/30/2030	9/1/2023	125.99736	119.033346	112.5164841	106.4154684	100.701345	95.34732573	90.32861562	85.62225468	81.20697295
230710A00066	7/10/2023	5	7/10/2025	7/10/2023	105.40105	104.0334304	102.6902965	101.3710448	100.0750913	98.80187055	97.55083521	96.32145498	95.1132161
230710A00013	7/10/2023	4.55	7/10/2029	7/10/2023	121.8141	116.129126	110.7532566	105.667995	100.8560422	96.30121629	91.98837499	87.90334347	84.03284795
230711A00089	7/11/2023	5.32	12/16/2024	7/11/2023	103.16971	102.3670081	101.5768538	100.7989575	100.0330348	99.27881013	98.53601632	97.8043943	97.08369276
230711A00087	7/11/2023	5.04	6/16/2025	7/11/2023	105.14309	103.8396638	102.5630407	101.3123946	100.0869366	98.88591014	97.70858918	96.55427658	95.4223027
230711A00012	7/11/2023	5.07	7/11/2025	7/11/2023	105.50907	104.1380218	102.7915621	101.4690844	100.1700012	98.89374383	97.63976175	96.40752161	95.19650673
230711A00013	7/11/2023	4.78	7/13/2026	7/11/2023	109.65353	107.2383111	104.8893824	102.604559	100.3817377	98.21889646	96.11409116	94.06545182	92.0711794
230711A00038	7/11/2023	4.89	10/10/2025	7/11/2023	106.38005	104.7562452	103.165408	101.6066025	100.0789252	98.58150651	97.11350882	95.67412538	94.2625787
230711A00037	7/11/2023	5.48	7/19/2024	7/11/2023	101.57037	101.1800653	100.7927763	100.4084677	100.0271051	99.64865453	99.27308261	98.90035645	98.53044364
230823A00019	8/23/2023	5.44	8/23/2024	8/23/2023	101.95177	101.4649525	100.9828019	100.5052504	100.0322322	99.5636829	99.09953914	98.63973887	98.18422117
230823A00036	8/23/2023	4.87	8/24/2026	8/23/2023	110.39557	107.8583066	105.3936696	102.9991563	100.6723668	98.41099818	96.21284004	94.07577024	91.99775073
230823A00010	8/23/2023	5.44	8/23/2024	8/23/2023	101.95177	101.4649525	100.9828019	100.5052504	100.0322322	99.5636829	99.09953914	98.63973887	98.18422117
230824A00061	8/24/2023	4.61	8/24/2028	8/24/2023	118.62069	113.9118502	109.422921	105.1424199	101.0595293	97.1640505	93.4463648	89.89739741	86.50858386
230824A00031	8/24/2023	4.49	8/24/2028	8/24/2023	118.71266	113.9833319	109.475337	105.1771035	101.0777246	97.16691866	93.43498974	89.8727912	86.47169164
230824A00043	8/24/2023	4.89	8/24/2026	8/24/2023	110.44534	107.9074546	105.4422046	103.0470918	100.7197158	98.4577732	96.2590534	94.12143385	92.04287613
230825A00019	8/25/2023	5.41	2/25/2025	8/25/2023	104.14656	103.1468361	102.1664122	101.2047328	100.261263	99.33548804	98.4269126	97.53505953	96.65946925
230825A00044	8/25/2023	5.2	8/25/2025	8/25/2023	106.25719	104.7608824	103.293514	101.8543173	100.4425515	99.05750087	97.69847448	96.36480453	95.05584566
230825A00045	8/25/2023	5.57	8/26/2024	8/25/2023	102.05026	101.5549697	101.0645038	100.5787896	100.0977582	99.62134209	99.14947487	98.68209151	98.21912822
230825A00043	8/25/2023	4.89	8/25/2026	8/25/2023	110.45798	107.9172401	105.4492893	103.0516214	100.7218286	98.45760078	96.25672057	94.11705923	92.03657243
230825A00037	8/25/2023	4.91	8/25/2026	8/25/2023	110.50781	107.9664414	105.4978762	103.0996074	100.7692269	98.50442398	96.30298095	94.16276871	92.0817426
230825A00009	8/25/2023	4.91	8/25/2026	8/25/2023	110.50781	107.9664414	105.4978762	103.0996074	100.7692269	98.50442398	96.30298095	94.16276871	92.0817426
230825A00010	8/25/2023	4.62	8/25/2028	8/25/2023	118.67702	113.9641848	109.4715533	105.187623	101.1015567	97.20313734	93.48272914	89.93124161	86.54009572
230616A00012	6/16/2023	4.41	6/16/2026	6/16/2023	108.77203	106.4348813	104.1602675	101.9461214	99.79045481	97.69135922	95.64700203	93.65562286	91.71553012
230616A00037	6/16/2023	4.48	6/16/2027	6/16/2023	112.9279	109.534283	106.2627062	103.1080856	100.0655808	97.13058078	94.29869182	91.56572547	88.92768785

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230616A00038	6/16/2023	4.32	6/16/2028	6/16/2023	116.5723	112.0976235	107.824379	103.7423869	99.84203806	96.11425932	92.55048023	89.1426025	85.88297131
230616A00039	6/16/2023	5.07	6/16/2025	6/16/2023	105.18215	103.87846	102.6015747	101.3506708	100.1249593	98.92368361	97.74611747	96.59156365	95.45935244
230616A00040	6/16/2023	4.66	6/16/2026	6/16/2023	109.03975	106.7056421	104.4338622	102.2223465	100.0691168	97.97227436	95.92999564	93.94052884	92.00219051
230616A00106	6/16/2023	4.61	6/16/2026	6/16/2023	108.92473	106.5919675	104.3215024	102.1112741	99.9593052	97.86369778	95.822629	93.83434778	91.89717137
200312A00009	3/12/2020	1.46	3/12/2027	3/12/2020	102.62882	99.65763784	96.78773565	94.0151046	91.33591576	88.74651355	86.24340681	83.82326037	81.4828871
200316A00055	3/16/2020	1.06	3/14/2025	3/16/2020	99.986152	98.96129077	97.95730942	96.97357492	96.0094799	95.06444108	94.13789809	93.2293123	92.33816586
230711A00027	7/11/2023	5.07	7/11/2025	7/11/2023	105.50907	104.1380218	102.7915621	101.4690844	100.1700012	98.89374383	97.63976175	96.40752161	95.19650673
230712A00056	7/12/2023	4.22	7/12/2028	7/12/2023	116.42291	111.8795091	107.5437625	103.405082	99.45346908	95.67948372	92.07421013	88.62922505	85.336568
230712A00002	7/12/2023	4.31	7/12/2028	7/12/2023	116.8157	112.2637848	107.9198133	103.7731806	99.81387715	96.0324521	92.4199794	88.96802601	85.66862216
230712A00040	7/12/2023	4.45	7/12/2027	7/12/2023	113.13414	109.6654649	106.3239321	103.1042079	100.0012094	97.01009279	94.12624091	91.34525128	88.66292506
230712A00039	7/12/2023	4.62	7/13/2026	7/12/2023	109.27368	106.8630295	104.5185746	102.2381299	100.019595	97.86095077	95.76025553	93.71564184	91.7253131
230712A00041	7/12/2023	4.31	7/12/2028	7/12/2023	116.8157	112.2637848	107.9198133	103.7731806	99.81387715	96.0324521	92.4199794	88.96802601	85.66862216
230712A00051	7/12/2023	4.62	7/13/2026	7/12/2023	109.27368	106.8630295	104.5185746	102.2381299	100.019595	97.86095077	95.76025553	93.71564184	91.7253131
230712A00046	7/12/2023	4.52	7/13/2026	7/12/2023	109.03627	106.6284786	104.2868197	102.0091117	99.79325586	97.63723472	95.53910826	93.4970106	91.50914665
230825A00062	8/25/2023	5.21	8/25/2025	8/25/2023	106.27213	104.7757032	103.3082209	101.8689123	100.4570364	99.07187767	97.71274491	96.37897034	95.06990855
230828A00056	8/28/2023	4.92	8/28/2026	8/28/2023	110.57089	108.0206336	105.5436502	103.1374082	100.7994772	98.52752541	96.31931506	94.17269808	92.08561187
230828A00055	8/28/2023	5.24	8/28/2025	8/28/2023	106.35534	104.8502765	103.3744604	101.9271141	100.5074855	99.11484834	97.74850131	96.40776691	95.09199043
230620A00065	6/20/2023	4.56	6/18/2026	6/20/2023	108.83387	106.4966072	104.221903	102.0076901	99.85198706	97.75289105	95.70857424	93.71728026	91.77732087
230620A00042	6/20/2023	5.15	12/20/2024	6/20/2023	103.0794	102.2662706	101.4660263	100.6783623	99.9029829	99.13960174	98.38794125	97.64773239	96.91871432
200312A00006	3/12/2020	1.23	3/12/2025	3/12/2020	99.997448	98.9801888	97.98350942	97.0067908	96.04943817	95.11088017	94.19056775	93.28797303	92.40258835
200331A00011	3/31/2020	1.09	3/31/2025	3/31/2020	99.87406	98.80723397	97.7630373	96.74075712	95.73970989	94.75924021	93.79871939	92.85754411	91.93513513
230630A00046	6/30/2023	4.6	6/30/2026	6/30/2023	109.38589	107.0023551	104.6835088	102.4272375	100.2315121	98.09438093	96.01396642	93.98846184	92.01612817
230609A00027	6/9/2023	3.99	6/9/2028	6/9/2023	115.67531	111.2224555	106.969902	102.9075109	99.02571794	95.31549458	91.76831516	88.37612572	85.13131507
230609A00026	6/9/2023	4.11	6/9/2027	6/9/2023	112.07755	108.7066314	105.4566623	102.3225929	99.29961357	96.38314541	93.56882705	90.85250303	88.23021258
230630A00043	6/30/2023	4.6	6/30/2026	6/30/2023	109.38589	107.0023551	104.6835088	102.4272375	100.2315121	98.09438093	96.01396642	93.98846184	92.01612817
230828A00036	8/28/2023	4.8	8/28/2026	8/28/2023	110.60783	108.0500656	105.5659241	103.1528581	100.8084216	98.53026796	96.31614542	94.16389266	92.07143449
230828A00047	8/28/2023	4.92	8/28/2026	8/28/2023	110.57089	108.0206336	105.5436502	103.1374082	100.7994772	98.52752541	96.31931506	94.17269808	92.08561187
230620A00015	6/20/2023	5.46	6/20/2024	6/20/2023	101.23531	100.9250862	100.6167803	100.3103699	100.0058375	99.70316573	99.40233755	99.10333605	98.80614454
230620A00007	6/20/2023	5.21	12/20/2024	6/20/2023	103.12825	102.3149008	101.5144421	100.7265661	99.95097697	99.1873884	98.43552276	97.69511095	96.9658921
230620A00091	6/20/2023	4.56	6/22/2026	6/20/2023	108.88218	106.5332279	104.2474108	102.0226511	99.85695689	97.74841405	95.69518307	93.69549542	91.74765037
230620A00089	6/20/2023	4.98	6/20/2025	6/20/2023	105.1188	103.8053091	102.5176872	101.2551832	100.0170751	98.80266866	97.61129609	96.44231497	95.29510691
230620A00035	6/20/2023	4.36	6/20/2030	6/20/2023	123.80014	117.0985733	110.8167213	104.9259094	99.39957382	94.21309211	89.3436317	84.77001076	80.47257067
230621A00045	6/21/2023	4.95	6/23/2025	6/21/2023	105.11954	103.798367	102.5023668	101.230844	99.98312687	98.75856833	97.55654491	96.3764556	95.21772089

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230621A00016	6/21/2023	4.55	6/22/2026	6/21/2023	108.85901	106.5103329	104.2247824	102.0002838	99.83484522	97.72655276	95.67356705	93.67411973	91.72651017
230829A00006	8/29/2023	5.21	8/29/2025	8/29/2023	106.323	104.8155258	103.3373914	101.8878179	100.4660495	99.07135684	97.70303529	96.36040428	95.04280618
230830A00028	8/30/2023	4.45	8/30/2027	8/30/2023	114.18212	110.5505918	107.0571161	103.6956777	100.460561	97.34633023	94.34781361	91.46008914	88.67847114
230830A00034	8/30/2023	4.44	8/30/2028	8/30/2023	117.92503	113.2152501	108.7263527	104.4467688	100.3655939	96.47254911	92.75794264	89.21263256	85.82799297
230621A00022	6/21/2023	4.24	6/21/2028	6/21/2023	116.28403	111.8014292	107.5212806	103.4333439	99.52795015	95.79596859	92.22877357	88.81821399	85.55658455
230621A00041	6/21/2023	4.24	6/21/2028	6/21/2023	116.28403	111.8014292	107.5212806	103.4333439	99.52795015	95.79596859	92.22877357	88.81821399	85.55658455
230622A00039	6/26/2023	4.49	6/26/2026	6/26/2023	108.76755	106.4088262	104.1137735	101.8803074	99.70642613	97.59020552	95.52979515	93.52341517	91.56935312
230830A00030	8/30/2023	5.03	8/29/2025	8/30/2023	106.05217	104.546812	103.0707572	101.6232275	100.2034682	98.81075054	97.44437103	96.10364992	94.78793039
230830A00029	8/30/2023	4.45	8/30/2027	8/30/2023	114.18212	110.5505918	107.0571161	103.6956777	100.460561	97.34633023	94.34781361	91.46008914	88.67847114
230830A00051	8/30/2023	4.45	8/30/2027	8/30/2023	114.18212	110.5505918	107.0571161	103.6956777	100.460561	97.34633023	94.34781361	91.46008914	88.67847114
230831A00041	8/31/2023	4.48	8/31/2028	8/31/2023	118.11608	113.3992908	108.9037915	104.6179782	100.5309223	96.63232273	92.91246658	89.36219262	85.97285687
230831A00016	8/31/2023	4.65	8/31/2026	8/31/2023	110.26937	107.7077723	105.2201624	102.8039671	100.4567209	98.1760589	95.95971229	93.80550348	91.71134197
230622A00056	6/26/2023	4.49	6/26/2026	6/26/2023	108.76755	106.4088262	104.1137735	101.8803074	99.70642613	97.59020552	95.52979515	93.52341517	91.56935312
230622A00005	6/22/2023	4.05	6/22/2028	6/22/2023	116.07472	111.5765859	107.2822307	103.1813233	99.26411071	95.52138403	91.94444441	88.52507238	85.25549871
230622A00004	6/22/2023	4.23	6/22/2027	6/22/2023	112.62381	109.2073344	105.9145687	102.7403573	99.6797852	96.72816933	93.88104585	91.13415881	88.48344914
230622A00095	6/22/2023	4.38	6/22/2027	6/22/2023	112.66852	109.2623863	105.9793368	102.8142463	99.7622333	96.81864625	93.97905096	91.23921938	88.59511873
230622A00093	6/22/2023	4.55	6/22/2026	6/22/2023	108.85901	106.5103329	104.2247824	102.0002838	99.83484522	97.72655276	95.67356705	93.67411973	91.72651017
230622A00096	6/22/2023	4.21	6/22/2028	6/22/2023	116.16578	111.6828918	107.4026206	103.3147121	99.40948721	95.67780505	92.11103051	88.70100332	85.44000949
230622A00083	6/22/2023	4.55	6/22/2026	6/22/2023	108.85901	106.5103329	104.2247824	102.0002838	99.83484522	97.72655276	95.67356705	93.67411973	91.72651017
230622A00027	6/22/2023	4.49	6/22/2026	6/22/2023	108.72	106.372963	104.0890123	101.86608	99.7021752	97.59538503	95.54387097	93.54586554	91.59966897
230622A00028	6/22/2023	4.35	6/22/2027	6/22/2023	112.56914	109.1646563	105.8832109	102.7196816	99.66918836	96.72708108	93.88892697	91.15049927	88.50776646
230622A00030	6/22/2023	4.17	6/22/2028	6/22/2023	115.99339	111.5141881	107.2374845	103.1530264	99.25113955	95.52268765	91.95903996	88.55204038	85.29397886
230622A00047	6/22/2023	4.49	6/22/2026	6/22/2023	108.72	106.372963	104.0890123	101.86608	99.7021752	97.59538503	95.54387097	93.54586554	91.59966897
230622A00045	6/22/2023	4.91	6/23/2025	6/22/2023	105.06669	103.7458822	102.4502417	101.1790726	99.93170315	98.70748657	97.50579952	96.32604113	95.16763204
230622A00049	6/22/2023	4.71	12/17/2025	6/22/2023	106.91547	105.1017779	103.3279693	101.5928793	99.89538708	98.23441365	96.60891971	95.01790392	93.46040118
230623A00003	6/23/2023	4.29	6/23/2027	6/23/2023	112.38185	108.9776715	105.696646	102.5336417	99.48377392	96.5423877	93.70504552	90.96751588	88.32576257
230623A00002	6/23/2023	4.45	6/23/2026	6/23/2023	108.63911	106.2902431	104.0045865	101.7800677	99.61469383	97.50654978	95.45379473	93.45465868	91.50743929
230623A00004	6/23/2023	4.13	6/23/2028	6/23/2023	115.83173	111.3531874	107.0772649	102.993709	99.09283639	95.36550203	91.80306671	88.39736624	85.14068285
230623A00057	6/23/2023	4.52	6/23/2026	6/23/2023	108.80147	106.4506948	104.1631674	101.9368171	99.76964963	97.65974895	95.6052731	93.60445108	91.65557955
230623A00058	6/23/2023	4.38	6/23/2027	6/23/2023	112.68023	109.2710987	105.9852532	102.8175579	99.76312365	96.81729116	93.97561878	91.23387108	88.58800805
230623A00027	6/23/2023	4.13	6/23/2028	6/23/2023	115.83173	111.3531874	107.0772649	102.993709	99.09283639	95.36550203	91.80306671	88.39736624	85.14068285
230623A00026	6/23/2023	4.29	6/23/2027	6/23/2023	112.38185	108.9776715	105.696646	102.5336417	99.48377392	96.5423877	93.70504552	90.96751588	88.32576257
230623A00025	6/23/2023	4.45	6/23/2026	6/23/2023	108.63911	106.2902431	104.0045865	101.7800677	99.61469383	97.50654978	95.45379473	93.45465868	91.50743929

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230831A00006	8/31/2023	4.61	8/31/2027	8/31/2023	114.27304	110.6493533	107.1632193	103.8086527	100.5799649	97.47174539	94.47884598	91.59636703	88.81964383
230831A00001	8/31/2023	4.77	8/31/2026	8/31/2023	110.23288	107.6788145	105.198383	102.7890301	100.448306	98.17386074	95.96343957	93.8148783	91.72609911
230831A00007	8/31/2023	4.48	8/31/2028	8/31/2023	118.11608	113.3992908	108.9037915	104.6179782	100.5309223	96.63232273	92.91246658	89.36219262	85.97285687
230831A00070	8/31/2023	4.48	8/31/2028	8/31/2023	118.11608	113.3992908	108.9037915	104.6179782	100.5309223	96.63232273	92.91246658	89.36219262	85.97285687
230831A00066	8/31/2023	4.77	8/31/2026	8/31/2023	110.23288	107.6788145	105.198383	102.7890301	100.448306	98.17386074	95.96343957	93.8148783	91.72609911
230831A00069	8/31/2023	4.61	8/31/2027	8/31/2023	114.27304	110.6493533	107.1632193	103.8086527	100.5799649	97.47174539	94.47884598	91.59636703	88.81964383
230623A00051	6/23/2023	4.18	6/23/2028	6/23/2023	116.04736	111.5641974	107.2838098	103.1959357	99.29088558	95.55950864	91.99316021	88.5836709	85.32331797
230623A00056	6/23/2023	4.18	6/23/2028	6/23/2023	116.04736	111.5641974	107.2838098	103.1959357	99.29088558	95.55950864	91.99316021	88.5836709	85.32331797
230623A00040	6/23/2023	5.48	6/24/2024	6/23/2023	101.28654	100.9652394	100.6459862	100.3287599	100.0135413	99.70031117	99.38905083	99.07974164	98.77236524
230623A00053	6/23/2023	4.4	6/23/2026	6/23/2023	108.83322	106.4758107	104.1819474	101.9495414	99.77658601	97.66115334	95.60139023	93.59551499	91.64181417
230623A00037	6/23/2023	4.13	6/23/2028	6/23/2023	115.83173	111.3531874	107.0772649	102.993709	99.09283639	95.36550203	91.80306671	88.39736624	85.14068285
230623A00036	6/23/2023	4.45	6/23/2026	6/23/2023	108.63911	106.2902431	104.0045865	101.7800677	99.61469383	97.50654978	95.45379473	93.45465868	91.50743929
230901A00037	9/1/2023	4.3	9/1/2028	9/1/2023	117.94757	113.2131539	108.7015054	104.4009216	100.3003746	96.38947135	92.65841365	89.09796113	85.69939636
230712A00018	7/12/2023	4.31	7/12/2028	7/12/2023	116.8157	112.2637848	107.9198133	103.7731806	99.81387715	96.0324521	92.4199794	88.96802601	85.66862216
230712A00019	7/12/2023	4.31	7/12/2028	7/12/2023	116.8157	112.2637848	107.9198133	103.7731806	99.81387715	96.0324521	92.4199794	88.96802601	85.66862216
230712A00014	7/12/2023	4.62	7/13/2026	7/12/2023	109.27368	106.8630295	104.5185746	102.2381299	100.019595	97.86095077	95.76025553	93.71564184	91.7253131
230712A00015	7/12/2023	4.62	7/13/2026	7/12/2023	109.27368	106.8630295	104.5185746	102.2381299	100.019595	97.86095077	95.76025553	93.71564184	91.7253131
230712A00016	7/12/2023	4.45	7/12/2027	7/12/2023	113.13414	109.6654649	106.3239321	103.1042079	100.0012094	97.01009279	94.12624091	91.34525128	88.66292506
230712A00021	7/12/2023	4.31	7/12/2028	7/12/2023	116.8157	112.2637848	107.9198133	103.7731806	99.81387715	96.0324521	92.4199794	88.96802601	85.66862216
230712A00017	7/12/2023	4.45	7/12/2027	7/12/2023	113.13414	109.6654649	106.3239321	103.1042079	100.0012094	97.01009279	94.12624091	91.34525128	88.66292506
230712A00020	7/12/2023	4.31	7/12/2028	7/12/2023	116.8157	112.2637848	107.9198133	103.7731806	99.81387715	96.0324521	92.4199794	88.96802601	85.66862216
230712A00027	7/12/2023	4.29	1/12/2028	7/12/2023	114.68162	110.6797585	106.8428133	103.1631139	99.63338907	96.24674156	92.99662687	89.87683334	86.88146351
230712A00009	7/12/2023	4.89	6/16/2025	7/12/2023	104.94777	103.6456828	102.3703708	101.1210136	99.89682289	98.69704279	97.52094774	96.36784118	95.23705403
230712A00005	7/12/2023	5.2	12/16/2024	7/12/2023	103.07334	102.2710545	101.4813181	100.703835	99.93832107	99.18450077	98.44210701	97.71088079	96.99057087
230713A00058	7/13/2023	4.08	7/13/2028	7/13/2023	116.42947	111.8656271	107.5109585	103.3547686	99.38696295	95.59801184	91.97891618	88.52117517	85.21675615
230713A00021	7/13/2023	4.44	7/13/2026	7/13/2023	108.84635	106.4408378	104.1014158	101.8258971	99.61218454	97.45826187	95.36219044	93.32210561	91.3362135
230713A00031	7/13/2023	4.49	7/13/2026	7/13/2023	108.96505	106.5581133	104.2172932	101.9404062	99.72535412	97.5701199	95.47276408	93.43142123	91.44429672
230713A00023	7/13/2023	4.2	7/13/2028	7/13/2023	116.34608	111.8016377	107.4650358	103.3256699	99.37352692	95.59915333	91.99362078	88.54849447	85.25580331
230713A00019	7/13/2023	4.51	7/13/2026	7/13/2023	109.01253	106.6050235	104.2636442	101.9862099	99.77062195	97.61486311	95.51699353	93.47514748	91.48753001
230713A00026	7/13/2023	4.49	7/13/2026	7/13/2023	108.96505	106.5581133	104.2172932	101.9404062	99.72535412	97.5701199	95.47276408	93.43142123	91.44429672
230713A00025	7/13/2023	4.82	7/14/2025	7/13/2023	105.2012	103.8243941	102.4724127	101.1446384	99.84047539	98.55934708	97.30069517	96.06397899	94.84867488
230713A00014	7/13/2023	4.2	7/13/2028	7/13/2023	116.34608	111.8016377	107.4650358	103.3256699	99.37352692	95.59915333	91.99362078	88.54849447	85.25580331
230714A00030	7/14/2023	4.52	7/17/2026	7/14/2023	109.08274	106.6636775	104.3113343	102.0234936	99.7980298	97.63290015	95.52614058	93.47586239	91.48024887

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230714A00034	7/14/2023	4.37	7/16/2027	7/14/2023	112.91008	109.434396	106.0865241	102.8610828	99.75294762	96.75723604	93.86929455	91.08468674	88.39918205
230714A00026	7/14/2023	4.18	7/14/2028	7/14/2023	116.26915	111.7236615	107.3862082	103.246161	99.29349206	95.51873416	91.91294649	88.4676827	85.17496108
230714A00018	7/14/2023	4.24	7/14/2027	7/14/2023	112.90999	109.4282758	106.0746718	102.843779	99.73045935	96.72981757	93.83718802	91.04812279	88.35838043
230714A00019	7/14/2023	4.85	7/14/2025	7/14/2023	105.24256	103.8654591	102.5131849	101.1851228	99.88067675	98.59927008	97.34034434	96.10335877	94.88778958
230714A00020	7/14/2023	4.52	7/14/2026	7/14/2023	109.04789	106.6372794	104.29295	102.0127091	99.79445144	97.63615312	95.53586817	93.49172502	91.50192318
230714A00022	7/14/2023	4.36	7/14/2027	7/14/2023	112.8537	109.384359	106.0424188	102.8225231	99.71957094	96.72870164	93.84528228	91.06489578	88.38332967
230714A00023	7/14/2023	4.18	7/14/2028	7/14/2023	116.26915	111.7236615	107.3862082	103.246161	99.29349206	95.51873416	91.91294649	88.4676827	85.17496108
230717A00106	7/17/2023	5.49	7/11/2024	7/17/2023	101.48302	101.1147835	100.7492387	100.3863512	100.026092	99.66843237	99.31334423	98.96079974	98.6107715
230717A00022	7/17/2023	4.59	7/17/2026	7/17/2023	109.24969	106.8286097	104.4742916	102.1845182	99.95716248	97.79018055	95.68160716	93.62955251	91.63219881
230717A00061	7/17/2023	4.93	7/17/2025	7/17/2023	105.38853	104.0024041	102.6413996	101.3048877	99.99226241	98.70293753	97.43634555	96.19193698	94.9691797
230717A00088	7/17/2023	4.43	7/19/2027	7/17/2023	113.14723	109.6594425	106.3001527	103.0639422	99.9456489	96.94035495	94.04337365	91.25023744	88.55668646
230718A00023	7/18/2023	4.54	7/20/2026	7/18/2023	109.16544	106.7373527	104.3764244	102.0804258	99.84721098	97.67471756	95.56096303	93.50404114	91.50211854
230718A00093	7/18/2023	4.06	7/18/2028	7/18/2023	116.39426	111.8175545	107.4512215	103.2844711	99.30712382	95.50957148	91.88274246	88.41806883	85.10745587
230718A00038	7/18/2023	4.46	11/13/2026	7/18/2023	110.33309	107.5734999	104.8981064	102.3037976	99.78759546	97.34665315	94.97824849	92.67977733	90.44874747
230718A00013	7/18/2023	4.54	7/17/2026	7/18/2023	109.13044	106.710801	104.3578936	102.0695006	99.84349628	97.6778374	95.5705596	93.51977386	91.52366314
230718A00014	7/18/2023	4.37	7/19/2027	7/18/2023	112.94406	109.4597116	106.1037701	102.8708168	99.75569298	96.75348369	93.8595052	91.0692928	88.37858932
230718A00015	7/18/2023	4.19	7/18/2028	7/18/2023	116.35456	111.7963904	107.4472884	103.2965477	99.33407007	95.55032278	91.93630456	88.48351299	85.18391443
230718A00070	7/18/2023	4.06	7/18/2028	7/18/2023	116.39426	111.8175545	107.4512215	103.2844711	99.30712382	95.50957148	91.88274246	88.41806883	85.10745587
230718A00016	7/18/2023	4.54	7/17/2026	7/18/2023	109.13044	106.710801	104.3578936	102.0695006	99.84349628	97.6778374	95.5705596	93.51977386	91.52366314
230718A00012	7/18/2023	5.2	12/16/2024	7/18/2023	103.07334	102.2710545	101.4813181	100.703835	99.93832107	99.18450077	98.44210701	97.71088079	96.99057087
230719A00006	7/19/2023	4.54	7/20/2026	7/19/2023	109.16544	106.7373527	104.3764244	102.0804258	99.84721098	97.67471756	95.56096303	93.50404114	91.50211854
230719A00035	7/19/2023	4.92	7/18/2025	7/19/2023	105.38652	103.997752	102.634196	101.2952202	99.98021566	98.68859304	97.41978196	96.17323017	94.94840288
230719A00027	7/19/2023	4.92	7/18/2025	7/19/2023	105.38652	103.997752	102.634196	101.2952202	99.98021566	98.68859304	97.41978196	96.17323017	94.94840288
230719A00011	7/19/2023	4.92	7/18/2025	7/19/2023	105.38652	103.997752	102.634196	101.2952202	99.98021566	98.68859304	97.41978196	96.17323017	94.94840288
230719A00013	7/19/2023	4.54	7/17/2026	7/19/2023	109.13044	106.710801	104.3578936	102.0695006	99.84349628	97.6778374	95.5705596	93.51977386	91.52366314
230719A00010	7/19/2023	4.92	7/18/2025	7/19/2023	105.38652	103.997752	102.634196	101.2952202	99.98021566	98.68859304	97.41978196	96.17323017	94.94840288
230719A00012	7/19/2023	4.92	7/18/2025	7/19/2023	105.38652	103.997752	102.634196	101.2952202	99.98021566	98.68859304	97.41978196	96.17323017	94.94840288
230719A00015	7/19/2023	4.37	7/19/2027	7/19/2023	112.94406	109.4597116	106.1037701	102.8708168	99.75569298	96.75348369	93.8595052	91.0692928	88.37858932
230719A00061	7/19/2023	5.18	1/21/2025	7/19/2023	103.49296	102.591259	101.7053473	100.8348125	99.97925572	99.13829208	98.31154964	97.49866906	96.69930303
230719A00034	7/19/2023	4.19	7/19/2028	7/19/2023	116.36498	111.8038836	107.4520977	103.2989048	99.334189	95.54840174	91.93252677	88.47804792	85.17691877
230720A00038	7/20/2023	4.55	7/20/2026	7/20/2023	109.51035	107.0715038	104.7002162	102.3942389	100.1514097	97.96965126	95.84696656	93.78143564	91.77121209
230720A00037	7/20/2023	4.55	7/20/2026	7/20/2023	109.51035	107.0715038	104.7002162	102.3942389	100.1514097	97.96965126	95.84696656	93.78143564	91.77121209
230720A00039	7/20/2023	4.68	7/20/2026	7/20/2023	109.50049	107.0683364	104.7034319	102.4035421	100.1665184	97.99029612	95.87289029	93.81239248	91.80696716

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230720A00025	7/20/2023	5.18	1/21/2025	7/20/2023	103.63566	102.7312806	101.8427673	100.9697014	100.1116816	99.26832047	98.43924393	97.6240904	96.82251048
230720A00100	7/20/2023	5.05	7/21/2025	7/20/2023	105.60383	104.2055016	102.8326895	101.4847487	100.1610598	98.8610238	97.58406086	96.32960976	95.09712705
230721A00043	7/21/2023	4.98	7/21/2025	7/21/2023	105.50597	104.1083611	102.7362506	101.3889995	100.0659888	98.76661981	97.49031293	96.23650725	95.00465959
230721A00038	7/21/2023	4.67	7/21/2026	7/21/2023	109.48858	107.0538903	104.6865872	102.3844317	100.1452686	97.96702694	95.84771594	93.7854215	91.7783028
230721A00006	7/21/2023	4.32	7/21/2028	7/21/2023	116.95638	112.3769812	108.0078161	103.838108	99.85768951	96.05696392	92.4268701	88.9588499	85.64481767
230721A00003	7/21/2023	4.67	7/21/2026	7/21/2023	109.48858	107.0538903	104.6865872	102.3844317	100.1452686	97.96702694	95.84771594	93.7854215	91.7783028
230721A00029	7/21/2023	4.67	7/21/2026	7/21/2023	109.48858	107.0538903	104.6865872	102.3844317	100.1452686	97.96702694	95.84771594	93.7854215	91.7783028
230721A00028	7/21/2023	5.03	7/21/2025	7/21/2023	105.57587	104.1777471	102.8051355	101.4573918	100.1338967	98.83405123	97.55727574	96.30300904	95.07070778
230721A00031	7/21/2023	5.03	7/21/2025	7/21/2023	105.57587	104.1777471	102.8051355	101.4573918	100.1338967	98.83405123	97.55727574	96.30300904	95.07070778
230721A00032	7/21/2023	5.03	7/21/2025	7/21/2023	105.57587	104.1777471	102.8051355	101.4573918	100.1338967	98.83405123	97.55727574	96.30300904	95.07070778
230724A00105	7/24/2023	5.56	7/18/2024	7/24/2023	101.59	101.2023823	100.817742	100.4360416	100.0572474	99.68132602	99.30824482	98.93797154	98.5704744
230724A00063	7/24/2023	5.08	7/24/2025	7/24/2023	105.68265	104.2757651	102.8946772	101.5387363	100.2073132	98.89979939	97.61560594	96.35416295	95.11491871
230724A00066	7/24/2023	4.71	8/18/2026	7/24/2023	109.92447	107.4092679	104.9656606	102.5912002	100.2835339	98.04040312	95.85963993	93.73916213	91.67696962
230724A00064	7/24/2023	4.53	7/19/2027	7/24/2023	113.48585	109.9923274	106.627457	103.3858177	100.2622421	97.25180707	94.34982107	91.55181184	88.85351504
230724A00065	7/24/2023	4.37	7/18/2028	7/24/2023	117.14307	112.567756	108.2020841	104.0353251	100.0573577	96.25862743	92.63011215	89.1632897	85.85010762
230724A00037	7/24/2023	4.29	7/24/2028	7/24/2023	116.85681	112.2714386	107.8969566	103.7225372	99.73796459	95.93359703	92.30033203	88.82957317	85.51319947
230725A00004	7/25/2023	5.06	7/25/2025	7/25/2023	105.66677	104.2573368	102.8737933	101.5154838	100.181776	98.87205829	97.5857389	96.32224515	95.08102264
230725A00071	7/25/2023	4.4	7/25/2028	7/25/2023	117.35147	112.7525835	108.3651928	104.1784387	100.1820738	96.36642649	92.72236645	89.2412711	85.91499494
230725A00016	7/25/2023	4.75	7/31/2026	7/25/2023	109.80268	107.3372837	104.9408045	102.6109207	100.3454073	98.14212707	95.99902646	93.91413187	91.885546
230725A00018	7/25/2023	4.4	7/25/2028	7/25/2023	117.35147	112.7525835	108.3651928	104.1784387	100.1820738	96.36642649	92.72236645	89.2412711	85.91499494
230725A00028	7/25/2023	4.46	7/25/2030	7/25/2023	124.724	117.8982234	111.5053376	105.5154284	99.90079857	94.63579519	89.69664884	85.06132607	80.70939425
230725A00014	7/25/2023	5.32	1/27/2025	7/25/2023	103.69374	102.7747987	101.872225	100.9855837	100.1144548	99.25843292	98.41712687	97.59015876	96.77716359
230705A00042	7/5/2023	4.42	7/5/2028	7/5/2023	117.21838	112.6767589	108.3416786	104.2026517	100.2497754	96.47369722	92.86558223	89.41708126	86.12030196
230725A00023	7/25/2023	4.57	4/9/2027	7/25/2023	112.40246	109.2051973	106.1175783	103.1352011	100.2538653	97.46956456	94.77847643	92.17695265	89.66151002
230725A00015	7/25/2023	4.4	7/25/2028	7/25/2023	117.35147	112.7525835	108.3651928	104.1784387	100.1820738	96.36642649	92.72236645	89.2412711	85.91499494
230726A00011	7/26/2023	4.24	7/26/2028	7/26/2023	117.27278	112.6550316	108.250263	104.0475116	100.0364332	96.20726704	92.55079967	89.05833123	85.72164437
220217A00027	2/16/2024	2.56	2/17/2032	2/16/2024	114.93717	106.9291591	99.5465646	92.73710995	86.4531479	80.65122555	75.29169544	70.33836443	65.75817664
230202A00034	2/2/2024	3.41	2/2/2026	2/2/2024	104.95676	103.0365384	101.1612628	99.32961173	97.54030959	95.79212646	94.08387624	92.4144148	90.78263818
230807A00093	2/7/2024	4.49	2/6/2026	2/7/2024	107.11431	105.1606313	103.2528548	101.3896246	99.56963127	97.79161236	96.05435087	94.35667306	92.69744669
230719A00100	2/12/2024	4.29	2/13/2026	2/12/2024	106.78745	104.8168537	102.8930298	101.014577	99.18014842	97.38844646	95.63822043	93.92826457	92.25741617
141117A00011	11/17/2014	3.81	11/17/2034	11/17/2014	131.79938	120.4197668	110.1717993	100.9352655	92.60337063	85.08117527	78.28422041	72.13731914	66.5734931
150731A00016	7/31/2015	3.04	7/31/2025	7/31/2015	102.86114	101.4565802	100.0781083	98.72505932	97.39679074	96.09268136	94.8121303	93.55455617	92.31939629
160303A00020	3/3/2016	2.97	3/3/2031	3/3/2016	117.2693	110.0487085	103.331019	97.07843733	91.25620195	85.83232345	80.77734981	76.06415291	71.66773394

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160212A00037	2/12/2016	3.03	2/12/2031	2/12/2016	116.61108	109.5052523	102.8898111	96.72822883	90.98688397	85.63481244	80.64348468	75.98660257	71.63991434
160222A00019	2/22/2016	3.09	2/21/2031	2/22/2016	117.08047	109.9330692	103.2803756	97.08541992	91.31418458	85.93534962	80.92006589	76.24174816	71.87588669
160222A00005	2/22/2016	2.79	2/22/2028	2/22/2016	109.17943	105.1718228	101.3351209	97.66113549	94.14210979	90.77069791	87.53994098	84.44324462	81.47435787
160524A00015	11/25/2016	2.71	11/25/2026	11/25/2016	105.67656	102.947922	100.3038365	97.7411312	95.25677707	92.84788072	90.51167709	88.24552273	86.04688943
160712A00019	7/12/2017	2.32	7/12/2027	7/12/2017	105.96212	102.6143114	99.39034367	96.28500106	93.29331257	90.41054154	87.63217332	84.95390372	82.37162804
160729A00017	7/31/2017	2.47	7/31/2029	7/31/2017	110.76749	105.3199504	100.175882	95.31681024	90.72547746	86.38575658	82.28257114	78.40182184	74.7303184
160714A00018	9/6/2016	2.28	9/4/2026	9/6/2016	104.01272	101.5266997	99.11308774	96.76935999	94.49309203	92.28195883	90.13372998	88.04626521	86.01751016
160714A00024	9/20/2016	2.5	9/20/2028	9/20/2016	109.32886	104.7536581	100.3977368	96.249419	92.29771588	88.53227869	84.94335789	81.52176523	78.25883842
161118A00026	12/20/2016	3.03	12/21/2026	12/20/2016	106.75412	103.9412703	101.2174202	98.57925312	96.02359405	93.54740517	91.14777881	88.82193106	86.56719571
170609A00052	6/11/2018	2.9	6/9/2027	6/11/2018	107.6661	104.3784804	101.2092385	98.15342799	95.20633763	92.36348163	89.62058751	86.97358438	84.41859209
170614A00019	6/14/2017	2.48	6/13/2025	6/14/2017	101.78987	100.5168881	99.27101402	98.05138153	96.85716309	95.68756611	94.54183109	93.41922989	92.31906409
170327A00080	3/27/2019	3.43	3/27/2029	3/27/2019	115.07364	109.852049	104.9033438	100.2117766	95.76259315	91.54196424	87.53692204	83.73530217	80.12568961
170822A00023	8/23/2017	3.95	8/23/2028	8/23/2017	115.65333	111.0131605	106.5903921	102.3736617	98.35226135	94.51609555	90.85564343	87.36192285	84.02645709
171228A00024	12/28/2017	2.71	6/28/2024	12/28/2017	100.41108	100.0806085	99.75230737	99.42615774	99.10213848	98.78022879	98.46040814	98.14265625	97.82695311
190329A00012	3/29/2019	2.61	3/29/2024	3/29/2019	100.08803	100.007703	99.92750334	99.84743542	99.7674989	99.68769347	99.60801881	99.52847461	99.44906056
160307A00029	3/7/2016	3.21	3/7/2031	3/7/2016	117.99791	110.7808677	104.06525	97.81343112	91.99079662	86.56548976	81.50817818	76.79184165	72.3915786
181220A00041	12/20/2018	3.36	12/18/2026	12/20/2018	107.65704	104.8393816	102.110551	99.46723346	96.90625859	94.42459355	92.01933617	89.68770846	87.42705043
190815A00041	8/15/2019	1.86	8/15/2024	8/15/2019	100.19677	99.73654108	99.28054015	98.8287117	98.38099852	97.93734443	97.49769428	97.0619939	96.63019013
180615A00039	6/15/2018	3.49	6/15/2028	6/15/2018	112.99969	108.6039711	104.4069232	100.3984873	96.56916691	92.90999574	89.41250551	86.06869517	82.87100257
180618A00036	6/18/2018	3.89	6/18/2048	6/18/2018	163.4289	137.2750703	116.1925328	99.12799697	85.25554274	73.92618583	64.62887761	56.96029706	50.60141432
181029A00051	2/5/2019	3.69	2/5/2029	2/5/2019	115.95869	110.8560023	106.0132012	101.4156553	97.0496357	92.90225241	88.96139831	85.21569788	81.65445925
181031A00070	3/1/2019	3.77	3/1/2029	3/1/2019	116.5769	111.388291	106.4672644	101.7985684	97.36789613	93.16182639	89.16776403	85.37388498	81.76908504
200131A00029	1/31/2020	1.78	10/31/2024	1/31/2020	100.21166	99.54500551	98.88718942	98.23803308	97.59736651	96.96502418	96.34084481	95.72467126	95.11635041
190621A00037	6/21/2019	2.21	5/15/2024	6/21/2019	100.14944	99.93975069	99.7309486	99.52303287	99.31599778	99.10983768	98.90454695	98.70012004	98.49655142
221017A00050	9/18/2023	4.59	9/30/2024	9/18/2023	101.83525	101.2461275	100.6638201	100.0882134	99.51919221	98.95664411	98.40045906	97.85052955	97.30675047
221212A00131	12/12/2023	3.77	12/11/2026	12/12/2023	108.7398	105.9255682	103.199415	100.5580411	97.99829674	95.51717105	93.11178436	90.77938174	88.51732661
230113A00037	1/26/2024	3.43	1/30/2026	1/26/2024	104.96847	103.0565821	101.189262	99.36520297	97.58314521	95.84187381	94.14021702	92.47704432	90.85126475
230802A00023	10/16/2023	4.37	10/16/2028	10/16/2023	118.13114	113.2847935	108.6709648	104.2771884	100.0917413	96.1035902	92.30234694	88.6782271	85.2220115
230807A00087	11/7/2023	4.75	11/7/2025	11/7/2023	106.48752	104.7870969	103.122268	101.4919758	99.89520823	98.33099294	96.79839529	95.29651646	93.82449176
230628A00063	6/28/2023	4.47	6/29/2026	6/28/2023	108.75649	106.3895534	104.086712	101.8458736	99.66502852	97.54224424	95.47566158	93.46349161	91.5040125
230921A00021	9/21/2023	4.62	9/21/2028	9/21/2023	119.64016	114.8102202	110.2092924	105.8252401	101.6466357	97.66271582	93.86333926	90.23894757	86.7805283
230922A00032	9/22/2023	5.18	9/22/2025	9/22/2023	106.61249	105.035886	103.4907155	101.9761058	100.4912171	99.03523989	97.60739398	96.2069267	94.83311193
230922A00022	9/22/2023	4.99	9/22/2026	9/22/2023	111.08145	108.4546968	105.9048536	103.4291979	101.0251245	98.69013709	96.42184257	94.21794642	92.07624776

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230922A00025	9/22/2023	5.18	9/22/2025	9/22/2023	106.61249	105.035886	103.4907155	101.9761058	100.4912171	99.03523989	97.60739398	96.2069267	94.83311193
230925A00057	9/25/2023	5.19	9/30/2025	9/25/2023	106.73533	105.135399	103.5676061	102.0310503	100.524863	99.04820757	97.60027788	96.18029678	94.78751488
230925A00080	9/25/2023	5.07	9/30/2025	9/25/2023	106.7864	105.1819723	103.6098342	102.0690803	100.5588366	99.07826117	97.62654295	96.20290006	94.80657861
230925A00056	9/25/2023	5.19	9/25/2025	9/25/2023	106.65239	105.0673587	103.5140166	101.9914777	100.4988918	99.03543976	97.60033183	96.19280661	94.81212959
230925A00121	9/25/2023	5.2	9/25/2025	9/25/2023	106.66817	105.0830143	103.5295455	102.0068822	100.5141739	99.0506016	97.61537548	96.20773405	94.82694276
230925A00003	9/25/2023	4.99	9/25/2026	9/25/2023	111.12192	108.4861924	105.9277994	103.4440035	101.0321785	98.68980806	96.4144807	94.20388427	92.05580132
230925A00004	9/25/2023	4.74	9/25/2028	9/25/2023	119.59284	114.7715359	110.1787798	105.8024555	101.6311581	97.65414638	93.8612999	90.24307994	86.79049279
230926A00021	9/26/2023	4.73	9/26/2028	9/26/2023	119.55939	114.7359824	110.1413399	105.7633322	101.5905383	97.61220186	93.81818858	90.19894698	86.74547159
230926A00020	9/26/2023	5.2	9/26/2025	9/26/2023	106.69758	105.1091214	103.5524537	102.0266869	100.530967	99.0644707	97.62640487	96.21600455	94.83253195
230926A00076	9/26/2023	4.73	9/26/2028	9/26/2023	119.55939	114.7359824	110.1413399	105.7633322	101.5905383	97.61220186	93.81818858	90.19894698	86.74547159
230926A00010	9/26/2023	4.74	9/26/2028	9/26/2023	119.6051	114.7806573	110.1850149	105.8060418	101.6323156	97.65307832	93.85819446	90.23811125	86.78382202
230926A00048	9/26/2023	5.2	9/26/2025	9/26/2023	106.69758	105.1091214	103.5524537	102.0266869	100.530967	99.0644707	97.62640487	96.21600455	94.83253195
230927A00020	9/27/2023	5.01	10/16/2026	9/27/2023	111.45174	108.7540725	106.1368062	103.5970379	101.1319909	98.73900732	96.41554203	94.15915728	91.96751719
230927A00021	9/27/2023	4.96	1/29/2027	9/27/2023	112.68339	109.6807155	106.7755744	103.9642591	101.2432283	98.60909443	96.05861593	93.5886902	91.19634687
230927A00031	9/27/2023	5.4	3/28/2025	9/27/2023	104.53822	103.4524461	102.3893699	101.3482808	100.3285003	99.32937768	98.35028839	97.39063289	96.44983539
230927A00032	9/27/2023	5.02	9/23/2026	9/27/2023	111.17206	108.5413131	105.9876412	103.5083151	101.1007219	98.76235803	96.49082361	94.28381767	92.13913324
230927A00033	9/27/2023	4.78	9/25/2028	9/27/2023	119.77557	114.9501316	110.3533809	105.9731994	101.7981766	97.81756555	94.02124054	90.39965777	86.94381871
230927A00034	9/27/2023	4.82	9/27/2028	9/27/2023	119.98327	115.1473852	110.540848	106.1514941	101.9678712	97.97919386	94.17530052	90.54661421	87.08410565
230927A00006	9/27/2023	5.36	3/27/2025	9/27/2023	104.48204	103.3992988	102.3391406	101.3008589	100.28378	99.28725779	98.31067228	97.35342809	96.41495342
230927A00007	9/27/2023	5.19	9/29/2025	9/27/2023	106.72194	105.12491	103.5599309	102.0261041	100.5225645	99.04847912	97.60304488	96.18548776	94.7950613
230927A00008	9/27/2023	4.98	9/28/2026	9/27/2023	111.13656	108.4921765	105.9255593	103.4339428	101.0146798	98.66523455	96.3831769	94.16617728	92.0120018
231006A00032	10/6/2023	5.08	10/6/2026	10/6/2023	111.50257	108.8314439	106.2393143	103.723356	101.2808626	98.9092427	96.60601352	94.36879602	92.19530959
231006A00033	10/6/2023	4.98	10/6/2027	10/6/2023	116.05602	112.2990743	108.6875025	105.2148425	101.8749621	98.66203631	95.57052961	92.59518016	89.73098442
231006A00015	10/6/2023	5.38	4/7/2025	10/6/2023	104.64686	103.5334242	102.4438335	101.3773304	100.3331852	99.31069822	98.30919913	97.32804482	96.36661832
231006A00010	10/6/2023	4.93	10/16/2028	10/6/2023	120.7214	115.815687	111.1445692	106.6954971	102.4566616	98.41694743	94.56588874	90.89362723	87.39087351
231006A00009	10/6/2023	4.98	10/15/2027	10/6/2023	116.17487	112.3910101	108.7543213	105.2582342	101.8965087	98.6632188	95.55273535	92.55970892	89.6790543
230928A00001	9/28/2023	4.91	9/28/2026	9/28/2023	111.30539	108.6513633	106.0755179	103.5750701	101.1473545	98.78981805	96.50001415	94.2755977	92.11432002
230928A00047	9/28/2023	5.21	9/29/2025	9/28/2023	106.75373	105.1564389	103.5912029	102.0571237	100.5533361	99.0790069	97.63333302	96.2155403	94.82488216
230928A00014	9/28/2023	4.9	9/28/2027	9/28/2023	115.66323	111.9355226	108.35144	104.90463	101.5890605	98.39900004	95.32900062	92.37388201	89.52871702
230928A00016	9/28/2023	4.83	9/28/2028	9/28/2023	120.04152	115.2014399	110.5910041	106.1980246	102.0110297	98.01921612	94.21240563	90.58100595	87.11597354
230928A00033	9/28/2023	5.03	9/28/2026	9/28/2023	111.26577	108.6197029	106.0514367	103.5582081	101.1373689	98.78638227	96.50281698	94.28434245	92.12872384
230928A00064	9/28/2023	4.78	9/30/2027	9/28/2023	115.75652	112.0087424	108.4058168	104.9413184	101.6091465	98.40350534	95.31888658	92.3500536	89.49202631
230913A00049	9/13/2023	4.74	9/13/2027	9/13/2023	114.89655	111.2251101	107.6940087	104.2970923	101.028515	97.88271905	94.85441906	91.93858676	89.1304371

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230913A00046	9/13/2023	4.91	9/14/2026	9/13/2023	110.76982	108.169615	105.6451128	103.1936563	100.8126975	98.499794	96.2526036	94.06887975	91.94646683
230913A00050	9/13/2023	4.6	9/13/2028	9/13/2023	118.81065	114.0413027	109.4969411	105.1657001	101.0364078	97.09853807	93.34216971	89.75794857	86.33705198
231010A00075	10/10/2023	4.78	10/10/2028	10/10/2023	119.95629	115.0847242	110.4456733	106.0267228	101.8161943	97.80309413	93.97706878	90.32836433	86.84778819
231010A00007	10/10/2023	4.83	10/12/2027	10/10/2023	115.59257	111.8274891	108.2086974	104.7296704	101.384214	98.16644546	95.07077624	92.09189491	89.22475193
231010A00101	10/10/2023	4.78	10/10/2028	10/10/2023	119.95629	115.0847242	110.4456733	106.0267228	101.8161943	97.80309413	93.97706878	90.32836433	86.84778819
231010A00057	10/10/2023	4.66	10/10/2028	10/10/2023	120.05499	115.1617642	110.5025833	106.064935	101.8370436	97.80782445	93.96683997	90.30425786	86.81081272
231010A00076	10/10/2023	4.66	10/10/2028	10/10/2023	120.05499	115.1617642	110.5025833	106.064935	101.8370436	97.80782445	93.96683997	90.30425786	86.81081272
231010A00031	10/10/2023	5.08	10/10/2025	10/10/2023	106.68778	105.0613956	103.4680288	101.9067383	100.3766193	98.87680104	97.40644483	95.96474283	94.55091649
231010A00067	10/10/2023	4.93	10/9/2026	10/10/2023	111.15048	108.4758389	105.8805138	103.3616583	100.9165481	98.54257471	96.23723972	93.99814919	91.8230086
231010A00068	10/10/2023	4.83	10/8/2027	10/10/2023	115.54138	111.7882048	108.1805198	104.7118509	101.376052	98.16728499	95.08000282	92.1089329	89.2490619
231010A00030	10/10/2023	4.88	10/15/2026	10/10/2023	111.09659	108.4063644	105.7962864	103.2634669	100.8051397	98.4186566	96.10148189	93.85118661	91.66544326
230928A00017	9/28/2023	4.83	9/28/2028	9/28/2023	120.04152	115.2014399	110.5910041	106.1980246	102.0110297	98.01921612	94.21240563	90.58100595	87.11597354
230929A00031	9/29/2023	5.14	9/29/2025	9/29/2023	106.64246	105.0460876	103.4817508	101.9485551	100.4456356	98.97215968	97.52732453	96.11035642	94.72050914
230929A00033	9/29/2023	4.92	9/29/2026	9/29/2023	110.9948	108.3494537	105.7819679	103.2895756	100.8696239	98.51957162	96.23698368	94.01952582	91.86495975
230929A00061	9/29/2023	4.92	9/29/2026	9/29/2023	110.9948	108.3494537	105.7819679	103.2895756	100.8696239	98.51957162	96.23698368	94.01952582	91.86495975
230929A00059	9/29/2023	5.14	9/29/2025	9/29/2023	106.64246	105.0460876	103.4817508	101.9485551	100.4456356	98.97215968	97.52732453	96.11035642	94.72050914
230929A00062	9/29/2023	4.78	9/29/2027	9/29/2023	115.2467	111.5235944	107.9440977	104.5018503	101.190816	98.00525958	94.93972985	91.98904371	89.14827144
230929A00046	9/29/2023	4.66	9/29/2027	9/29/2023	115.31215	111.5752101	107.9826951	104.5282033	101.2056538	98.0092694	94.93355944	91.97330383	89.1235381
230929A00018	9/29/2023	5.14	9/29/2025	9/29/2023	106.64246	105.0460876	103.4817508	101.9485551	100.4456356	98.97215968	97.52732453	96.11035642	94.72050914
231002A00042	10/2/2023	4.73	10/2/2028	10/2/2023	120.28131	115.40523	110.7614035	106.3374657	102.1217742	98.10336751	94.27192083	90.6177059	87.13155301
231002A00018	10/2/2023	4.87	10/1/2027	10/2/2023	115.59531	111.8603757	108.269613	104.8166336	101.4953717	98.30006447	95.22523477	92.26567517	89.41643309
230914A00027	9/14/2023	4.76	1/8/2027	9/14/2023	111.84265	108.908958	106.0689615	103.3191614	100.6562118	98.07690944	95.57818681	93.15710535	90.81084951
230914A00050	9/14/2023	4.67	9/14/2027	9/14/2023	114.66156	110.9914499	107.4617453	104.0662916	100.7992355	97.65501288	94.62833193	91.71415883	88.90770335
230914A00051	9/14/2023	4.84	9/14/2026	9/14/2023	110.5916	107.9936845	105.4714247	103.0221607	100.6433462	98.33254001	96.08740149	93.90568541	91.78523744
230914A00021	9/14/2023	5.49	9/13/2024	9/14/2023	102.19679	101.6523652	101.113765	100.5808955	100.0536651	99.53198459	99.01576632	98.5049246	97.99937553
230914A00031	9/14/2023	5.08	9/15/2025	9/14/2023	106.34812	104.7934169	103.2695029	101.775536	100.310702	98.87421605	97.46532081	96.08328565	94.72740532
230915A00023	9/15/2023	4.7	9/15/2027	9/15/2023	114.78063	111.1055755	107.5711816	104.1712758	100.8999915	97.75175177	94.72125314	91.80345061	88.9935436
230915A00026	9/15/2023	4.57	9/15/2028	9/15/2023	118.69818	113.9256673	109.3785353	105.0448923	100.9135356	96.97391074	93.21607053	89.63063685	86.208765
230915A00018	9/15/2023	4.88	9/15/2026	9/15/2023	110.70663	108.1044282	105.5780488	103.1248285	100.7422132	98.42775443	96.17910465	93.99401207	91.87031619
231011A00016	10/11/2023	4.75	10/11/2028	10/11/2023	119.82981	114.9583731	110.3195877	105.9010316	101.6910132	97.67852638	93.85320671	90.20529006	86.7255746
231011A00004	10/11/2023	4.81	10/8/2027	10/11/2023	115.46924	111.7173642	108.1109412	104.6434984	101.3088908	98.10128164	95.01512511	92.04514975	89.18634333
231011A00029	10/11/2023	4.81	10/8/2027	10/11/2023	115.46924	111.7173642	108.1109412	104.6434984	101.3088908	98.10128164	95.01512511	92.04514975	89.18634333
231011A00030	10/11/2023	4.75	10/11/2028	10/11/2023	119.82981	114.9583731	110.3195877	105.9010316	101.6910132	97.67852638	93.85320671	90.20529006	86.7255746

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231011A00028	10/11/2023	4.92	10/9/2026	10/11/2023	111.12434	108.450041	105.8550532	103.3365273	100.8917394	98.51808109	96.21305423	93.97426509	91.79941935
231012A00027	10/12/2023	4.78	10/16/2028	10/12/2023	120.02758	115.1377691	110.4819966	106.0477359	101.8232008	97.79729817	93.9595829	90.30021648	86.80992833
231013A00017	10/13/2023	5.13	10/14/2025	10/13/2023	106.82034	105.1820917	103.5772416	102.0048293	100.463935	98.9536733	97.47319188	96.0216699	94.59831648
231013A00020	10/13/2023	4.98	10/13/2026	10/13/2023	111.33351	108.6455712	106.0375746	103.5066374	101.0500053	98.6650415	96.34922096	94.10012465	91.91543438
231003A00011	10/3/2023	4.89	10/15/2027	10/3/2023	115.84853	112.0705712	108.43962	104.9491061	101.5927954	98.36476771	95.25939936	92.27134623	89.39552814
231003A00005	10/3/2023	4.84	10/3/2028	10/3/2023	120.1485	115.2919424	110.6663363	106.2594002	102.0595716	98.05596336	94.23832027	90.59697862	87.12282898
231003A00036	10/3/2023	4.84	10/3/2028	10/3/2023	120.1485	115.2919424	110.6663363	106.2594002	102.0595716	98.05596336	94.23832027	90.59697862	87.12282898
231004A00012	10/5/2023	5.51	10/4/2024	10/5/2023	102.42533	101.8234116	101.2285898	100.640738	100.059734	99.48545852	98.91779494	98.3566294	97.80185062
231004A00006	10/4/2023	4.88	10/4/2028	10/4/2023	120.34426	115.480478	110.8480451	106.4346557	102.2287239	98.21934031	94.39622904	90.74970731	87.27064789
231004A00016	10/4/2023	5.36	4/4/2025	10/4/2023	104.58558	103.4806064	102.3991241	101.3403926	100.3036977	99.28835503	98.29370836	97.31912806	96.36400988
231004A00011	10/5/2023	5.51	10/4/2024	10/5/2023	102.42533	101.8234116	101.2285898	100.640738	100.059734	99.48545852	98.91779494	98.3566294	97.80185062
231005A00037	10/5/2023	4.88	10/5/2027	10/5/2023	115.68293	111.9354415	108.3329408	104.868986	101.5374634	98.3325651	95.24877211	92.28083796	89.42377361
231005A00039	10/5/2023	5.16	10/6/2025	10/5/2023	106.76544	105.149149	103.5655328	102.013664	100.4926521	99.00163989	97.53980155	96.10634136	94.70049233
231005A00035	10/5/2023	4.98	10/5/2026	10/5/2023	111.22888	108.5640733	105.9780398	103.4679649	101.0311518	98.66501769	96.36708855	94.1349933	91.96645894
231005A00040	10/5/2023	4.98	10/5/2026	10/5/2023	111.22888	108.5640733	105.9780398	103.4679649	101.0311518	98.66501769	96.36708855	94.1349933	91.96645894
231016A00016	10/16/2023	5.01	10/16/2026	10/16/2023	111.45174	108.7540725	106.1368062	103.5970379	101.1319909	98.73900732	96.41554203	94.15915728	91.96751719
230712A00035	1/12/2024	4.36	1/12/2026	1/12/2024	106.56483	104.6850437	102.8480208	101.0525335	99.29739953	97.58147809	95.90366777	94.26290507	92.65816282
231017A00017	10/17/2023	5.11	10/16/2026	10/17/2023	111.71508	109.0139121	106.3932251	103.8501139	101.3817993	98.98562112	96.65903205	94.3995922	92.20496361
231017A00008	10/17/2023	5.26	10/17/2025	10/17/2023	107.07205	105.4236121	103.8088736	102.2268683	100.6766641	99.15736412	97.66810515	96.20805598	94.77641591
230915A00054	9/15/2023	4.88	9/15/2026	9/15/2023	110.70663	108.1044282	105.5780488	103.1248285	100.7422132	98.42775443	96.17910465	93.99401207	91.87031619
230915A00055	9/15/2023	4.7	9/15/2027	9/15/2023	114.78063	111.1055755	107.5711816	104.1712758	100.8999915	97.75175177	94.72125314	91.80345061	88.9935436
230915A00028	9/15/2023	4.57	9/15/2028	9/15/2023	118.69818	113.9256673	109.3785353	105.0448923	100.9135356	96.97391074	93.21607053	89.63063685	86.208765
230915A00030	9/15/2023	4.7	9/8/2027	9/15/2023	114.6909	111.0372559	107.5228907	104.141716	100.8879462	97.75607983	94.74088405	91.83737982	89.04082814
230918A00062	9/18/2023	5.52	9/18/2024	9/18/2023	102.26514	101.7069805	101.1549411	100.6089183	100.0688141	99.53453227	99.00597879	98.48306168	97.96569088
231017A00046	10/17/2023	5.26	10/17/2025	10/17/2023	107.07205	105.4236121	103.8088736	102.2268683	100.6766641	99.15736412	97.66810515	96.20805598	94.77641591
231018A00026	10/18/2023	5.28	1/7/2026	10/18/2023	108.22473	106.3423722	104.5024934	102.7038868	100.9453855	99.22586295	97.54423157	95.89944083	94.29047588
230918A00008	9/18/2023	4.91	9/18/2026	9/18/2023	110.82292	108.2107783	105.6749123	103.2126324	100.821363	98.49863579	96.24208397	94.04943787	91.91852006
230918A00088	9/18/2023	5.53	9/18/2024	9/18/2023	102.27072	101.7125469	101.1604898	100.6144496	100.0743281	99.54002904	99.0114585	98.48852446	97.97113685
230918A00018	9/18/2023	5.01	3/18/2026	9/18/2023	108.6609	106.5779172	104.5460685	102.5637597	100.6294609	98.74170098	96.89906428	95.10018852	93.3437622
230918A00011	9/18/2023	4.91	9/18/2026	9/18/2023	110.82292	108.2107783	105.6749123	103.2126324	100.821363	98.49863579	96.24208397	94.04943787	91.91852006
230918A00027	9/18/2023	5.11	9/30/2025	9/18/2023	106.60795	105.0090681	103.4423063	101.9067636	100.4015718	98.92589484	97.47892694	96.05989141	94.66803931
230918A00023	9/18/2023	4.91	9/18/2026	9/18/2023	110.82292	108.2107783	105.6749123	103.2126324	100.821363	98.49863579	96.24208397	94.04943787	91.91852006
231019A00031	1/22/2024	5.12	1/30/2026	1/22/2024	108.22323	106.2792522	104.3804586	102.5255212	100.7131632	98.94215404	97.2113065	95.51947531	93.86555521

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231019A00036	10/19/2023	5.27	10/20/2025	10/19/2023	107.12827	105.4712676	103.8482523	102.2582384	100.7002822	99.17347619	97.67694678	96.20985307	94.77138516
231019A00041	10/19/2023	5.08	10/19/2028	10/19/2023	121.45331	116.522453	111.8275192	107.355878	103.0956428	99.03562624	95.16529533	91.47472929	87.95458052
231019A00043	10/19/2023	5.19	10/19/2026	10/19/2023	111.9667	109.2540008	106.6222862	104.0686276	101.590222	99.18438675	96.84855338	94.58026203	92.37715591
231019A00006	10/19/2023	5.29	10/20/2025	10/19/2023	107.1612	105.5039266	103.8806363	102.2903523	100.7321307	99.20506382	97.70827808	96.24093242	94.8022168
231019A00007	10/19/2023	5.19	10/19/2026	10/19/2023	111.9667	109.2540008	106.6222862	104.0686276	101.590222	99.18438675	96.84855338	94.58026203	92.37715591
231019A00009	10/19/2023	5.14	10/19/2027	10/19/2023	116.80962	113.0032032	109.3450799	105.8286083	102.4474887	99.1957399	96.06768066	93.05791287	90.16130566
231019A00044	10/19/2023	5.14	10/19/2027	10/19/2023	116.80962	113.0032032	109.3450799	105.8286083	102.4474887	99.1957399	96.06768066	93.05791287	90.16130566
231101A00016	11/1/2023	4.99	11/3/2025	11/1/2023	107.09981	105.4006752	103.7369934	102.107715	100.5118361	98.94839199	97.41645528	95.91513388	94.44356941
231102A00032	11/2/2023	4.91	11/2/2026	11/2/2023	111.40796	108.6644301	106.0037522	103.4228873	100.9189346	98.48911992	96.1307886	93.84139989	91.61852099
231102A00033	11/2/2023	4.83	11/2/2027	11/2/2023	115.86181	112.0339186	108.3565817	104.8229977	101.4267154	98.16161273	95.0218779	92.00199162	89.09671038
231102A00031	11/2/2023	5.1	11/3/2025	11/2/2023	107.0286	105.3345187	103.6757095	102.0511364	100.4598021	98.90074779	97.373052	95.87582813	94.40822305
230919A00029	9/19/2023	4.63	9/19/2028	9/19/2023	119.01852	114.2273685	109.6628318	105.3129296	101.1663801	97.21255523	93.44144008	89.84359352	86.41011243
230919A00055	9/19/2023	4.65	9/19/2028	9/19/2023	119.10956	114.3163546	109.7498344	105.3980168	101.2496171	97.29400457	93.52116153	89.92164438	86.48654765
231020A00061	10/20/2023	5.32	4/21/2025	10/20/2023	104.76099	103.609006	102.4825269	101.3807111	100.3027532	99.24788231	98.21536062	97.20448149	96.21456778
231207A00010	12/7/2023	4.38	12/7/2027	12/7/2023	114.61919	110.716331	106.9706619	103.3749377	99.92229656	96.60623243	93.42057453	90.35946766	87.41735409
231207A00034	12/7/2023	4.7	12/5/2025	12/7/2023	106.73841	104.9587988	103.2177166	101.5140001	99.84653456	98.21424974	96.61611721	95.05114853	93.51839321
231207A00035	12/7/2023	4.47	12/7/2026	12/7/2023	110.64398	107.8138236	105.071737	102.4144228	99.83873008	97.34164747	94.92029603	92.57192222	90.29389153
231207A00016	12/7/2023	4.47	12/7/2026	12/7/2023	110.64398	107.8138236	105.071737	102.4144228	99.83873008	97.34164747	94.92029603	92.57192222	90.29389153
231207A00014	12/7/2023	4.7	12/8/2025	12/7/2023	106.77358	104.9856276	103.2365301	101.52513	99.85031144	98.21100217	96.60617138	95.0348277	93.49601724
231207A00011	12/7/2023	4.28	12/7/2028	12/7/2023	118.26302	113.2686585	108.5202022	104.0041558	99.70783934	95.61933576	91.72744095	88.02161681	84.4919478
231207A00018	12/7/2023	4.7	12/8/2025	12/7/2023	106.77358	104.9856276	103.2365301	101.52513	99.85031144	98.21100217	96.60617138	95.0348277	93.49601724
231102A00064	1/22/2024	5.01	1/22/2026	1/22/2024	107.91064	105.9911658	104.1158655	102.2834581	100.4927072	98.74242045	97.03144737	95.3586775	93.72303886
231102A00024	11/2/2023	4.78	11/2/2028	11/2/2023	120.22979	115.2880263	110.5846898	106.1069136	101.8426002	97.78036944	93.90951186	90.21994523	86.70217414
231102A00022	11/2/2023	4.91	11/10/2026	11/2/2023	111.51309	108.7457653	106.0625548	103.4603545	100.9361987	98.48725255	96.11080436	93.80425977	91.56513559
231102A00039	11/2/2023	4.91	10/28/2026	11/2/2023	111.34302	108.6141313	105.9673305	103.3996233	100.9081473	98.49016409	96.14305305	93.86430519	91.65151767
230919A00082	9/19/2023	5.17	9/19/2025	9/19/2023	106.55677	104.9889806	103.4523613	101.9460506	100.4692192	99.02106792	97.60082607	96.20775014	94.84112269
230919A00047	9/19/2023	4.98	8/19/2026	9/19/2023	110.6049	108.0784832	105.6240026	103.238992	100.9210859	98.66801393	96.47759649	94.34774048	92.27643536
230919A00010	9/19/2023	4.76	9/20/2027	9/19/2023	115.0582	111.364039	107.8116393	104.3947637	101.1074836	97.94416384	94.89944674	91.96823657	89.14568523
230920A00002	9/20/2023	4.47	10/2/2028	9/20/2023	119.08499	114.2361713	109.6186576	105.2201214	101.0289596	97.03424795	93.22569709	89.59361237	86.12885608
231020A00049	10/20/2023	5.03	10/20/2027	10/20/2023	116.42289	112.6207394	108.9668705	105.45464	102.0777436	98.8301959	95.70631182	92.70069	89.80819662
231020A00048	10/20/2023	5.08	10/20/2026	10/20/2023	111.68948	108.9777453	106.3470593	103.7944825	101.3172073	98.91254663	96.57792812	94.31088811	92.10906639
231020A00051	10/20/2023	5.02	10/20/2028	10/20/2023	121.18783	116.2602771	111.568685	107.1004087	102.8435525	98.78692112	94.91997454	91.23278568	87.71600138
231020A00067	10/20/2023	5.32	4/15/2025	10/20/2023	104.68354	103.5482552	102.4377619	101.3512507	100.2879488	99.24711639	98.22804475	97.2300548	96.25249549

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231020A00069	10/20/2023	5.08	10/15/2026	10/20/2023	111.62273	108.925512	106.3086064	103.7691145	101.304265	98.91140528	96.58799522	94.33160157	92.13989272
231020A00070	10/20/2023	5.19	10/15/2025	10/20/2023	106.93123	105.2893581	103.6809906	102.1051631	100.5609517	99.04746692	97.56385284	96.10928502	94.68296923
231020A00041	10/20/2023	5.19	10/20/2025	10/20/2023	106.99651	105.3406315	103.7187163	102.129783	100.5728885	99.04712568	97.55162156	96.08553569	94.6480586
231227A00023	12/27/2023	3.98	12/27/2028	12/27/2023	117.01954	112.0001661	107.2308559	102.6978194	98.38809359	94.28949263	90.3905576	86.68050926	83.14920437
231227A00030	12/27/2023	4.44	6/27/2025	12/27/2023	104.70743	103.3755298	102.0679452	100.7840439	99.52321959	98.28488659	97.06847892	95.8734495	94.69926935
231227A00027	12/27/2023	4.42	12/26/2025	12/27/2023	106.49069	104.656851	102.8638222	101.1104372	99.3955728	97.71814509	96.07710839	94.47145332	92.90020536
231227A00026	12/27/2023	4.6	6/27/2025	12/27/2023	104.70678	103.3782394	102.0739046	100.793147	99.53536422	98.29997397	97.08641367	95.89413943	94.72262533
231227A00005	12/27/2023	4.17	12/28/2026	12/27/2023	110.03658	107.1583583	104.3713884	101.6722821	99.05779681	96.52482785	94.07040171	91.69166989	89.38590283
231227A00028	12/27/2023	4.85	2/4/2025	12/27/2023	103.35157	102.4127211	101.4909978	100.5859309	99.69707118	98.82398543	97.96625578	97.123479	96.2952659
231227A00039	12/27/2023	4.6	6/27/2025	12/27/2023	104.70678	103.3782394	102.0739046	100.793147	99.53536422	98.29997397	97.08641367	95.89413943	94.72262533
231103A00034	11/3/2023	4.49	11/3/2028	11/3/2023	119.54554	114.5969431	109.8879738	105.4056668	101.1378307	97.07299893	93.20038232	89.50982535	85.99176515
231103A00008	11/3/2023	4.97	11/3/2025	11/3/2023	106.80952	105.117343	103.4604033	101.8376663	100.2481356	98.69085338	97.16489893	95.66938649	94.20346371
231103A00029	11/3/2023	4.75	11/3/2026	11/3/2023	110.99189	108.2512043	105.5933856	103.0153985	100.5143383	98.08742683	95.73200634	93.44553299	91.22557118
231103A00002	11/3/2023	4.67	11/29/2027	11/3/2023	115.61439	111.7147937	107.9712518	104.3765897	100.9240074	97.60705913	94.41963227	91.35592776	88.41044198
230920A00025	9/20/2023	5.14	9/16/2025	9/20/2023	106.47013	104.9113997	103.3835705	101.8857949	100.4172542	98.97715956	97.56474984	96.17929075	94.82007357
230920A00026	9/20/2023	4.9	9/16/2026	9/20/2023	110.77086	108.1650118	105.6351503	103.1785973	100.7927911	98.47527659	96.22369956	94.03580207	91.90941782
231227A00013	12/27/2023	4.44	6/27/2025	12/27/2023	104.70743	103.3755298	102.0679452	100.7840439	99.52321959	98.28488659	97.06847892	95.8734495	94.69926935
231023A00048	10/23/2023	5.04	10/25/2027	10/23/2023	116.52613	112.7082962	109.0397769	105.5138639	102.1241911	98.86471554	95.72969872	92.71368924	89.81150664
231228A00023	12/28/2023	4.4	12/26/2025	12/28/2023	106.45408	104.6205896	102.8278982	101.0748445	99.3603052	97.68319676	96.0424736	94.43712649	92.86618108
231228A00026	12/28/2023	3.96	12/28/2028	12/28/2023	116.93239	111.9123746	107.1426123	102.6092965	98.29945069	94.20087647	90.30210283	86.59233917	83.06143151
231228A00025	12/28/2023	4.05	12/28/2027	12/28/2023	113.59629	109.6557326	105.8762311	102.2503489	98.77103471	95.43159795	92.2256881	89.14727582	86.19063495
231228A00022	12/28/2023	4.61	6/27/2025	12/28/2023	104.7201	103.3914687	102.0870424	100.806195	99.54832383	98.31284668	97.09920089	95.90684255	94.73524568
231228A00024	12/28/2023	4.15	12/28/2026	12/28/2023	109.97993	107.1025142	104.3163328	101.6179962	99.00426242	96.47202729	94.01831789	91.64028625	89.33520334
231023A00029	10/23/2023	5.19	10/23/2025	10/23/2023	107.03568	105.3713844	103.7413352	102.1445347	100.5800284	99.04689833	97.54426135	96.07126726	94.6270974
231023A00028	10/23/2023	5.33	4/23/2025	10/23/2023	104.79835	103.6407194	102.5088386	101.4018506	100.3189387	99.25932172	98.22225195	97.20701344	96.21292032
231024A00039	10/24/2023	5.06	10/26/2026	10/24/2023	111.71635	108.9879007	106.3413612	103.7737547	101.2822299	98.86405876	96.51663017	94.2374442	92.02410642
231024A00046	10/24/2023	4.96	10/24/2028	10/24/2023	120.95913	116.0256896	111.3290187	106.8563994	102.5958724	98.53618433	94.66674152	90.97756789	87.45926522
231024A00082	10/24/2023	5.05	10/23/2026	10/24/2023	111.64995	108.9305662	106.2926472	103.7332329	101.2494943	98.83872443	96.49833196	94.22583563	92.01885854
231024A00079	10/24/2023	5.18	10/24/2025	10/24/2023	107.03215	105.3651965	103.7325743	102.1332876	100.5663781	99.03092438	97.52603978	96.05087098	94.60459629
231024A00010	12/18/2023	5.43	12/18/2024	12/18/2023	103.29069	102.4819334	101.6859044	100.9023055	100.1308463	99.37124556	98.6232308	97.88653769	97.16090997
231024A00007	10/30/2023	5.5	10/30/2024	10/30/2023	102.71727	102.0438857	101.379351	100.7234963	100.0761522	99.43715371	98.80634	98.18355438	97.56864417
231024A00076	10/24/2023	5.31	4/24/2025	10/24/2023	104.78814	103.6278681	102.4934597	101.3840563	100.2988357	99.23701164	98.19783148	97.18057469	96.18455102
231024A00008	10/30/2023	5.5	10/30/2024	10/30/2023	102.71727	102.0438857	101.379351	100.7234963	100.0761522	99.43715371	98.80634	98.18355438	97.56864417

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231024A00011	12/18/2023	5.43	12/18/2024	12/18/2023	103.29069	102.4819334	101.6859044	100.9023055	100.1308463	99.37124556	98.6232308	97.88653769	97.16090997
231024A00030	10/24/2023	4.96	10/24/2028	10/24/2023	120.95913	116.0256896	111.3290187	106.8563994	102.5958724	98.53618433	94.66674152	90.97756789	87.45926522
231024A00029	10/24/2023	4.97	10/25/2027	10/24/2023	116.2704	112.4572267	108.7932357	105.2717204	101.8863196	98.63099503	95.50001243	92.48792467	89.58955535
231024A00017	10/24/2023	4.97	10/25/2027	10/24/2023	116.2704	112.4572267	108.7932357	105.2717204	101.8863196	98.63099503	95.50001243	92.48792467	89.58955535
231025A00004	10/25/2023	5.07	10/24/2025	10/25/2023	107.1022	105.4303214	103.7929437	102.1890633	100.6177159	99.07797406	97.56894564	96.089772	94.63962643
231025A00003	10/25/2023	5.07	10/24/2025	10/25/2023	107.1022	105.4303214	103.7929437	102.1890633	100.6177159	99.07797406	97.56894564	96.089772	94.63962643
231025A00013	10/25/2023	5.08	10/26/2026	10/25/2023	111.76957	109.0404	106.3931625	103.8248739	101.3326825	98.91385971	96.56579404	94.28598511	92.07203804
231025A00018	10/25/2023	5.19	10/27/2025	10/25/2023	107.08789	105.4123754	103.7714744	102.1641799	100.5895223	99.04656887	97.53442277	96.05222078	94.59913189
231025A00036	10/25/2023	5.08	10/21/2026	10/25/2023	111.70282	108.9881897	106.3547462	103.7995515	101.3197907	98.91276976	96.57590982	94.30674116	92.10289778
231025A00024	10/25/2023	5	10/25/2028	10/25/2023	121.15749	116.2167007	111.5130834	107.0339001	102.7671673	98.70160857	94.82660926	91.13217356	87.60888495
231025A00068	10/25/2023	5.33	4/25/2025	10/25/2023	104.82421	103.6610109	102.5237955	101.4117017	100.3239019	99.25960429	98.21805143	97.19851801	96.20030935
230719A00091	11/13/2023	4.56	11/14/2025	11/13/2023	106.2469	104.5292816	102.8479205	101.2017345	99.58968278	98.01076567	96.4640228	94.94853105	93.46340271
230719A00101	10/16/2023	4.65	10/17/2025	10/16/2023	106.07242	104.4324327	102.8260013	101.2521564	99.7099697	98.19854833	96.71703273	95.26459527	93.84043867
230719A00096	12/18/2023	4.46	12/19/2025	12/18/2023	106.48624	104.6711806	102.8961483	101.1599834	99.46156614	97.79981805	96.17369988	94.58220999	93.02438257
231027A00043	10/27/2023	4.99	10/27/2026	10/27/2023	111.54321	108.8143537	106.1675036	103.5996709	101.1079987	98.68975345	96.34231933	94.06319174	91.84997193
231027A00019	10/27/2023	4.99	10/27/2026	10/27/2023	111.54321	108.8143537	106.1675036	103.5996709	101.1079987	98.68975345	96.34231933	94.06319174	91.84997193
231027A00021	10/27/2023	5.13	10/30/2025	10/27/2023	107.02659	105.3435192	103.6953268	102.0809957	100.499545	98.95003155	97.43154851	95.94322316	94.48421553
231027A00036	10/27/2023	5.13	11/3/2025	10/27/2023	107.07916	105.3846361	103.7253956	102.1003988	100.5086482	98.94918497	97.42108732	95.9234685	94.4554752
231027A00035	10/27/2023	4.99	10/30/2026	10/27/2023	111.58252	108.8449514	106.1898371	103.614162	101.1150469	98.68973754	96.3355982	94.05010584	91.83084425
231027A00028	10/27/2023	4.92	10/23/2028	10/27/2023	120.76098	115.8348852	111.1451511	106.6790865	102.4247568	98.37093125	94.50703741	90.82311878	87.30979541
231030A00007	10/30/2023	5.32	4/30/2025	10/30/2023	104.87714	103.7000596	102.5495714	101.4247786	100.3248255	99.2488941	98.1962021	97.16600076	96.15757325
231030A00061	10/30/2023	5.32	4/30/2025	10/30/2023	104.87714	103.7000596	102.5495714	101.4247786	100.3248255	99.2488941	98.1962021	97.16600076	96.15757325
231030A00035	10/30/2023	4.85	10/30/2028	10/30/2023	121.18314	116.20797	111.472738	106.9645028	102.6710921	98.5810558	94.68361803	90.96863408	87.42654961
231211A00071	12/11/2023	5.22	12/16/2024	12/11/2023	103.0894	102.2870468	101.4972407	100.7196888	99.95410669	99.200219	98.45775856	97.72646637	97.00609119
231211A00057	12/11/2023	4.58	12/11/2029	12/11/2023	123.44068	117.2829674	111.4823114	106.0159624	100.8627467	96.00294496	91.41818499	87.09134211	83.006448
231212A00016	12/12/2023	4.59	12/7/2026	12/12/2023	110.97702	108.1422038	105.3955708	102.7338171	100.1537886	97.65247051	95.22698084	92.87456303	90.59257967
231212A00018	12/12/2023	4.5	12/6/2027	12/12/2023	115.05988	111.1514656	107.4002741	103.7990643	100.3409751	97.01950172	93.82847445	90.76203936	87.81463998
231212A00067	12/12/2023	4.82	12/12/2025	12/12/2023	107.0355	105.2344287	103.4726962	101.749141	100.0626443	98.41213043	96.79656417	95.21494924	93.66632625
231212A00008	12/12/2023	5.26	12/12/2024	12/12/2023	103.07409	102.2826168	101.5033569	100.7360262	99.98035147	99.23606807	98.50291919	97.78065573	97.06903597
231212A00009	12/12/2023	5.01	6/12/2025	12/12/2023	105.04985	103.757295	102.4924533	101.2544363	100.0423897	98.85549569	97.69297093	96.55406471	95.43805728
231212A00007	12/12/2023	5.16	2/5/2025	12/12/2023	103.65519	102.7121081	101.786268	100.8771992	99.98444789	99.10757692	98.24616444	97.39980346	96.56810122
231213A00019	12/13/2023	4.97	6/13/2025	12/13/2023	105.01164	103.7167852	102.4494099	101.2086402	99.99363827	98.80360177	97.63776175	96.49538102	95.37575244
231213A00018	12/13/2023	4.99	6/16/2025	12/13/2023	105.07798	103.7750035	102.4988174	101.2486009	100.0235653	98.82295435	97.64604204	96.49213144	95.36055314

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231213A00049	12/13/2023	4.14	12/13/2028	12/13/2023	117.65426	112.657911	107.908516	103.3924965	99.09709659	95.01032732	91.12091625	87.41826063	83.89238393
231214A00029	12/14/2023	4.49	12/15/2025	12/14/2023	106.47765	104.6736869	102.9093032	101.1833333	99.4946598	97.84220741	96.22494087	94.64186312	93.09201354
231214A00058	12/14/2023	4.69	6/13/2025	12/14/2023	104.64935	103.3569574	102.0919999	100.8536071	99.64094226	98.45320418	97.28962497	96.14946844	95.03202845
231214A00074	12/14/2023	4.69	6/13/2025	12/14/2023	104.64935	103.3569574	102.0919999	100.8536071	99.64094226	98.45320418	97.28962497	96.14946844	95.03202845
231214A00075	12/14/2023	4.49	12/15/2025	12/14/2023	106.47765	104.6736869	102.9093032	101.1833333	99.4946598	97.84220741	96.22494087	94.64186312	93.09201354
231214A00036	12/14/2023	4.19	12/14/2026	12/14/2023	109.94235	107.1031673	104.352945	101.6883582	99.10623104	96.60352676	94.17734018	91.82489126	89.54351873
231214A00003	12/14/2023	4.7	6/16/2025	12/14/2023	104.70037	103.3999736	102.1263223	100.8785977	99.65601223	98.45781081	97.28326858	96.13168968	95.00240571
231215A00018	12/15/2023	4.19	12/15/2027	12/15/2023	113.99018	110.0774299	106.3232018	102.7201845	99.26144982	95.94042669	92.75088099	89.68689606	86.74285468
231218A00052	12/18/2023	4.54	12/18/2025	12/18/2023	106.61982	104.8061928	103.032508	101.2976027	99.60035704	97.9396925	96.31457023	94.72398906	93.16698388
231218A00027	12/18/2023	4.96	2/19/2025	12/18/2023	103.62821	102.647473	101.6853819	100.7414113	99.81505176	98.90581282	98.01322207	97.13682436	96.27618103
231218A00023	12/18/2023	4.76	6/18/2025	12/18/2023	104.80421	103.4979972	102.2180766	100.9636659	99.73401054	98.52838612	97.34609655	96.18647288	95.0488719
231218A00070	12/18/2023	4.6	6/18/2025	12/18/2023	104.80484	103.495349	102.2122653	100.9548029	99.72220273	98.51373612	97.32870302	96.1664307	95.02627237
231219A00060	12/19/2023	4.22	6/21/2027	12/19/2023	112.12723	108.7328687	105.4611562	102.3069832	99.26548411	96.33202241	93.50217878	90.77173951	88.13668574
231219A00012	12/19/2023	4.54	12/19/2025	12/19/2023	106.63113	104.8147239	103.0383693	101.3009064	99.60121477	97.93821524	96.31086796	94.71817068	93.15915702
231219A00008	12/19/2023	5.05	12/19/2024	12/19/2023	102.98671	102.1766952	101.379477	100.5947527	99.82222964	99.06162424	98.31266166	97.57507543	96.84860721
231219A00009	12/19/2023	4.75	6/19/2025	12/19/2023	104.80397	103.4951988	102.2124934	100.9550839	99.72223237	98.51322994	97.32739515	96.16407274	95.0226323
231219A00015	12/19/2023	4.17	12/20/2027	12/19/2023	113.96867	110.0427524	106.276397	102.6622482	99.19332795	95.86301692	92.66503405	89.59341723	86.64250534
231219A00007	12/19/2023	5.05	12/19/2024	12/19/2023	102.98671	102.1766952	101.379477	100.5947527	99.82222964	99.06162424	98.31266166	97.57507543	96.84860721
231219A00011	12/19/2023	4.75	6/19/2025	12/19/2023	104.80397	103.4951988	102.2124934	100.9550839	99.72223237	98.51322994	97.32739515	96.16407274	95.0226323
231219A00013	12/19/2023	4.27	12/18/2026	12/19/2023	110.20989	107.3561595	104.5921242	101.9144368	99.31990026	96.80545618	94.36817785	92.00526368	89.71403103
231229A00017	12/29/2023	4.42	12/29/2025	12/29/2023	106.52364	104.6814576	102.8804275	101.1193814	99.39719403	97.71277917	96.06508796	94.45310744	92.87585907
231229A00061	12/29/2023	4.74	4/29/2025	12/29/2023	104.18525	103.0151713	101.8714914	100.7533269	99.65982972	98.59018864	97.54362786	96.51940488	95.51680878
231229A00071	12/29/2023	4.42	12/29/2025	12/29/2023	106.52364	104.6814576	102.8804275	101.1193814	99.39719403	97.71277917	96.06508796	94.45310744	92.87585907
231229A00065	12/29/2023	4.6	7/29/2025	12/29/2023	105.06261	103.6470036	102.2575753	100.8936637	99.55462564	98.23983896	96.94870192	95.68063225	94.43506639
231229A00062	12/29/2023	4.74	4/29/2025	12/29/2023	104.18525	103.0151713	101.8714914	100.7533269	99.65982972	98.59018864	97.54362786	96.51940488	95.51680878
231229A00066	12/29/2023	4.6	7/29/2025	12/29/2023	105.06261	103.6470036	102.2575753	100.8936637	99.55462564	98.23983896	96.94870192	95.68063225	94.43506639
231229A00068	12/29/2023	4.42	12/29/2025	12/29/2023	106.52364	104.6814576	102.8804275	101.1193814	99.39719403	97.71277917	96.06508796	94.45310744	92.87585907
231229A00067	12/29/2023	4.6	7/29/2025	12/29/2023	105.06261	103.6470036	102.2575753	100.8936637	99.55462564	98.23983896	96.94870192	95.68063225	94.43506639
231229A00063	12/29/2023	4.74	4/29/2025	12/29/2023	104.18525	103.0151713	101.8714914	100.7533269	99.65982972	98.59018864	97.54362786	96.51940488	95.51680878
231229A00070	12/29/2023	4.42	12/29/2025	12/29/2023	106.52364	104.6814576	102.8804275	101.1193814	99.39719403	97.71277917	96.06508796	94.45310744	92.87585907
231219A00016	12/19/2023	4.27	12/18/2026	12/19/2023	110.20989	107.3561595	104.5921242	101.9144368	99.31990026	96.80545618	94.36817785	92.00526368	89.71403103
231219A00025	12/19/2023	4.06	12/15/2028	12/19/2023	117.2907	112.2975194	107.5515015	103.0390493	98.74738728	94.66450804	90.77912151	87.08060832	83.55897627
231219A00019	12/19/2023	4.17	12/15/2027	12/19/2023	113.91433	110.0030177	106.2501807	102.6485134	99.19108884	95.87133767	92.68302713	89.62024193	86.67736614

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231220A00028	12/20/2023	4.13	12/20/2027	12/20/2023	113.81644	109.8934033	106.1298498	102.5184195	99.05213747	95.72438752	92.52889143	89.45968986	86.51112428
231220A00036	12/20/2023	4.87	2/27/2025	12/20/2023	103.63023	102.6278576	101.6449564	100.68096	99.73532613	98.80753286	97.89707804	97.00347819	96.12626767
231106A00020	11/6/2023	5.02	11/6/2025	11/6/2023	106.93256	105.2310126	103.5650288	101.9335539	100.3355783	98.77013169	97.23628156	95.733131	94.25981711
231106A00007	11/6/2023	4.78	11/5/2027	11/6/2023	115.7168	111.8831011	108.2005009	104.6621575	101.2615839	97.99262461	94.84943708	91.82647326	88.91846303
231220A00015	12/20/2023	4.48	12/19/2025	12/20/2023	106.52247	104.7070664	102.9317035	101.1952141	99.4964783	97.83441735	96.2079919	94.61620016	93.05807618
231220A00014	12/20/2023	4.99	12/20/2024	12/20/2023	102.94914	102.1365902	101.3369176	100.549819	99.77499872	99.01217063	98.26105721	97.52138956	96.79290691
231220A00032	12/20/2023	4.57	12/19/2025	12/20/2023	106.68547	104.8685526	103.0917021	101.3537525	99.653583	97.99011419	96.36230599	94.76915594	93.20969743
231220A00008	12/20/2023	4.99	12/18/2024	12/20/2023	102.93488	102.1276925	101.3332158	100.551152	99.7812111	99.02311232	98.27658331	97.54136008	96.81718665
231220A00030	12/20/2023	4.48	12/22/2025	12/20/2023	106.55591	104.7321719	102.9488062	101.2046513	99.4985856	97.82952811	96.19643661	94.59830589	93.03416623
231220A00031	12/20/2023	4.23	12/21/2026	12/20/2023	110.13033	107.2696462	104.4991076	101.8153612	99.21519698	96.69554287	94.25345859	91.88612886	89.59085732
231220A00027	12/20/2023	4.99	12/16/2024	12/20/2023	102.90468	102.1031358	101.3141305	100.5373707	99.77257206	99.0194594	98.27776572	97.54723214	96.82760757
231221A00086	12/21/2023	4.48	6/23/2025	12/21/2023	104.71055	103.3888846	102.0924616	100.8205773	99.57255712	98.34775143	97.1455343	95.96530247	94.80647422
240102A00055	1/2/2024	4.23	1/4/2027	1/2/2024	110.28233	107.3818128	104.5737826	101.8547958	99.22155812	96.67091534	94.19984616	91.80545612	89.48497146
231107A00011	11/7/2023	4.84	11/9/2026	11/7/2023	111.31102	108.5492495	105.871369	103.2742903	100.7550581	98.31084647	95.93895281	93.63679105	91.40188588
231107A00009	11/7/2023	5.03	11/7/2025	11/7/2023	106.96244	105.2578711	103.5889658	101.9546701	100.35397	98.78589109	97.24949697	95.74388703	94.26819485
231108A00026	11/8/2023	5.04	11/7/2025	11/8/2023	106.9794	105.2746845	103.6056336	101.9711949	100.3703543	98.80213746	97.26560775	95.75986455	94.28404139
231108A00028	11/8/2023	4.83	11/9/2026	11/8/2023	111.28404	108.5226278	105.8451062	103.2483781	100.7294883	98.28561145	95.91404498	93.61220311	91.37761073
231108A00015	11/8/2023	4.83	11/9/2026	11/8/2023	111.28404	108.5226278	105.8451062	103.2483781	100.7294883	98.28561145	95.91404498	93.61220311	91.37761073
240102A00029	1/2/2024	4.66	7/2/2025	1/2/2024	104.84677	103.5042908	102.1855154	100.8898667	99.61678693	98.36573599	97.13619054	95.92764343	94.73960309
240103A00026	1/3/2024	4.28	1/4/2027	1/3/2024	110.42491	107.5223512	104.7123237	101.9913876	99.35624699	96.80374617	94.33086243	91.93469994	89.61248363
240103A00025	1/3/2024	4.48	1/2/2026	1/3/2024	106.67854	104.8242273	103.0115451	101.2393162	99.50640409	97.81171153	96.15417865	94.53278156	92.94653089
240103A00004	1/3/2024	4.48	1/5/2026	1/3/2024	106.71199	104.8493924	103.0287742	101.2489444	99.50875259	97.80708813	96.14287854	94.51508782	92.92271507
240103A00003	1/3/2024	4.71	7/3/2025	1/3/2024	104.92536	103.5796764	102.257798	100.9591412	99.68314506	98.42926621	97.19697833	95.98577137	94.79515101
240103A00005	1/3/2024	4.28	1/4/2027	1/3/2024	110.42491	107.5223512	104.7123237	101.9913876	99.35624699	96.80374617	94.33086243	91.93469994	89.61248363
240103A00018	1/3/2024	4.28	1/4/2027	1/3/2024	110.42491	107.5223512	104.7123237	101.9913876	99.35624699	96.80374617	94.33086243	91.93469994	89.61248363
240104A00068	1/4/2024	4.76	7/3/2025	1/4/2024	104.99279	103.6466328	102.3242866	101.0251697	99.74872118	98.49439738	97.26167179	96.05003418	94.85899001
240104A00064	1/4/2024	5.04	1/3/2025	1/4/2024	103.15688	102.3054205	101.4680647	100.6444681	99.83429303	99.03721285	98.25291144	97.4810828	96.72143062
240104A00014	1/4/2024	4.72	7/3/2025	1/4/2024	104.93884	103.5930677	102.2710957	100.9723469	99.69626028	98.44229244	97.20991702	95.99862393	94.80791881
231221A00014	12/21/2023	4.14	6/21/2027	12/21/2023	111.86244	108.4724665	105.2050246	102.0550081	99.01755532	96.08803355	93.26202712	90.53532582	87.90391413
231221A00104	12/21/2023	4.3	12/30/2025	12/21/2023	106.57476	104.724717	102.9161322	101.1478284	99.4186724	97.72757035	96.07346592	94.45533878	92.87220317
231221A00008	12/21/2023	3.99	12/21/2028	12/21/2023	117.01163	112.0087585	107.2543739	102.7347892	98.43714075	94.34933728	90.46000924	86.75846204	83.23463244
231221A00039	12/21/2023	3.99	12/21/2028	12/21/2023	117.01163	112.0087585	107.2543739	102.7347892	98.43714075	94.34933728	90.46000924	86.75846204	83.23463244
231221A00003	12/21/2023	4.39	12/22/2025	12/21/2023	106.39217	104.5699614	102.7880963	101.0454145	99.34079508	97.67315776	96.04146102	94.44470036	92.8819067

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231221A00006	12/21/2023	4.14	12/21/2026	12/21/2023	109.87712	107.0200181	104.252981	101.5726531	98.97582676	96.45943254	94.02053261	91.65631403	89.3640827
231222A00027	12/22/2023	4.84	2/21/2025	12/22/2023	103.53286	102.5472155	101.5804227	100.631939	99.70124691	98.78784841	97.89126381	97.01103107	96.14670497
231222A00019	12/22/2023	4.92	12/23/2024	12/22/2023	102.93302	102.1123197	101.304756	100.510015	99.72779232	98.95779344	98.19973286	97.45333396	96.71832863
231222A00032	12/22/2023	4.94	12/16/2024	12/22/2023	102.86452	102.0631552	101.274324	100.4977363	99.73310801	98.98016384	98.23863684	97.50826817	96.78880678
231222A00004	12/22/2023	4	12/22/2028	12/22/2023	117.06906	112.0621038	107.3039447	102.7808771	98.48001876	94.38926064	90.49721656	86.7931761	83.26706104
231222A00039	12/22/2023	4.44	12/22/2025	12/22/2023	106.48314	104.6600783	102.8773796	101.1338794	99.42845648	97.76003018	96.12755857	94.53003677	92.96649533
231222A00014	12/22/2023	4.92	12/20/2024	12/22/2023	102.89215	102.079855	101.2804325	100.4935812	99.71900565	98.95641951	98.20554545	97.46611457	96.73786617
231226A00098	12/26/2023	4.67	6/26/2025	12/26/2023	104.78742	103.4608774	102.1587765	100.8804753	99.62535368	98.3928134	97.1822766	95.99318509	94.82499954
231226A00024	12/26/2023	4.03	12/26/2028	12/26/2023	117.25114	112.2289601	107.4567842	102.9208287	98.60813855	94.50653567	90.60456833	86.89146412	83.3570862
231113A00034	11/13/2023	5.16	11/13/2025	11/13/2023	107.26278	105.5389557	103.8514547	102.1991898	100.58112	98.99624553	97.44360594	95.92227782	94.43137317
231113A00038	11/13/2023	4.97	11/13/2026	11/13/2023	111.7151	108.9366218	106.2427842	103.6304586	101.0966534	98.63850894	96.25329075	93.93838274	91.69128131
231113A00036	11/13/2023	5.3	5/15/2025	11/13/2023	105.04658	103.8279602	102.6378143	101.4751538	100.3390319	99.22854516	98.14283054	97.08106353	96.04245587
231114A00074	11/14/2023	4.6	11/14/2028	11/14/2023	119.52708	114.5675476	109.8489811	105.3582902	101.0831726	97.01206046	93.13407271	89.43896974	85.91711197
231114A00072	11/14/2023	4.67	11/15/2027	11/14/2023	115.43778	111.5810155	107.8772693	104.3195724	100.9013132	97.61622066	94.45834485	91.42203801	88.50193733
231114A00046	11/14/2023	4.62	11/14/2028	11/14/2023	119.62117	114.6594418	109.9387611	105.4460306	101.1689446	97.09593237	93.2161098	89.51923449	85.99566424
231114A00032	11/14/2023	5.35	11/14/2024	11/14/2023	102.79436	102.0800577	101.3757264	100.6811569	99.99614679	99.32049933	98.654023	97.99653155	97.34784374
231114A00028	11/14/2023	4.68	11/15/2027	11/14/2023	115.47489	111.6174342	107.9130212	104.3546771	100.9357893	97.65008629	94.49161733	91.45473407	88.53407311
231114A00026	11/14/2023	4.97	11/14/2025	11/14/2023	106.95018	105.2263428	103.5388826	101.8867072	100.2687724	98.68407586	97.13165438	95.61058215	94.11996889
231114A00027	11/14/2023	4.76	11/13/2026	11/14/2023	111.14604	108.3753363	105.6890934	103.0841864	100.5576295	98.10656832	95.72827335	93.42013346	91.17964973
231115A00039	11/15/2023	4.85	11/16/2026	11/15/2023	111.42886	108.645892	105.9479458	103.3318635	100.7946323	98.33337255	95.94533086	93.62787366	91.3784809
231117A00002	11/17/2023	4.76	11/12/2026	11/17/2023	111.13331	108.3655723	105.6821383	103.07989	100.5558494	98.10717007	95.73112961	93.42512364	91.18665961
231117A00003	11/17/2023	4.59	11/17/2028	11/17/2023	119.5145	114.5467464	109.820732	105.3233028	101.0420993	96.96550111	93.0825789	89.38304863	85.85722989
231117A00001	11/17/2023	4.99	11/12/2025	11/17/2023	106.9588	105.2404276	103.558225	101.9111142	100.2980599	98.71806761	97.17018185	95.65348402	94.16709068
231121A00015	11/21/2023	4.75	11/30/2026	11/21/2023	111.33491	108.514041	105.7803543	103.1305753	100.5615774	98.07037454	95.65411362	93.31006726	91.03562736
231122A00029	11/22/2023	5.05	11/24/2025	11/22/2023	107.21743	105.4635071	103.7470268	102.0668533	100.4218981	98.81111633	97.23350507	95.68810074	94.17397735
231127A00026	11/27/2023	4.61	11/27/2028	11/27/2023	119.72415	114.723085	109.9665532	105.4411829	101.1344138	97.03444094	93.13016474	89.41114475	85.86755642
231127A00024	11/27/2023	4.78	11/27/2026	11/27/2023	111.37924	108.5661598	105.8398034	103.196922	100.6344134	98.14931446	95.73879322	93.4001424	91.13077271
231127A00025	11/27/2023	4.68	11/29/2027	11/27/2023	115.65188	111.7515799	108.0073578	104.4120355	100.9588123	97.64124161	94.4532102	91.38891833	88.44286177
231127A00065	11/27/2023	5.03	11/26/2025	11/27/2023	107.20847	105.4490798	103.7273367	102.0420969	100.392263	98.77678202	97.19464311	95.64487532	94.12654568
231128A00003	11/28/2023	4.41	11/30/2028	11/28/2023	119.47879	114.4545998	109.6770842	105.1327118	100.8087689	96.69330939	92.77510353	89.04359065	85.48883525
231128A00002	11/28/2023	4.41	11/30/2028	11/28/2023	119.47879	114.4545998	109.6770842	105.1327118	100.8087689	96.69330939	92.77510353	89.04359065	85.48883525
231128A00009	11/28/2023	4.73	12/14/2026	11/28/2023	111.45133	108.5909097	105.8199547	103.1351254	100.5332305	98.01121823	95.56616894	93.19528879	90.89590324
240105A00015	1/5/2024	4.99	1/6/2025	1/5/2024	103.14882	102.2893014	101.4441618	100.613044	99.79560075	98.99149582	98.20040408	97.42201091	96.65601174

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231129A00073	11/29/2023	4.81	5/29/2025	11/29/2023	104.81352	103.5554934	102.3278211	101.1294134	99.95923129	98.81628417	97.69962754	96.60836011	95.54162141
231129A00006	11/29/2023	4.25	11/29/2028	11/29/2023	118.70579	113.7026603	108.9452912	104.4201966	100.1147101	96.01692978	92.11566738	88.40040102	84.8612316
240105A00028	1/5/2024	4.76	7/7/2025	1/5/2024	105.0385	103.6814208	102.3485162	101.039191	99.75287168	98.48900282	97.24704654	96.02648174	94.82680347
240105A00017	1/5/2024	4.29	1/5/2027	1/5/2024	110.46438	107.5585731	104.7454825	102.0216527	99.38377892	96.82869678	94.35337556	91.9549118	89.63052325
240108A00041	1/9/2024	4.13	1/9/2029	1/9/2024	117.86717	112.7923235	107.9717163	103.3912543	99.03769656	94.89859868	90.96226127	87.21768158	83.65450853
240108A00038	1/8/2024	4.13	1/8/2029	1/8/2024	117.85767	112.7857538	107.9678035	103.3897471	99.03836397	94.90122857	90.96665885	87.22366795	83.66191947
240108A00049	1/11/2024	4.95	1/10/2025	1/11/2024	103.16003	102.289662	101.4340409	100.5927953	99.7655642	98.95199889	98.15176202	97.3645273	96.58997904
240108A00040	1/8/2024	4.13	1/8/2029	1/8/2024	117.85767	112.7857538	107.9678035	103.3897471	99.03836397	94.90122857	90.96665885	87.22366795	83.66191947
240108A00023	1/8/2024	4.27	1/8/2027	1/8/2024	110.43996	107.5264843	104.7062054	101.9756486	99.33148336	96.77052106	94.28970814	91.88611961	89.5569529
240108A00022	1/8/2024	4.46	1/8/2026	1/8/2024	106.70812	104.8375917	103.0093846	101.2222957	99.47516078	97.76685601	96.09629631	94.46243369	92.86425578
240108A00037	1/8/2024	4.69	7/8/2025	1/8/2024	104.95456	103.595431	102.2605536	100.9493322	99.66119048	98.39557031	97.15193127	95.92974979	94.72851856
240108A00047	1/11/2024	4.95	1/10/2025	1/11/2024	103.16003	102.289662	101.4340409	100.5927953	99.7655642	98.95199889	98.15176202	97.3645273	96.58997904
240108A00018	1/8/2024	4.94	1/8/2025	1/8/2024	103.12855	102.2637255	101.4134656	100.5774026	99.75518259	98.946463	98.15091266	97.36821118	96.59804845
240108A00020	1/8/2024	4.68	7/8/2025	1/8/2024	104.94094	103.5819047	102.2471227	100.935995	99.64794551	98.38241604	97.13886622	95.91677252	94.71562767
231129A00039	11/29/2023	4.97	5/30/2025	11/29/2023	104.82506	103.5673497	102.3399949	101.1419061	99.97204379	98.82941681	97.71308016	96.62213214	95.55571187
231130A00073	11/30/2023	4.61	11/30/2026	11/30/2023	110.94904	108.1335327	105.4050802	102.7604126	100.1964075	97.71008234	95.29858763	92.95919945	90.68931299
231130A00074	11/30/2023	4.45	11/30/2028	11/30/2023	118.99911	114.0065659	109.2587285	104.7421941	100.4443695	96.3534206	92.45822162	88.74830878	85.21383672
231130A00072	11/30/2023	4.83	12/1/2025	11/30/2023	106.92053	105.1499697	103.4175318	101.7220562	100.0624288	98.43758066	96.84648551	95.28815778	93.76165045
240109A00030	1/9/2024	4.99	1/9/2025	1/9/2024	103.18338	102.315604	101.4624818	100.6236479	99.79874469	98.98742661	98.18935935	97.40421951	96.63169417
240109A00031	1/9/2024	4.73	7/9/2025	1/9/2024	105.0204	103.6581491	102.3202504	101.0061021	99.71512451	98.44675643	97.20045437	95.97569188	94.77195885
240109A00042	1/9/2024	3.99	1/9/2029	1/9/2024	117.86667	112.7707831	107.930788	103.3324672	98.96246948	94.80824869	90.85801101	87.10066612	83.52578179
240109A00048	1/9/2024	4.12	1/9/2029	1/9/2024	117.8186	112.7449255	107.9254428	103.3460646	98.99355166	94.85546145	90.92009618	87.17645465	83.61418726
240109A00006	1/9/2024	4.71	7/9/2025	1/9/2024	104.9931	103.6310424	102.2933352	100.9793752	99.68858272	98.42039672	97.17427378	95.94968751	94.7461279
240109A00025	1/9/2024	4.47	1/9/2026	1/9/2024	106.7379	104.8644288	103.0334	101.2436051	99.493875	97.78308137	96.11013474	94.473983	92.8736098
240110A00010	1/10/2024	4.42	1/12/2026	1/10/2024	106.67743	104.7965638	102.9584785	101.1619486	99.40579132	97.68886529	96.01006861	94.36833729	92.76264369
231201A00034	12/1/2023	4.62	3/2/2026	12/1/2023	107.66894	105.6395135	103.6593028	101.7268049	99.84057156	97.99920854	96.20137332	94.44577281	92.73116107
240110A00001	1/10/2024	4.42	1/9/2026	1/10/2024	106.64448	104.7718976	102.9417468	101.1528134	99.40392903	97.69396563	96.02183421	94.38648303	92.78689615
240110A00021	1/10/2024	4.13	1/10/2028	1/10/2024	114.04133	110.0572026	106.2371789	102.5736373	99.05934823	95.68745359	92.45144556	89.34514699	86.36269285
240111A00016	1/11/2024	4.63	7/11/2025	1/11/2024	104.90603	103.5392984	102.1970838	100.8787797	99.58380064	98.31157979	97.06156833	95.83323468	94.62606387
240111A00020	1/11/2024	4.93	1/13/2025	1/11/2024	103.17666	102.2981081	101.4345856	100.5857055	99.751097	98.93040151	98.12327248	97.3293748	96.54838434
240111A00021	1/11/2024	4.47	7/11/2025	1/11/2024	104.90689	103.5366671	102.1910687	100.8694902	99.57134228	98.29605469	97.04307521	95.8118691	94.60191828
240111A00031	1/11/2024	4.19	1/11/2027	1/11/2024	110.24298	107.3243116	104.4992782	101.7643706	99.11623434	96.55165832	94.06756776	91.66101771	89.3291868
240111A00025	1/11/2024	4.19	1/11/2027	1/11/2024	110.24298	107.3243116	104.4992782	101.7643706	99.11623434	96.55165832	94.06756776	91.66101771	89.3291868

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240112A00022	1/12/2024	4.24	1/12/2026	1/12/2024	106.33962	104.4620034	102.6271053	100.8337032	99.08061594	97.36670369	95.69086609	94.05204062	92.44920108
240112A00044	1/12/2024	4.24	1/12/2026	1/12/2024	106.33962	104.4620034	102.6271053	100.8337032	99.08061594	97.36670369	95.69086609	94.05204062	92.44920108
240112A00047	1/12/2024	4.46	7/14/2025	1/12/2024	104.70484	103.3316141	101.9831459	100.6588256	99.35805907	98.08027116	96.82490508	95.59142162	94.37929849
240112A00040	1/12/2024	4.24	1/12/2026	1/12/2024	106.33962	104.4620034	102.6271053	100.8337032	99.08061594	97.36670369	95.69086609	94.05204062	92.44920108
240112A00034	1/12/2024	4.46	7/11/2025	1/12/2024	104.67303	103.3079734	101.967399	100.6507075	99.35731408	98.08665277	96.83817541	95.6113511	94.40566549
240112A00014	1/12/2024	4.8	1/10/2025	1/12/2024	103.02926	102.1595094	101.3044986	100.4638561	99.6372211	98.82424493	98.0245904	97.23793136	96.46395224
240112A00015	1/12/2024	4.78	1/17/2025	1/12/2024	103.08841	102.1994842	101.3259487	100.4674073	99.62347569	98.79378241	97.97796859	97.17568735	96.38660327
240112A00027	1/12/2024	4.79	1/15/2025	1/12/2024	103.07539	102.1919227	101.3236631	100.4702183	99.63121071	98.80627551	97.99506004	97.19722335	96.41243576
240112A00036	1/12/2024	4.07	1/12/2027	1/12/2024	109.90883	106.9923186	104.1694911	101.4368328	98.79098415	96.22872937	93.74698927	91.34281485	89.01338098
240112A00052	1/12/2024	4.07	1/12/2027	1/12/2024	109.90883	106.9923186	104.1694911	101.4368328	98.79098415	96.22872937	93.74698927	91.34281485	89.01338098
240112A00050	1/12/2024	4.3	7/11/2025	1/12/2024	104.67364	103.305082	101.9611287	100.6411675	99.34460995	98.07088645	96.81944551	95.58975303	94.38129162
240112A00033	1/12/2024	4.46	7/11/2025	1/12/2024	104.67303	103.3079734	101.967399	100.6507075	99.35731408	98.08665277	96.83817541	95.6113511	94.40566549
240116A00006	1/16/2024	4.5	7/16/2025	1/16/2024	104.78142	103.4023395	102.0482138	100.71842	99.41235751	98.12944488	96.86911937	95.63083604	94.41406709
240116A00083	1/16/2024	4.53	7/16/2025	1/16/2024	104.82295	103.4435665	102.0891457	100.7590619	99.4527142	98.16952109	96.90891968	95.67036491	94.45332887
240116A00008	1/16/2024	4.81	1/17/2025	1/16/2024	103.11514	102.2260859	101.3524232	100.4937561	99.64970036	98.81988439	98.00394934	97.20154826	96.41234574
240117A00021	1/17/2024	4.06	1/17/2029	1/17/2024	118.28539	113.1575972	108.2882125	103.6628258	99.2679068	95.09074437	91.11939253	87.34262069	83.74986718
240117A00023	1/17/2024	4.13	1/19/2027	1/17/2024	110.54471	107.5914137	104.7336602	101.9678435	99.29051288	96.69836627	94.18824315	91.7571176	89.40209182
240117A00054	1/17/2024	4.22	1/18/2028	1/17/2024	114.47621	110.4621086	106.6141059	102.9244472	99.38578175	95.99113836	92.73390371	89.6078022	86.60687689
240118A00020	1/18/2024	4.25	2/18/2027	1/18/2024	110.84442	107.8101575	104.8765198	102.0396146	99.29571887	96.64127403	94.07287824	91.58727835	89.1813625
240119A00044	1/23/2024	4.23	1/23/2029	1/23/2024	118.48959	113.3618204	108.4925755	103.8674264	99.47282466	95.29604295	91.32512098	87.54881551	83.95655374
240119A00028	1/19/2024	4.48	1/13/2026	1/19/2024	106.80118	104.9164654	103.0746692	101.2745612	99.51495327	97.79469909	96.11269191	94.46786315	92.85918076
240119A00029	1/19/2024	4.3	1/13/2027	1/19/2024	110.58071	107.6518092	104.816991	102.072728	99.41564442	96.84250922	94.35022868	91.93583992	89.59650466
231205A00025	12/5/2023	4.61	12/15/2025	12/5/2023	106.96772	105.1543549	103.3808329	101.6459859	99.94868741	98.28785295	96.66243876	95.07143962	93.51388714
231206A00012	12/6/2023	4.31	12/6/2028	12/6/2023	118.3958	113.4010355	108.6520319	104.1353027	99.83817924	95.74875539	91.85583739	88.14889691	84.61802767
231206A00046	12/6/2023	4.39	12/6/2027	12/6/2023	114.64542	110.7447962	107.0011606	103.4072835	99.95631248	96.6417506	93.45743588	90.39752169	87.45645858
231206A00047	12/6/2023	4.31	12/6/2028	12/6/2023	118.3958	113.4010355	108.6520319	104.1353027	99.83817924	95.74875539	91.85583739	88.14889691	84.61802767
231206A00016	12/6/2023	4.74	6/6/2025	12/6/2023	104.82887	103.5499613	102.3002606	101.0787697	99.88453264	98.71663628	97.57420832	96.4564148	95.36245808
231206A00065	12/6/2023	4.58	12/8/2025	12/6/2023	106.83088	105.0375993	103.283368	101.5670192	99.88742978	98.24352045	96.63425388	95.05863242	93.51569624
231206A00070	12/6/2023	4.58	12/8/2025	12/6/2023	106.83088	105.0375993	103.283368	101.5670192	99.88742978	98.24352045	96.63425388	95.05863242	93.51569624
240119A00003	1/19/2024	4.68	7/21/2025	1/19/2024	105.0866	103.6920446	102.3229409	100.9786459	99.65854182	98.3620313	97.0885361	95.83749649	94.6083705
240119A00007	1/19/2024	4.23	1/19/2029	1/19/2024	118.45052	113.3345455	108.4759892	103.8605134	99.47465284	95.30575636	91.3419339	87.57200676	83.98546155
240119A00022	1/19/2024	4.9	1/30/2025	1/19/2024	103.34178	102.4164618	101.5077768	100.6152762	99.73852966	98.87712228	98.03065348	97.19873655	96.38099804
240119A00008	1/19/2024	4.89	1/24/2025	1/19/2024	103.2651	102.3563941	101.4637491	100.5867383	99.72495288	98.87799809	98.04549277	97.22706873	96.42237023

	Parallel-Shift Sensitivity Analysis												
2/29/2024					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	1/19/2024	103.33445	102.4064645	101.4952043	100.6002194	99.72107603	98.85735575	98.0086548	97.17458338	96.3547651
240119A00024	1/19/2024	4.49	1/20/2026	1/19/2024	106.89819	104.9939152	103.1333886	101.3153484	99.53857298	97.80188403	96.10414429	94.44425613	92.82115979
240122A00002	1/22/2024	4.66	7/22/2025	1/22/2024	105.06978	103.6727022	102.3011571	100.954507	99.63213112	98.33342902	97.05781959	95.80474036	94.57364672
240122A00015	1/22/2024	4.93	1/16/2025	1/22/2024	103.21071	102.3238981	101.4523894	100.5957925	99.7537262	98.92582225	98.11172474	97.31108965	96.52358429
240122A00016	1/22/2024	4.66	7/22/2025	1/22/2024	105.06978	103.6727022	102.3011571	100.954507	99.63213112	98.33342902	97.05781959	95.80474036	94.57364672
240122A00014	1/22/2024	4.93	1/16/2025	1/22/2024	103.21071	102.3238981	101.4523894	100.5957925	99.7537262	98.92582225	98.11172474	97.31108965	96.52358429
240122A00050	1/22/2024	4.25	1/22/2027	1/22/2024	110.53442	107.582074	104.7253015	101.9604904	99.28418628	96.69308374	94.18401913	91.75396366	89.40001689
240122A00086	1/22/2024	4.25	1/22/2027	1/22/2024	110.53442	107.582074	104.7253015	101.9604904	99.28418628	96.69308374	94.18401913	91.75396366	89.40001689
240122A00006	1/22/2024	4.25	1/22/2027	1/22/2024	110.53442	107.582074	104.7253015	101.9604904	99.28418628	96.69308374	94.18401913	91.75396366	89.40001689
240122A00005	1/22/2024	4.45	1/22/2026	1/22/2024	106.84438	104.9352997	103.0701975	101.2477964	99.46686562	97.72621789	96.02470758	94.36122903	92.73471484
240123A00037	1/23/2024	4.2	1/17/2029	1/23/2024	118.28464	113.1780884	108.3282777	103.720917	99.34258799	95.18068289	91.2233516	87.45945236	83.87850586
240125A00007	1/25/2024	4.27	1/25/2027	1/25/2024	110.6251	107.6633893	104.7977856	102.0246513	99.34050403	96.74201244	94.22598822	91.78937939	89.42926357
240125A00040	1/25/2024	4.24	12/15/2026	1/25/2024	110.09298	107.248989	104.4941644	101.8251802	99.23885471	96.7321447	94.30213893	91.94605121	89.66121422
240125A00035	1/25/2024	4.89	1/24/2025	1/25/2024	103.2651	102.3563941	101.4637491	100.5867383	99.72495288	98.87799809	98.04549277	97.22706873	96.42237023
240126A00006	1/26/2024	4.89	1/31/2025	1/26/2024	103.34374	102.4157121	101.5044059	100.6093756	99.7301873	98.8664227	98.01767797	97.18356331	96.3637023
240126A00007	1/26/2024	4.9	1/24/2025	1/26/2024	103.2742	102.3654516	101.4727624	100.595708	99.73387945	98.88688208	98.0543347	97.2358691	96.43112952
240129A00054	1/29/2024	4.72	1/29/2025	1/29/2024	103.3101	102.385611	101.4777223	100.5859896	99.70998406	98.84929158	98.00351267	97.17226162	96.35516589
240129A00009	1/29/2024	4.72	1/29/2025	1/29/2024	103.3101	102.385611	101.4777223	100.5859896	99.70998406	98.84929158	98.00351267	97.17226162	96.35516589
240129A00056	1/29/2024	4.72	1/29/2025	1/29/2024	103.3101	102.385611	101.4777223	100.5859896	99.70998406	98.84929158	98.00351267	97.17226162	96.35516589
240129A00066	1/29/2024	4.88	1/23/2025	1/29/2024	103.24478	102.3388855	101.4489488	100.5745548	99.71529795	98.87078704	98.04064408	97.22450394	96.42201379
240130A00068	1/30/2024	4.17	1/30/2029	1/30/2024	118.26313	113.1218751	108.2408174	103.6053852	99.20189548	95.01749742	91.04011751	87.25840866	83.66170286
240130A00089	1/30/2024	4.17	1/30/2029	1/30/2024	118.26313	113.1218751	108.2408174	103.6053852	99.20189548	95.01749742	91.04011751	87.25840866	83.66170286
240130A00036	1/30/2024	4.94	1/30/2025	1/30/2024	103.37884	102.4533436	101.5444756	100.6517943	99.77486927	98.91328562	98.06664269	97.23455376	96.41664532
240130A00057	1/30/2024	4.15	1/29/2027	1/30/2024	110.71214	107.7294415	104.8440432	102.0522388	99.35048581	96.73539604	94.20372758	91.75237784	89.37837675
240130A00059	1/30/2024	4.33	1/30/2026	1/30/2024	106.97529	105.0385938	103.147049	101.2993267	99.49414888	97.73028341	96.00654187	94.32177787	92.67488514
240130A00076	1/30/2024	4.94	1/30/2025	1/30/2024	103.37884	102.4533436	101.5444756	100.6517943	99.77486927	98.91328562	98.06664269	97.23455376	96.41664532
240130A00044	1/30/2024	4.14	1/30/2029	1/30/2024	118.11573	112.978052	108.1004451	103.4683375	99.06805187	94.88674279	90.91234188	87.1335069	83.53957444
240130A00047	1/30/2024	4.01	1/30/2029	1/30/2024	118.16511	113.0047639	108.106231	103.4548131	99.03671692	94.83898932	90.84946228	87.05670122	83.4499571
240130A00003	1/30/2024	4.62	7/30/2025	1/30/2024	105.10204	103.6834865	102.2912084	100.9245414	99.58283882	98.26547542	96.97184627	95.70136615	94.45346863
240130A00070	1/30/2024	4.33	1/30/2026	1/30/2024	106.97529	105.0385938	103.147049	101.2993267	99.49414888	97.73028341	96.00654187	94.32177787	92.67488514
240130A00005	1/30/2024	4.62	7/30/2025	1/30/2024	105.10204	103.6834865	102.2912084	100.9245414	99.58283882	98.26547542	96.97184627	95.70136615	94.45346863
240130A00051	1/30/2024	4.94	1/24/2025	1/30/2024	103.31061	102.4016815	101.5088156	100.6315867	99.76958576	98.92241808	98.08970243	97.27107058	96.4661667
231005A00054	10/5/2023	4.98	10/5/2026	10/5/2023	111.22888	108.5640733	105.9780398	103.4679649	101.0311518	98.66501769	96.36708855	94.1349933	91.96645894

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231005A00003	10/5/2023	5.14	10/6/2025	10/5/2023	106.73326	105.1172432	103.5338898	101.9822793	100.4615211	98.97075827	97.50916503	96.07594581	94.6703337
231031A00021	10/31/2023	5.18	10/30/2025	10/31/2023	107.11031	105.4265106	103.777608	102.1625795	100.5804436	99.03025696	97.51111236	96.02213679	94.56248998
231031A00022	10/31/2023	5.04	10/30/2026	10/31/2023	111.7161	108.9767309	106.3198573	103.7424633	101.2416685	98.81471716	96.45897268	94.1719108	91.95111425
231031A00033	10/31/2023	5.05	10/30/2026	10/31/2023	111.74281	109.0030868	106.3458614	103.7681236	101.2669928	98.83971309	96.48364758	94.19627179	91.97516826
231226A00027	12/26/2023	4.22	12/28/2026	12/26/2023	110.17821	107.2979686	104.5090273	101.8079968	99.1916328	96.65682925	94.20061126	91.82012898	89.51265156
231226A00095	12/26/2023	4.22	12/28/2026	12/26/2023	110.17821	107.2979686	104.5090273	101.8079968	99.1916328	96.65682925	94.20061126	91.82012898	89.51265156
231226A00043	12/26/2023	4.46	12/26/2025	12/26/2023	106.5639	104.7293737	102.93567	101.1816227	99.46610799	97.78804175	96.14637797	94.54010696	92.96825392
201007A00008	10/7/2020	1.22	10/7/2030	10/7/2020	103.55251	97.9819822	92.77041278	87.89235702	83.32431551	79.04457655	75.03307049	71.27123672	67.74190211
201007A00010	10/7/2020	1.22	10/7/2030	10/7/2020	103.55251	97.9819822	92.77041278	87.89235702	83.32431551	79.04457655	75.03307049	71.27123672	67.74190211
201007A00014	10/7/2020	0.8	10/7/2025	10/7/2020	99.779851	98.19316805	96.63967167	95.11837987	93.6283492	92.16867322	90.73848063	89.33693355	87.96322587
201015A00020	10/15/2020	0.94	10/15/2027	10/15/2020	101.44562	98.06153922	94.81165916	91.68986307	88.69035414	85.80763426	83.03648662	80.3719594	77.80935058
200709A00025	7/9/2020	1.37	7/9/2030	7/9/2020	104.52659	98.91612916	93.6601812	88.73423084	84.11558274	79.78322118	75.71767742	71.90090806	68.31618368
200709A00021	7/9/2020	0.83	7/9/2025	7/9/2020	99.71618	98.34369538	96.99707835	95.67565932	94.37879181	93.10585099	91.85623284	90.62935324	89.42464716
201109A00012	11/9/2020	1.39	11/8/2030	11/9/2020	104.70502	98.83889905	93.35936808	88.23856939	83.45080683	78.97236478	74.78134502	70.85751794	67.18218664
200605A00016	6/5/2020	1.02	6/5/2025	6/5/2020	99.945193	98.6566199	97.39092051	96.14753616	94.92592601	93.72556634	92.5459498	91.38658482	90.24699503
200605A00017	6/5/2020	1.02	6/5/2025	6/5/2020	99.945193	98.6566199	97.39092051	96.14753616	94.92592601	93.72556634	92.5459498	91.38658482	90.24699503
200605A00014	6/5/2020	1.02	6/5/2025	6/5/2020	99.945193	98.6566199	97.39092051	96.14753616	94.92592601	93.72556634	92.5459498	91.38658482	90.24699503
210107A00007	1/7/2021	0.84	1/7/2026	1/7/2021	99.981751	98.15391668	96.36909505	94.62601109	92.92343615	91.26018598	89.63511888	88.04713383	86.49516872
201211A00001	12/11/2020	0.95	12/11/2030	12/11/2020	102.59296	97.22507463	92.20390549	87.50464961	83.10442247	78.98209576	75.11815352	71.4945608	68.09464364
200813A00019	8/13/2020	1.44	8/13/2030	8/13/2020	104.95204	99.25168006	93.91599392	88.91943967	84.23840356	79.85104181	75.73713888	71.87797786	68.25622178
200813A00020	8/13/2020	1.44	8/13/2030	8/13/2020	104.95204	99.25168006	93.91599392	88.91943967	84.23840356	79.85104181	75.73713888	71.87797786	68.25622178
200813A00023	8/13/2020	0.86	10/14/2025	8/13/2020	99.890723	98.27409458	96.6916004	95.14221918	93.62497094	92.1389146	90.68314601	89.25679611	87.85902919
210201A00002	2/1/2021	1.19	2/1/2036	2/1/2021	103.05793	97.18737029	91.78522225	86.80800306	82.21668189	77.97618602	74.05496875	70.42462738	67.05956516
200911A00013	9/11/2020	0.69	9/11/2025	9/11/2020	99.563072	98.03471886	96.53744634	95.07036803	93.63263099	92.22341428	90.8419274	89.48740886	88.15912487
200911A00011	9/11/2020	1.18	9/11/2030	9/11/2020	103.42454	97.73365308	92.41071629	87.42970597	82.76657899	78.39911226	74.30675543	70.47049637	66.87273804
200911A00012	9/11/2020	1.18	9/11/2030	9/11/2020	103.42454	97.73365308	92.41071629	87.42970597	82.76657899	78.39911226	74.30675543	70.47049637	66.87273804
210809A00010	8/9/2021	1.06	8/7/2026	8/9/2021	100.86934	98.53210508	96.2624575	94.05804224	91.91659917	89.83596097	87.81404869	85.84886751	83.93850279
210915A00027	9/15/2021	1.1	9/15/2026	9/15/2021	101.05937	98.62825084	96.26942741	93.98029248	91.75835284	89.60122191	87.50661431	85.47234084	83.49630368
211007A00006	10/7/2021	1.28	10/7/2026	10/7/2021	101.57533	99.08032905	96.66081954	94.31402578	92.03729575	89.82809355	87.68399338	85.60267387	83.58191272
210921A00006	9/21/2021	1.43	9/21/2028	9/21/2021	104.1694	99.93370564	95.9008939	92.06009145	88.40106656	84.91419023	81.5903972	78.42114968	75.39840366
210921A00009	9/21/2021	1.28	9/21/2028	9/21/2021	104.08005	99.83529504	95.79425312	91.94598642	88.28020463	84.78722465	81.45793127	78.28374052	75.25656572
211208A00012	12/8/2021	1.62	12/8/2026	12/8/2021	102.67059	100.0084812	97.43109427	94.93527738	92.51800914	90.17639681	87.90767005	85.70917505	83.57836901
211014A00012	10/14/2021	1.46	10/14/2031	10/14/2021	103.933	100.0500283	96.37655729	92.89913887	89.60529967	86.48346003	83.52286373	80.71351369	78.04611308

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
220111A00005	1/11/2022	1.54	1/10/2025	1/11/2022	100.24568	99.32124122	98.41393929	97.52330398	96.64887809	95.79022104	94.94690808	94.11852964	93.30469063
220520A00006	5/20/2022	3.02	5/20/2027	5/20/2022	107.94781	104.833558	101.83018	98.93308364	96.13789486	93.44044546	90.83676223	88.32305656	85.89571476
220916A00018	9/16/2022	4.07	9/16/2027	9/16/2022	111.479	108.1383996	104.9241352	101.8306426	98.85263662	95.98509611	93.22324919	90.56255924	87.99871184
220919A00036	9/19/2022	4.11	9/19/2029	9/19/2022	119.16834	113.5761939	108.2969014	103.3110709	98.60061816	94.14867348	89.93949354	85.95838002	82.19160453
220617A00030	6/17/2022	3.43	6/17/2025	6/17/2022	101.54505	100.8322155	100.1317191	99.44321193	98.76635685	98.10083007	97.44632036	96.80252839	96.16916621
220617A00061	6/17/2022	3.26	6/17/2024	6/17/2022	100.35891	100.1562719	99.95458828	99.75384982	99.55404931	99.35517958	99.15723355	98.96020421	98.76408463
220411A00008	4/11/2022	3.02	4/12/2027	4/11/2022	107.83557	104.7581445	101.7879745	98.92065197	96.15198344	93.47797473	90.89482003	88.39889158	85.98673007
211110A00012	11/10/2021	1.44	11/10/2026	11/10/2021	102.09323	99.50987847	97.00680275	94.58100869	92.22963244	89.9499362	87.73930167	85.59522392	83.51530566
211110A00014	11/10/2021	1.44	11/10/2026	11/10/2021	102.09323	99.50987847	97.00680275	94.58100869	92.22963244	89.9499362	87.73930167	85.59522392	83.51530566
211110A00013	11/10/2021	1.44	11/10/2026	11/10/2021	102.09323	99.50987847	97.00680275	94.58100869	92.22963244	89.9499362	87.73930167	85.59522392	83.51530566
221201A00068	12/1/2022	4.21	12/1/2027	12/1/2022	112.65931	109.1187182	105.7182165	102.4514431	99.31235858	96.29522951	93.3946107	90.60532948	87.92247054
221017A00055	10/17/2022	4.88	11/18/2024	10/17/2022	101.43217	101.0117491	100.5956752	100.1838696	99.77625969	99.37277451	98.97334477	98.57790283	98.18638263
230110A00035	1/10/2023	4.08	1/10/2028	1/10/2023	113.4268	109.5610777	105.8553453	102.3020768	98.89414075	95.62477829	92.48758134	89.47647266	86.58568694
230113A00057	1/13/2023	3.99	1/13/2028	1/13/2023	112.24332	108.6208364	105.1455512	101.810594	98.6094565	95.53596871	92.58427987	89.74883997	87.02438262
221222A00053	12/22/2022	4.18	12/22/2027	12/22/2022	113.29738	109.5600639	105.9744712	102.5335731	99.23070754	96.05955535	93.01412069	90.08871278	87.27792877
230125A00031	1/25/2023	3.74	1/25/2028	1/25/2023	111.91674	108.2676086	104.7681795	101.4114029	98.19059976	95.09944187	92.13193139	89.28238183	86.54540006
221123A00016	11/23/2022	4.58	11/23/2029	11/23/2022	122.30963	116.4460314	110.9184894	105.7057221	100.7879075	96.14657821	91.7645214	87.62568725	83.71510447
230328A00047	3/28/2023	4.21	3/28/2028	3/28/2023	114.71909	110.6267315	106.7110254	102.9632945	99.37533889	95.93940757	92.64817123	89.49469659	86.47242271
230328A00051	3/28/2023	4.53	3/28/2033	3/28/2023	130.62765	121.8632443	113.8227969	106.4407259	99.65778846	93.42043617	87.68023659	82.39335685	77.52010193
230328A00037	3/28/2023	4.21	3/28/2028	3/28/2023	114.71909	110.6267315	106.7110254	102.9632945	99.37533889	95.93940757	92.64817123	89.49469659	86.47242271
230328A00052	3/28/2023	4.53	3/28/2033	3/28/2023	130.62765	121.8632443	113.8227969	106.4407259	99.65778846	93.42043617	87.68023659	82.39335685	77.52010193
230328A00045	3/28/2023	4.21	3/28/2028	3/28/2023	114.71909	110.6267315	106.7110254	102.9632945	99.37533889	95.93940757	92.64817123	89.49469659	86.47242271
230302A00047	3/2/2023	4.76	3/2/2028	3/2/2023	115.56748	111.7466865	108.085022	104.5748678	101.2090138	97.98063614	94.88327359	91.91080657	89.0574369
230629A00094	6/29/2023	4.41	6/29/2028	6/29/2023	116.73965	112.3072036	108.0766748	104.0377329	100.1806293	96.4961629	92.97564671	89.61087625	86.39410031
230629A00071	6/29/2023	4.41	6/29/2028	6/29/2023	116.73965	112.3072036	108.0766748	104.0377329	100.1806293	96.4961629	92.97564671	89.61087625	86.39410031
230629A00097	6/29/2023	4.41	6/29/2028	6/29/2023	116.73965	112.3072036	108.0766748	104.0377329	100.1806293	96.4961629	92.97564671	89.61087625	86.39410031
230607A00020	6/7/2023	4.28	6/7/2028	6/7/2023	115.70689	111.4157109	107.3168883	103.4007211	99.65804545	96.08020513	92.65902115	89.38676277	86.25612071
161222A00036	12/22/2016	2.69	12/22/2026	12/22/2016	102.65597	101.2057265	99.79029725	98.40855786	97.05943032	95.74187987	94.45491294	93.19757511	91.96894928
161222A00037	12/22/2016	3.08	12/22/2031	12/22/2016	109.80561	105.7787895	101.969124	98.3626043	94.94623974	91.70797747	88.6366281	85.72179767	82.95382548
150601A00440	6/1/2015	3.27	3/16/2029	6/1/2015	106.7473	104.1352465	101.6211409	99.2004481	96.8688756	94.62236039	92.45705479	90.36931368	88.35568236
150601A00450	6/1/2015	3.28	4/27/2029	6/1/2015	106.89567	104.2393547	101.6840058	99.2248934	96.85754125	94.57771478	92.38140643	90.26482194	88.22436747
150601A00460	6/1/2015	3.05	5/16/2029	6/1/2015	106.41019	103.7217642	101.1369298	98.65076783	96.25863441	93.95613898	91.73912886	89.60367469	87.54605689
150601A00506	6/1/2015	3.14	7/6/2029	6/1/2015	106.87417	104.0957879	101.4271876	98.86304867	96.3983444	94.02832764	91.74851342	89.55466264	87.44276689

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00528	6/1/2015	3.08	7/27/2029	6/1/2015	106.71319	103.9368633	101.2703202	98.70823409	96.24557427	93.87759019	91.59979386	89.40794355	87.29802859
150601A00559	6/1/2015	3.06	8/31/2029	6/1/2015	106.76865	103.9501538	101.2445533	98.64630382	96.15017541	93.75123246	91.44481491	89.22652106	87.09219142
150601A00342	6/1/2015	3.97	8/26/2033	6/1/2015	115.66185	110.650406	105.9561157	101.5551434	97.42565749	93.54764671	89.90275441	86.47412953	83.24629183
210603A00008	6/3/2021	1.74	6/3/2036	6/3/2021	107.20093	101.1142205	95.51836783	90.3670997	85.61896265	81.23677982	77.18717555	73.44015601	69.9687392
220722A00036	7/22/2022	3.34	7/22/2025	7/22/2022	101.57848	100.8293482	100.0930096	99.36911943	98.65734123	97.95735131	97.26883798	96.59150098	95.92505096
220916A00021	9/16/2022	4.17	9/16/2027	9/16/2022	106.26827	104.4081925	102.6009055	100.8444738	99.13705095	97.47687143	95.86224665	94.29156089	92.76326761
230428A00055	4/28/2023	4.61	4/28/2026	4/28/2023	104.07189	102.9367366	101.8245811	100.7347584	99.66662688	98.61956903	97.59299051	96.58631893	95.59900288
230622A00019	6/22/2023	4.33	6/22/2028	6/22/2023	115.42311	111.2534377	107.2700252	103.4634548	99.82483353	96.34576399	93.01831373	89.83498726	86.78869963
200611A00010	6/11/2020	1.08	6/11/2027	6/11/2020	101.70707	98.51196852	95.43299794	92.46528835	89.60420183	86.84532249	84.18444431	81.61755978	79.14084915
150512A00029	5/12/2015	3.03	5/12/2025	5/12/2015	102.26978	101.0769295	99.91188917	98.77369854	97.66143674	96.57422459	95.51122226	94.47162713	93.45467172
150519A00013	5/19/2015	2.98	5/19/2025	5/19/2015	102.255	101.0435886	99.86086351	98.70581383	97.57747598	96.47493066	95.39730036	94.34374698	93.31346967
160630A00012	6/30/2016	2.11	6/30/2025	6/30/2016	101.40635	100.0933211	98.80340613	97.536048	96.29070593	95.06685605	93.86399066	92.68161764	91.51925987
160801A00001	8/1/2016	1.97	8/1/2024	8/1/2016	100.22247	99.80002751	99.38113279	98.96574501	98.55382029	98.14531552	97.74018826	97.33839681	96.93990013
150319A00012	3/19/2015	3.13	3/19/2029	3/19/2015	113.5005	108.3397075	103.4482555	98.8106347	94.41231358	90.23966862	86.27992266	82.52108794	78.95191313
150319A00013	3/19/2015	3.25	3/19/2030	3/19/2015	116.323	110.1014317	104.2594318	98.77176996	93.61502354	88.76743809	84.20879996	79.92031944	75.88452328
160726A00005	7/26/2016	2.28	7/27/2026	7/26/2016	103.79532	101.4141103	99.09964848	96.84969128	94.6620868	92.53476768	90.46574725	88.45311592	86.49503764
161222A00030	12/22/2016	3.09	12/22/2026	12/22/2016	107.30443	104.4727234	101.7308041	99.07532108	96.50306797	94.01097682	91.59611112	89.25565935	86.98692884
150317A00012	3/17/2015	2.46	3/18/2024	3/17/2015	100.05457	100.0046212	99.95473642	99.90491906	99.855169	99.8054861	99.75587021	99.70632119	99.65683889
150317A00013	3/17/2015	2.58	3/17/2025	3/17/2015	101.59239	100.5505421	99.53002262	98.53018511	97.55040532	96.59008393	95.64864527	94.72553623	93.82022509
150220A00022	2/20/2015	2.8	2/20/2025	2/20/2015	101.5137	100.5414102	99.58772725	98.65211663	97.73406804	96.83309023	95.94871013	95.080472	94.22793669
121116A00006	11/16/2012	2.64	11/13/2025	11/16/2012	102.94711	101.2613506	99.61122113	97.99565712	96.41363603	94.86417586	93.3463331	91.8592008	90.40190681
121116A00021	11/16/2012	2.35	11/17/2025	11/16/2012	102.72969	101.0304934	99.36746061	97.73950506	96.14558153	94.58468666	93.05585676	91.55816581	90.0907236
121116A00022	11/16/2012	2.78	11/16/2029	11/16/2012	113.73086	107.8883249	102.3861024	97.20251011	92.31736831	87.71188338	83.36854504	79.27103163	75.40412306
130405A00006	4/5/2013	2.41	4/7/2025	4/5/2013	101.52391	100.4262877	99.35233671	98.30129804	97.27244425	96.26507844	95.27853264	94.3121663	93.36536492
130405A00007	4/5/2013	2.91	4/17/2028	4/5/2013	110.63404	106.4321943	102.4150801	98.57356255	94.89900701	91.38325261	88.01858337	84.79770131	81.7137013
140521A00019	5/21/2014	3.43	5/22/2028	5/21/2014	113.11022	108.7614284	104.6069054	100.636869	96.84208605	93.21384057	89.74390142	86.42449232	83.24826385
140626A00036	6/26/2014	3.55	6/26/2029	6/26/2014	117.10685	111.5594296	106.3142174	101.3531328	96.65927207	92.21682213	88.01098505	84.02790772	80.25461688
150826A00038	8/26/2015	2.94	8/26/2026	8/26/2015	105.93539	103.4421181	101.0208566	98.66911452	96.38449873	94.16471346	92.0075556	89.91091039	87.87274724
150826A00039	8/26/2015	3.22	8/27/2029	8/26/2015	115.73755	110.0599994	104.701333	99.64192535	94.86345714	90.34882389	86.08204925	82.04820492	78.23333665
150827A00029	8/27/2015	2.74	8/27/2024	8/27/2015	100.71584	100.2209148	99.73085263	99.24558271	98.76503488	98.28914039	97.81783183	97.35104306	96.88870924
160122A00029	1/22/2016	2.48	1/22/2025	1/22/2016	101.20347	100.3082833	99.42890542	98.56492136	97.71592936	96.88154154	96.06138331	95.2550928	94.46232032
160330A00054	3/30/2016	2.9	3/31/2031	3/30/2016	116.92919	109.6463559	102.8756082	96.57811819	90.71820236	85.26304788	80.18246743	75.44867621	71.03608897
160330A00056	3/30/2016	2.26	3/31/2025	3/30/2016	101.32238	100.2446214	99.18970798	98.15692206	97.14557329	96.15499975	95.18456651	94.23366427	93.3017081

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
160613A00047	6/15/2016	2.18	6/16/2025	6/15/2016	101.41908	100.1410931	98.88946834	97.6633971	96.46210248	95.28483927	94.13089233	92.99957508	91.89022803
160615A00031	6/15/2016	2.51	6/17/2030	6/15/2016	113.02754	106.6343761	100.6479057	95.04010304	89.78501865	84.85861164	80.23859963	75.90432146	71.83661113
160701A00039	7/1/2016	1.92	7/1/2026	7/1/2016	103.11363	100.8020503	98.55370741	96.36653185	94.23853353	92.1677985	90.1524855	88.19082285	86.28110535
051003A00009	10/3/2005	5.15	10/15/2025	10/3/2005	106.8659	105.2245779	103.6167516	102.0414558	100.4977667	98.9847953	97.50168574	96.04761388	94.62178571
091112A00011	11/12/2009	4.77	11/15/2024	11/12/2009	102.53059	101.8127889	101.1050769	100.4072399	99.71907163	99.04037177	98.37094543	97.71060303	97.05916014
160701A00020	7/1/2016	2.13	7/1/2026	7/1/2016	103.30112	100.9935445	98.74896262	96.56532017	94.440638	92.37301248	90.36061221	88.40167481	86.49450392
160815A00005	8/15/2016	2.23	8/17/2026	8/15/2016	103.78763	101.3518187	98.98577121	96.68709504	94.45349349	92.28276229	90.17278516	88.12152977	86.12704385
160815A00006	8/15/2016	2.23	8/17/2026	8/15/2016	103.78763	101.3518187	98.98577121	96.68709504	94.45349349	92.28276229	90.17278516	88.12152977	86.12704385
160815A00007	8/15/2016	2.23	8/17/2026	8/15/2016	103.78763	101.3518187	98.98577121	96.68709504	94.45349349	92.28276229	90.17278516	88.12152977	86.12704385
060808A00022	8/8/2006	5.57	6/15/2026	8/8/2006	111.11823	108.7626663	106.469795	104.2375437	102.0639226	99.94702145	97.8850061	95.87611473	93.91865446
160211A00035	2/11/2016	2.25	2/11/2025	2/11/2016	100.93533	99.99007226	99.06247646	98.15204874	97.2583157	96.38082119	95.51912556	94.67280492	93.8414504
160211A00036	2/11/2016	2.41	2/11/2026	2/11/2016	103.08174	101.154117	99.27228382	97.43487034	95.64056047	93.88808597	92.17622436	90.50379699	88.8696671
160520A00018	9/20/2017	2.34	9/20/2024	9/20/2017	100.49482	99.93689987	99.3851715	98.83953101	98.29987797	97.7661141	97.2381433	96.71587152	96.19920677
160830A00035	8/30/2016	2.06	8/30/2024	8/30/2016	100.32064	99.8194952	99.32334615	98.8321158	98.34573131	97.86412132	97.38721582	96.9149462	96.44724515
160830A00037	8/30/2016	2.16	8/29/2025	8/30/2016	101.73394	100.2623198	98.81942358	97.40448147	96.01675413	94.65552781	93.32011317	92.0098443	90.72407766
160830A00038	8/30/2016	2.24	8/28/2026	8/30/2016	103.87181	101.4062747	99.01213992	96.68692678	94.42825972	92.23385983	90.10154024	88.02920181	86.01482904
051107A00075	11/7/2005	5.29	11/17/2025	11/7/2005	107.80353	106.0592249	104.3519118	102.6804737	101.0438436	99.44099702	97.87094983	96.33275645	94.82550779
160520A00017	9/20/2017	2.34	9/20/2024	9/20/2017	100.49482	99.93689987	99.3851715	98.83953101	98.29987797	97.7661141	97.2381433	96.71587152	96.19920677
130821A00019	8/21/2013	3.81	8/29/2025	8/21/2013	104.45741	102.9605467	101.4929103	100.0537209	98.64222438	97.25769312	95.89942437	94.56673934	93.25898215
130424A00004	4/24/2013	2.46	4/24/2025	4/24/2013	101.67334	100.529393	99.41112439	98.31767298	97.24821952	96.20198046	95.17820605	94.17617851	93.19521036
130424A00005	4/24/2013	3.07	4/24/2030	4/24/2013	116.26869	109.9203783	103.9657715	98.37829445	93.13330557	88.20794564	83.58099966	79.23276994	75.14495978
160802A00003	8/2/2016	2.53	8/1/2031	8/2/2016	114.86071	107.3276182	100.3482163	93.8788314	87.87945154	82.3133985	77.14703444	72.34949556	67.89245042
140922A00026	9/22/2014	3.02	9/30/2024	9/22/2014	101.02791	100.4399808	99.85888692	99.2845083	98.71672904	98.15543591	97.60051825	97.05186791	96.50937916
160328A00045	3/28/2016	2.49	3/27/2026	3/28/2016	103.80914	101.7479681	99.73811316	97.77795263	95.86593207	94.00055733	92.18039172	90.40405335	88.67021257
160329A00045	3/29/2016	2.12	3/29/2024	3/29/2016	100.0586	99.9781941	99.89791696	99.81777277	99.73776121	99.65788194	99.57813465	99.49851899	99.41903464
141208A00008	12/8/2014	3.02	12/16/2024	12/8/2014	101.32251	100.5278984	99.74575226	98.97577653	98.21768852	97.47121419	96.73608786	96.01205195	95.29885658
141215A00062	12/15/2014	2.65	12/16/2024	12/15/2014	101.15866	100.3629772	99.57980408	98.80884599	98.04981849	97.30244596	96.5664612	95.84160514	95.12762653
091210A00005	12/10/2009	5.08	12/16/2024	12/10/2009	102.97696	102.175101	101.3857823	100.6087125	99.84360735	99.09019142	98.3481977	97.61736727	96.89744899
150401A00008	4/1/2015	2.62	4/1/2025	4/1/2015	101.54911	100.4698983	99.41357322	98.37941349	97.36672695	96.37485006	95.40314631	94.45100496	93.51783968
050902A00032	9/2/2005	4.69	8/22/2025	9/2/2005	105.70088	104.2129405	102.7537068	101.3224185	99.91834238	98.54077081	97.18902004	95.86242942	94.56036038
060308A00014	3/8/2006	5.44	3/16/2026	3/8/2006	109.51602	107.429529	105.3941255	103.4082267	101.4703077	99.57890161	97.73259697	95.93003532	94.1699087
151211A00055	12/11/2015	2.62	12/11/2024	12/11/2015	101.10922	100.3271849	99.55723509	98.79909401	98.05249131	97.31716481	96.59286024	95.87933091	95.17633747
151223A00072	12/23/2015	2.81	12/23/2025	12/23/2015	103.77895	101.9739211	100.2090728	98.4832477	96.79533002	95.1442441	93.52895271	91.94845538	90.40178678

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
151223A00074	12/23/2015	3.01	12/23/2027	12/23/2015	110.09119	106.2170262	102.5017508	98.93800286	95.51880335	92.23753243	89.08790895	86.06397118	83.16005888
151223A00077	12/23/2015	3.57	12/24/2035	12/23/2015	132.77084	120.1985007	108.9930244	98.9963103	90.06938684	82.09000874	74.95056392	68.55625187	62.82349697
160628A00038	6/28/2016	1.88	6/27/2025	6/28/2016	101.29316	99.98514041	98.70102264	97.4401921	96.20205339	94.98603133	93.79157004	92.61813218	91.46519813
160628A00039	6/28/2016	2.01	6/29/2026	6/28/2016	103.31407	101.0054311	98.75980298	96.57512194	94.44940551	92.38074714	90.36731294	88.40733837	86.49912529
111006A00023	10/6/2011	3.81	10/15/2026	10/6/2011	108.28177	105.6289247	103.0553742	100.5582527	98.1348195	95.78245113	93.49863556	91.2809666	89.12713863
140423A00036	4/23/2014	4.03	4/23/2029	4/23/2014	118.36014	112.9807171	107.884667	103.0554777	98.47768899	94.13682035	90.01930371	86.11242082	82.40424532
131217A00024	12/17/2013	4.34	1/2/2029	12/17/2013	118.81653	113.7378712	108.9124217	104.3262068	99.96609043	95.81972371	91.87549413	88.12247787	84.55039563
150603A00017	6/3/2015	2.84	6/3/2025	6/3/2015	102.38017	101.1252832	99.90002769	98.70336146	97.53428774	96.39185583	95.27515837	94.18332894	93.11553972
160504A00004	5/4/2016	2.3	5/4/2026	5/4/2016	103.64969	101.4871256	99.38031096	97.32741123	95.32666872	93.3763976	91.47498029	89.62086406	87.81255783
130926A00009	9/26/2013	4	10/2/2028	9/26/2013	116.92241	112.1228729	107.5529246	103.2003067	99.05348707	95.10160876	91.33444647	87.74236636	84.31628853
160930A00005	9/30/2016	2.03	9/30/2024	9/30/2016	100.32134	99.73728418	99.16000936	98.58939369	98.02532258	97.46768405	96.91636866	96.37126945	95.83228184
130904A00039	9/4/2013	4.19	9/15/2028	9/4/2013	117.60743	112.840663	108.2998301	103.9729769	99.84884553	95.91683116	92.16694046	88.58975307	85.17638561
140827A00038	8/27/2014	3.07	8/30/2024	8/27/2014	100.83183	100.3291933	99.8315558	99.33884763	98.85099589	98.36792906	97.88957703	97.41587105	96.94674372
150721A00027	7/21/2015	3.74	7/22/2030	7/21/2015	120.11652	113.4429981	107.1947176	101.3422364	95.8582959	90.71765131	85.89691264	81.37439965	77.13000871
151229A00079	12/29/2015	3	12/30/2025	12/29/2015	103.92013	102.0998701	100.3204121	98.58060329	96.87933028	95.21551786	93.58812765	91.99615657	90.43863539
151229A00080	12/29/2015	3.49	12/30/2030	12/29/2015	119.51002	112.4239049	105.8170502	99.65440479	93.90365086	88.53498143	83.52089324	78.83599787	74.45684914
151229A00081	12/29/2015	3.76	12/31/2035	12/29/2015	133.29384	120.7726431	109.6086719	99.64520814	90.74446942	82.78523395	75.66077129	69.27704075	63.55112179
160606A00004	6/6/2016	2.43	6/8/2026	6/6/2016	103.85987	101.6079522	99.41598535	97.28196657	95.20397309	93.18016125	91.20876252	89.28807977	87.41648377
160606A00005	6/6/2016	2.92	6/6/2031	6/6/2016	116.44067	109.0382992	102.167074	95.7859343	89.85720178	84.34628778	79.22142434	74.45342004	70.01543809
160628A00049	6/28/2016	1.88	6/27/2025	6/28/2016	101.29316	99.98514041	98.70102264	97.4401921	96.20205339	94.98603133	93.79157004	92.61813218	91.46519813
090226A00006	2/26/2009	4.55	3/1/2024	2/26/2009	100.01456	100.0117804	100.0090006	100.0062232	100.0034483	100.0006758	99.99790573	99.99513812	99.99237295
111216A00001	12/16/2011	3.95	12/30/2031	12/16/2011	125.51184	117.2274619	109.5711423	102.4915743	95.94190181	89.87931175	84.26466595	79.06216837	74.23906395
120113A00012	1/13/2012	3.62	1/15/2027	1/13/2012	108.64309	105.7369251	102.9244898	100.2022624	97.56687133	95.01508926	92.54382666	90.15012492	87.83115005
120113A00013	1/13/2012	3.87	1/15/2032	1/13/2012	125.01173	116.7043085	109.030254	101.9375575	95.37874154	89.31044533	83.69304872	78.49033169	73.66916643
120127A00018	1/27/2012	3.64	2/1/2027	1/27/2012	108.8576	105.9028697	103.0448057	100.2797251	97.60410201	95.01456414	92.5078852	90.08097767	87.73088606
120127A00019	1/27/2012	3.87	1/30/2032	1/27/2012	125.12468	116.7734961	109.0619129	101.9371648	95.35110913	89.25979723	83.62308877	78.40430375	73.56990772
140815A00032	8/15/2014	3.59	10/15/2029	8/15/2014	117.35023	111.5203728	106.023155	100.8377583	95.9447772	91.32611658	86.96489611	82.84536226	78.95280722
150422A00019	4/22/2015	2.62	4/22/2025	4/22/2015	101.66489	100.5290693	99.41857953	98.33258107	97.27027013	96.23087779	95.2136681	94.21793632	93.2430073
160714A00054	7/14/2016	2.03	7/15/2024	7/14/2016	100.21642	99.84014811	99.46670908	99.09607153	98.7282039	98.36307511	98.00065453	97.64091198	97.28381775
140313A00030	3/13/2014	3.27	3/15/2024	3/13/2014	100.08024	100.038584	99.99697626	99.95542131	99.91391906	99.87246939	99.8310722	99.78972738	99.74843482
150720A00012	7/20/2015	2.99	7/21/2025	7/20/2015	102.94634	101.5638364	100.2066352	98.87409629	97.56560513	96.28056736	95.01840775	93.7785695	92.5605135
130107A00002	1/7/2013	3.22	1/18/2028	1/7/2013	110.59126	106.6523508	102.8772475	99.25828406	95.78819423	92.46008758	89.26742793	86.20401328	83.26395704
130531A00021	5/31/2013	3.22	5/30/2028	5/31/2013	112.28824	107.935156	103.7775986	99.80566544	96.01002066	92.38185386	88.91284734	85.59514537	82.42132558

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150821A00018	8/21/2015	2.6	8/21/2024	8/21/2015	100.62275	100.1443791	99.67056355	99.20123819	98.7363392	98.27580403	97.81957127	97.36758068	96.91977315
160210A00042	2/10/2016	2.57	2/10/2026	2/10/2016	103.38813	101.460326	99.57823859	97.74050086	95.94580071	94.19287368	92.4805009	90.80750711	89.17275879
160222A00018	2/22/2016	2.59	2/23/2026	2/22/2016	103.51895	101.5522604	99.63305745	97.75989748	95.93139374	94.14621079	92.40306223	90.70070853	89.037955
160616A00027	6/16/2016	2.27	6/16/2026	6/16/2016	103.5419	101.2719964	99.06306381	96.9130859	94.82012321	92.7823139	90.79787006	88.86507414	86.98227569
160705A00104	7/5/2016	2.1	7/6/2026	7/5/2016	103.25593	100.9358965	98.67953697	96.48476041	94.34955613	92.27199059	90.25020401	88.2824071	86.36687801
150601A00490	6/1/2015	3.19	7/2/2024	6/1/2015	100.57262	100.2308982	99.89150124	99.5544009	99.21957391	98.88699732	98.55664851	98.22850513	97.90254517
160922A00014	9/22/2016	2.06	9/22/2026	9/22/2016	103.89238	101.3517288	98.88623745	96.49323186	94.17015294	91.91454882	89.72406964	87.59646248	85.52956676
160616A00034	6/16/2016	1.97	6/17/2024	6/16/2016	100.14801	99.84808288	99.549963	99.25363288	98.95907634	98.6662774	98.37522028	98.08588938	97.79826931
160706A00010	7/6/2016	1.99	7/7/2025	7/6/2016	101.2724	99.94210383	98.63551954	97.35207202	96.09119978	94.85235907	93.63502316	92.43868172	91.26284013
100809A00029	8/9/2010	4.23	8/15/2025	8/9/2010	104.70791	103.2500378	101.8199234	100.416841	99.04009049	97.68899553	96.36290243	95.06117927	93.78321496
100824A00009	8/24/2010	3.91	9/2/2025	8/24/2010	104.40507	102.9017934	101.4279616	99.98278273	98.56549413	97.17535951	95.81166807	94.47373328	93.16089192
100930A00008	9/30/2010	3.82	9/30/2025	9/30/2010	104.55394	102.9719814	101.4218472	99.9026407	98.41350187	96.9536021	95.52214299	94.11835492	92.74149571
110505A00022	5/5/2011	4.59	5/15/2026	5/5/2011	108.49463	106.2542976	104.0719258	101.945592	99.87345473	97.8537487	95.88478082	93.9649267	92.09262714
110805A00014	8/5/2011	4.06	8/17/2026	8/5/2011	108.30706	105.8147589	103.393462	101.0407401	98.75426028	96.53178357	94.37116019	92.27032559	90.2272965
120411A00013	4/11/2012	3.59	4/15/2027	4/11/2012	109.41123	106.2440679	103.1863707	100.2337173	97.38188935	94.6268646	91.96480664	89.3920549	86.90511545
120709A00016	7/9/2012	3.2	7/15/2027	7/9/2012	108.94962	105.5435358	102.2632363	99.10342163	96.05904078	93.1252812	90.29755622	87.57149327	84.94292274
130211A00017	2/11/2013	3.27	2/15/2028	2/11/2013	111.02747	107.0030893	103.1490994	99.45738235	95.92024834	92.53041267	89.28097229	86.16538372	83.17744243
150610A00008	6/10/2015	3.58	6/10/2030	6/10/2015	119.7176	113.1370324	106.9701777	101.1887092	95.76639199	90.67891465	85.90373794	81.41995651	77.20817198
150610A00009	6/10/2015	3.03	6/10/2025	6/10/2015	102.6811	101.4064682	100.1598657	98.94036727	97.74708845	96.57918338	95.43584259	94.31629114	93.21978667
150819A00012	8/19/2015	3.04	8/19/2025	8/19/2015	102.99014	101.5348906	100.1075618	98.70741619	97.33374571	95.98586628	94.66311693	93.36485881	92.09047426
150819A00013	8/19/2015	3.51	8/19/2030	8/19/2015	118.81697	112.11027	105.8363398	99.96485988	94.46778864	89.3191796	84.49501458	79.97305095	75.73268183
160129A00066	1/29/2016	3.04	1/29/2031	1/29/2016	117.55266	110.4162905	103.7704347	97.57870343	91.80759016	86.42622604	81.40615954	76.72115568	72.34701286
160129A00067	1/29/2016	2.53	1/29/2026	1/29/2016	103.49769	101.5979639	99.74261641	97.93034098	96.15988227	94.4300298	92.7396161	91.08751481	89.472639
160804A00014	8/4/2016	1.99	8/5/2024	8/4/2016	100.23849	99.80518399	99.37562328	98.94975727	98.5275384	98.10891991	97.69385584	97.28230101	96.87421102
170412A00019	4/12/2017	2.56	4/12/2024	4/12/2017	100.12492	100.0059609	99.88730065	99.76893625	99.65086653	99.53309034	99.41560655	99.29841403	99.18151167
170417A00068	4/17/2019	2.59	4/17/2024	4/17/2019	100.14353	100.0107788	99.87839435	99.74637472	99.61471838	99.4834238	99.35248943	99.22191378	99.09169532
171011A00013	10/11/2017	2.77	10/13/2026	10/11/2017	105.53177	102.92074	100.3878842	97.93038361	95.5455366	93.23075694	90.98356815	88.80159795	86.68257312
180222A00025	2/22/2018	3.48	2/22/2033	2/22/2018	125.96914	116.4782942	107.8030899	99.86846686	92.60665767	85.95644332	79.86248925	74.27475166	69.14794648
180222A00026	2/22/2018	2.98	2/21/2025	2/22/2018	101.85252	100.8735508	99.91339048	98.97149658	98.04735129	97.14045619	96.25033136	95.37651457	94.51856042
180222A00027	2/22/2018	3.24	2/22/2028	2/22/2018	111.51123	107.4425305	103.547181	99.81686979	96.24372669	92.82029911	89.53952738	86.39472195	83.37954193
150601A00404	6/1/2015	4.29	1/17/2029	6/1/2015	118.41569	113.3059956	108.4531523	103.8428655	99.4617121	95.29708003	91.33711497	87.57067119	83.98726561
150601A00405	6/1/2015	4.63	1/17/2034	6/1/2015	137.25043	126.4215292	116.5882206	107.6522022	99.52540244	92.12886851	85.39177861	79.25056507	73.6481362
150601A00522	6/1/2015	4.52	7/25/2030	6/1/2015	124.68933	117.8644941	111.4725109	105.483464	99.86965841	94.60544317	89.66705076	85.03244949	80.68120839

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00523	6/1/2015	4.55	7/25/2031	6/1/2015	128.17779	120.2253291	112.8443335	105.9903423	99.62257951	93.70363279	88.19915999	83.07762233	78.31004213
150601A00664	6/1/2015	3.78	1/16/2032	6/1/2015	123.89354	115.6260015	107.9898942	100.9333076	94.40886253	88.37329163	82.78706293	77.61403975	72.82117308
150601A00665	6/1/2015	3.82	1/14/2033	6/1/2015	126.91866	117.5547185	108.9829117	101.1313792	93.93514692	87.33543387	81.27903234	75.71775337	70.60792963
150601A00666	6/1/2015	3.88	1/16/2035	6/1/2015	132.26802	120.7087645	110.3139387	100.9583304	92.53085317	84.93288816	78.07682518	71.88478149	66.28747524
150601A00667	6/1/2015	3.88	1/16/2036	6/1/2015	134.10584	121.4987714	110.2613049	100.2348659	91.28009766	83.27444094	76.11002894	69.69185533	63.93617893
150601A00668	6/1/2015	3.89	1/16/2037	6/1/2015	135.9397	122.2943417	110.2370431	99.5710329	90.12501277	81.74973586	74.31506141	67.7074161	61.82760405
150817A00099	8/17/2015	3.19	8/17/2027	8/17/2015	109.18412	105.6866817	102.3215162	99.08291419	95.96544133	92.96392654	90.07344756	87.28931758	84.60707267
160119A00019	1/19/2016	2.95	1/19/2027	1/19/2016	106.74151	103.8523919	101.0569991	98.35178789	95.73337267	93.1985135	90.74410918	88.36719046	86.0649137
160119A00025	1/19/2016	3.05	1/19/2028	1/19/2016	109.93853	106.0096129	102.2443314	98.63501904	95.1744099	91.8556142	88.67209666	85.61765647	82.68640841
160119A00026	1/19/2016	3.14	1/19/2029	1/19/2016	113.12732	108.1399648	103.4053079	98.90922362	94.63844911	90.58052544	86.72374462	83.05710067	79.57024405
160119A00027	1/19/2016	3.25	1/18/2030	1/19/2016	115.97658	109.9307497	104.2446216	98.89487304	93.85981354	89.11925847	84.65441732	80.44779066	76.48307526
160119A00028	1/19/2016	3.34	1/21/2031	1/19/2016	118.61577	111.5023399	104.8744255	98.69621312	92.93471105	87.55951123	82.54257456	77.85803511	73.48202143
160119A00029	1/19/2016	3.39	1/20/2032	1/19/2016	121.29811	113.1197076	105.5688219	98.59370881	92.1471513	86.18603956	80.67099448	75.56602725	70.83823153
160119A00030	1/19/2016	3.44	1/18/2033	1/19/2016	124.10231	114.8487034	106.3815994	98.62943452	91.52751693	85.0173352	79.04593881	73.56538358	68.53223484
160706A00026	7/6/2016	2.19	7/6/2027	7/6/2016	105.49209	102.1677812	98.96598059	95.88154513	92.90957694	90.04540799	87.28458806	84.6228735	82.05621645
160706A00027	7/6/2016	2.29	7/6/2028	7/6/2016	107.9683	103.6236474	99.47911461	95.52447228	91.75006524	88.14677723	84.70599812	81.41959333	78.27987517
160706A00028	7/6/2016	2.39	7/6/2029	7/6/2016	110.24318	104.874033	99.80076396	95.00556098	90.47177103	86.18381948	82.12713506	78.28808035	74.65388754
160706A00029	7/6/2016	2.49	7/8/2030	7/6/2016	112.11777	105.7300421	99.75151786	94.15385721	88.91082248	83.99811016	79.39319915	75.07521165	71.02478559
160706A00030	7/6/2016	2.59	7/7/2031	7/6/2016	114.1935	106.7900313	99.92515124	93.55680705	87.64642906	82.15862953	77.06092543	72.3234865	67.91890642
160811A00011	8/11/2016	2.25	8/11/2026	8/11/2016	103.80441	101.3840183	99.03252309	96.74757668	94.52692437	92.36840152	90.26992936	88.22951108	86.24522803
150601A00916	6/1/2015	7.27	4/5/2030	6/1/2015	140.19759	133.2167046	126.6521636	120.4765418	114.6643761	109.1920108	104.0374595	99.18027891	94.60145172
171025A00026	10/25/2017	2.64	10/25/2024	10/25/2017	100.77201	100.1193518	99.47513668	98.83920222	98.21138941	97.59154336	96.97951306	96.3751513	95.77831457
171026A00008	10/26/2017	2.6	10/25/2024	10/26/2017	100.7456	100.0930432	99.44892449	98.81308551	98.18536731	97.56561502	96.95367763	96.34940797	95.75266252
171026A00009	10/26/2017	2.75	10/27/2025	10/26/2017	103.02263	101.3820645	99.77548325	98.20189859	96.66035734	95.14994305	93.66977419	92.21900242	90.79681107
171026A00010	10/26/2017	2.84	10/26/2026	10/26/2017	105.80961	103.1604731	100.5914195	98.09952573	95.68199548	93.33615366	91.05944012	88.84940384	86.70369742
171026A00011	10/26/2017	2.94	10/26/2027	10/26/2017	108.86177	105.181057	101.645782	98.24937927	94.98561576	91.84857564	88.83264224	85.93248094	83.14302323
171030A00023	10/30/2017	2.9	11/1/2027	10/30/2017	108.76101	105.0661013	101.5177433	98.10928777	94.83443203	91.68719557	88.66190154	85.75315935	82.95584838
170427A00044	4/27/2017	3.02	4/27/2027	4/27/2017	107.72484	104.5511984	101.4883941	98.53190352	95.67741594	92.92082313	90.25820864	87.68583749	85.20014647
170427A00046	4/27/2017	3.1	4/27/2028	4/27/2017	110.94197	106.7220121	102.68813	98.83108245	95.14214415	91.61307071	88.23606898	85.00376966	81.90920176
170427A00047	4/27/2017	3.18	4/27/2029	4/27/2017	114.01957	108.7393383	103.7393484	99.00319491	94.51552025	90.26194369	86.22899395	82.40404662	78.77526631
150601A00470	6/1/2015	2.98	5/31/2024	6/1/2015	100.39849	100.1441692	99.89113216	99.63937163	99.38887798	99.13964165	98.89165321	98.64490332	98.39938272
150601A00485	6/1/2015	3.09	6/21/2024	6/1/2015	100.52852	100.2164935	99.90641749	99.59827113	99.29203633	98.98769523	98.68523021	98.38462386	98.08585898
150601A00495	6/1/2015	2.99	6/27/2024	6/1/2015	100.52533	100.1968803	99.87058382	99.54641505	99.22435322	98.90437781	98.58646857	98.27060548	97.9567688

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00512	6/1/2015	3.79	7/16/2029	6/1/2015	117.49535	111.9083604	106.6276825	101.6348818	96.91272542	92.44509834	88.21692531	84.21409875	80.42341189
150601A00530	6/1/2015	3.08	7/24/2024	6/1/2015	100.68811	100.2856588	99.88643489	99.49039705	99.09750715	98.70772766	98.32102164	97.93735273	97.55668515
150601A00531	6/1/2015	3.28	7/24/2024	6/1/2015	100.71649	100.3145701	99.91585919	99.52032292	99.12792337	98.73862325	98.35238589	97.96917516	97.58895552
150601A00677	6/1/2015	2.39	1/30/2025	6/1/2015	101.12462	100.2083658	99.30866621	98.42507851	97.55717297	96.70453496	95.8667644	95.04347506	94.23429396
150601A00688	6/1/2015	2.61	2/21/2025	6/1/2015	101.44573	100.4689158	99.5108784	98.57107927	97.64900118	96.74414631	95.85603535	94.9842066	94.12821525
150601A00689	6/1/2015	2.81	2/28/2025	6/1/2015	101.52356	100.5298321	99.55552366	98.60006721	97.66291962	96.74355845	95.84148093	94.95620312	94.08725896
150601A00696	6/1/2015	2.83	3/13/2025	6/1/2015	101.61914	100.5902131	99.58210548	98.5941851	97.62584967	96.67652073	95.74564237	94.83268023	93.9371204
150601A00733	6/1/2015	2.72	5/1/2025	6/1/2015	101.96798	100.803487	99.66553016	98.55321235	97.46567442	96.40209528	95.36168973	94.34370658	93.34742677
150601A00734	6/1/2015	2.92	5/1/2025	6/1/2015	102.01362	100.8516495	99.71610806	98.60610486	97.52078548	96.45933322	95.42096708	94.40493981	93.41053609
150601A00737	6/1/2015	2.68	12/31/2024	6/1/2015	101.22406	100.3877737	99.56528016	98.75623697	97.96031629	97.17720087	96.40658358	95.64816708	94.90166336
150727A00013	7/27/2015	3.04	7/28/2025	7/27/2015	102.841	101.444466	100.0737372	98.7281623	97.4071086	96.10996428	94.83613741	93.58505521	92.35616321
151106A00011	11/6/2015	3.1	1/15/2026	11/6/2015	104.2223	102.3571619	100.53471	98.75371187	97.01298298	95.31138003	93.64779951	92.02117603	90.4304807
151116A00025	11/16/2015	3.04	11/14/2025	11/16/2015	103.63965	101.9450546	100.2863046	98.6623237	97.07208226	95.51459133	93.98890087	92.49409769	91.0293037
160422A00026	4/22/2016	2.62	4/22/2026	4/22/2016	103.98381	101.8554532	99.78124058	97.75941335	95.78828845	93.8662504	91.99174797	90.16329104	88.37944772
160714A00020	9/6/2016	2.28	9/4/2026	9/6/2016	104.01272	101.5266997	99.11308774	96.76935999	94.49309203	92.28195883	90.13372998	88.04626521	86.01751016
160714A00023	8/10/2016	2.49	8/10/2028	8/10/2016	109.04017	104.5809397	100.3309305	96.27924203	92.41559702	88.7303032	85.21421724	81.85871069	78.65563845
160714A00029	8/10/2016	2.27	8/10/2026	8/10/2016	103.84799	101.4296571	99.08009285	96.7969515	94.57798494	92.42103479	90.32402822	88.28497401	86.30195881
160819A00015	10/12/2016	2.3	10/13/2026	10/12/2016	104.29792	101.7032419	99.18636629	96.74448348	94.37490298	92.07504936	89.84245647	87.67476196	85.56970218
161109A00018	11/9/2016	2.63	11/9/2026	11/9/2016	105.34645	102.6658698	100.0672907	97.5476816	95.1041443	92.73390815	90.43432334	88.20285471	86.03707584
170502A00028	5/2/2017	2.84	5/3/2027	5/2/2017	107.62331	104.4248898	101.3388793	98.3606597	95.48583296	92.71020947	90.0297965	87.44078753	84.93955229
170508A00010	5/8/2017	2.43	5/8/2024	5/8/2017	100.20113	100.0103017	99.82021024	99.6308536	99.44222742	99.25432739	99.06714925	98.88068877	98.69494175
170515A00010	5/15/2017	2.58	5/15/2024	5/15/2017	100.22739	100.0175814	99.80866835	99.60064198	99.39349662	99.18722659	98.98182629	98.77729015	98.57361264
170111A00009	1/11/2017	3.16	1/11/2028	1/11/2017	110.30208	106.3872888	102.634629	99.03654899	95.58588601	92.27584577	89.09998178	86.05217572	83.12661901
170111A00011	1/11/2017	3.24	1/11/2029	1/11/2017	113.55904	108.582433	103.8568064	99.36819244	95.10347208	91.05031776	87.19714188	83.53304866	80.04778951
170111A00012	1/11/2017	3.31	1/11/2030	1/11/2017	116.29049	110.2539545	104.5753567	99.2315619	94.20104869	89.4637854	85.00111962	80.79567665	76.83126585
170111A00013	1/11/2017	3.4	1/10/2031	1/11/2017	118.96277	111.8662768	105.2520048	99.08453526	93.33122483	87.96197603	82.94902672	78.2667578	73.89151775
170111A00014	1/11/2017	3.47	1/12/2032	1/11/2017	121.87148	113.6918332	106.1377564	99.15781938	92.70507389	86.73664461	81.21335656	76.09939839	71.36201778
170111A00016	1/11/2017	3.51	1/11/2033	1/11/2017	124.67153	115.4115136	106.936453	99.17508603	92.06298252	85.54185453	79.55894187	74.06646197	69.02111702
170524A00011	5/24/2017	2.54	5/24/2024	5/24/2017	100.24583	100.0113109	99.77790034	99.5455873	99.31436405	99.0842229	98.85515623	98.62715649	98.40021621
170531A00080	5/31/2017	2.3	5/31/2024	5/31/2017	100.23758	99.98352639	99.73076099	99.47927101	99.22904685	98.98007895	98.7323579	98.48587436	98.24061907
171129A00020	11/29/2017	2.89	11/30/2026	11/29/2017	106.20836	103.4587161	100.7945693	98.21270044	95.71003463	93.28363532	90.93069689	88.6485377	86.43459358
170119A00006	1/19/2017	2.85	1/21/2025	1/19/2017	101.39132	100.4998601	99.62406179	98.76351697	97.91782943	97.08661658	96.2695089	95.46614935	94.67619284
170120A00008	1/20/2017	3.63	1/20/2034	1/20/2017	128.20548	117.7980643	108.3588161	99.79149406	92.00992043	84.93688169	78.5031537	72.64663725	67.31159109

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170120A00009	1/20/2017	3.67	1/22/2035	1/20/2017	130.65568	119.1652805	108.8362318	99.54335173	91.17560846	83.6344568	76.8323745	70.69157699	65.14288754
170120A00010	1/20/2017	3.71	1/22/2036	1/20/2017	132.80902	120.260604	109.0792345	99.10630462	90.20246207	82.24518129	75.1266513	68.75193804	63.03738449
170120A00011	1/20/2017	3.75	1/20/2037	1/20/2017	134.91433	121.3216059	109.3139645	98.69472432	89.29269345	80.95874377	73.5628611	66.99160271	61.14590454
170602A00026	6/2/2017	2.25	6/3/2024	6/2/2017	100.23292	99.9706789	99.70981143	99.45030853	99.19215948	98.93535366	98.67988056	98.42572979	98.17289106
170123A00039	1/23/2017	2.79	1/23/2026	1/23/2017	103.9569	102.0684515	100.2237583	98.42154732	96.66058969	94.9397003	93.25773571	91.61359249	90.0062055
170608A00020	6/8/2017	2.27	6/10/2024	6/8/2017	100.25745	99.97602479	99.69619483	99.41794278	99.14125519	98.8661188	98.59252046	98.3204472	98.04988619
170130A00010	1/30/2017	2.92	1/30/2025	1/30/2017	101.50695	100.5908118	99.6911861	98.80763111	97.93971903	97.08703714	96.24918715	95.42578451	94.61645791
170609A00043	6/9/2017	3.07	6/9/2032	6/9/2017	120.76612	112.1820854	104.2879029	97.02415582	90.33684519	84.17687272	78.4995718	73.26428579	68.43398858
170130A00031	1/30/2017	2.96	7/30/2025	1/30/2017	102.74062	101.3395834	99.96452251	98.61478053	97.28971875	95.98871945	94.71118509	93.45653749	92.22421705
170612A00039	6/12/2017	2.29	6/12/2024	6/12/2017	100.26871	99.98179953	99.69654447	99.41292961	99.13094071	98.85056368	98.57178463	98.29458979	98.01896558
170613A00032	6/13/2017	2.45	6/13/2025	6/13/2017	101.95557	100.6782708	99.428216	98.20453455	97.00639356	95.83299541	94.68357583	93.55740215	92.45377167
170613A00033	6/13/2017	2.3	6/13/2024	6/13/2017	100.27442	99.98476901	99.69680125	99.41050505	99.12586576	98.84286891	98.56150019	98.28174545	98.00359073
170203A00012	2/3/2017	3.63	2/2/2035	2/3/2017	130.2815	118.782336	108.448851	99.15504884	90.78921691	83.25223874	76.45611379	70.32265792	64.78236161
170203A00013	2/3/2017	3.67	2/1/2036	2/3/2017	132.38691	119.837438	108.6586238	98.69106768	89.79476934	81.84667061	74.73852428	68.37504043	62.67227317
170615A00015	6/15/2017	2.25	6/14/2024	6/15/2017	100.26257	99.97020448	99.67955647	99.39061141	99.10335422	98.81777001	98.53384409	98.25156192	97.97090913
170622A00036	6/22/2017	3.23	6/22/2032	6/22/2017	121.00528	112.4291457	104.5426591	97.28637927	90.60628365	84.45325146	78.78259553	73.55364119	68.729347
170622A00037	6/22/2017	3.27	6/22/2033	6/22/2017	123.54777	113.9068968	105.1211676	97.10955632	89.79912742	83.12418751	77.02553198	71.44977345	66.3487428
170622A00038	6/22/2017	3.32	6/22/2034	6/22/2017	125.99159	115.2874237	105.6197129	96.88151364	88.97747007	81.82250117	75.34064533	69.4640398	64.13201898
170622A00039	6/22/2017	3.36	6/22/2035	6/22/2017	127.97757	116.2361949	105.7258572	96.30927739	87.86520359	80.2864646	73.47826828	67.35671304	61.84748499
170622A00040	6/22/2017	3.41	6/23/2036	6/22/2017	129.90833	117.137644	105.8066402	95.74291675	86.79563599	78.83272657	71.73845975	65.41134933	59.76233079
170623A00028	6/23/2017	2.79	6/23/2027	6/23/2017	107.40883	104.0872184	100.8865262	97.80170498	94.82794515	91.96066346	89.19549114	86.52826254	83.95500458
170215A00043	2/15/2017	2.7	8/28/2024	2/15/2017	100.63692	100.1402708	99.64851698	99.16158732	98.67941106	98.20191884	97.72904265	97.26071578	96.7968728
170216A00043	2/16/2017	3.17	2/16/2027	2/16/2017	107.6143	104.6341472	101.7530424	98.9671487	96.2728015	93.66649846	91.14489112	88.70477723	86.34309351
170216A00044	2/16/2017	3.52	2/17/2032	2/16/2017	122.51047	114.2098617	106.5509531	99.48039811	92.94955278	86.91404096	81.33335939	76.17052121	71.39173392
170216A00045	2/16/2017	3.73	2/17/2037	2/16/2017	134.79825	121.1401204	109.0837186	98.42917893	89.0026856	80.65294925	73.24817842	66.67347179	60.82857087
170224A00020	2/24/2017	3.08	2/24/2027	2/24/2017	107.416	104.4154948	101.5154822	98.71204378	96.00143427	93.38007552	90.84454782	88.39158193	86.01805161
170224A00021	2/24/2017	3.4	2/24/2032	2/24/2017	121.61251	113.327212	105.6846813	98.63132365	92.1182836	86.10100352	80.53882512	75.39462952	70.6345123
170224A00039	5/24/2017	3.17	5/24/2027	5/24/2017	108.41855	105.161861	102.0209653	98.99104077	96.06749997	93.24597634	90.52231182	87.8925453	85.35290186
170224A00044	5/24/2017	3.29	5/24/2029	5/24/2017	114.76586	109.3943569	104.3111479	99.49915292	94.94240199	90.62595419	86.53582525	82.65892089	78.98297508
170630A00027	6/30/2017	2.35	6/28/2024	6/30/2017	100.33349	100.0027027	99.67409731	99.34765125	99.02334328	98.70115242	98.38105797	98.06303951	97.74707687
170228A00014	2/28/2017	2.89	3/1/2027	2/28/2017	107.28693	104.2647072	101.3443675	98.52190826	95.79351005	93.15552474	90.60446683	88.13700518	85.74995527
170228A00015	2/28/2017	2.87	5/28/2025	2/28/2017	102.17601	100.9411334	99.73606618	98.55973858	97.41113135	96.28927296	95.19323678	94.12213859	93.07513412
171206A00048	12/6/2017	3.04	12/6/2032	12/6/2017	121.59087	112.4971786	104.1721467	96.54628929	89.55675783	83.14667529	77.26453936	71.86368829	66.90182241

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171206A00038	12/6/2017	2.69	12/6/2027	12/6/2017	108.74496	104.94171	101.29302	97.79173209	94.43106356	91.20458515	88.10620029	85.13012576	82.27087347
171206A00041	12/6/2017	2.44	12/6/2024	12/6/2017	100.94417	100.176263	99.42001931	98.6751764	97.94147782	97.2186747	96.50652556	95.80479602	95.11325851
180727A00038	7/27/2018	3.36	7/25/2025	7/27/2018	103.2717	101.8798702	100.5136268	99.1723246	97.85533917	96.56206653	95.29192229	94.04434086	92.81877466
180727A00039	7/27/2018	3.48	7/27/2028	7/27/2018	113.32077	108.8045562	104.4973619	100.388409	96.46753436	92.72514783	89.1521971	85.74013475	82.48088749
180727A00028	7/27/2018	3.25	7/27/2026	7/27/2018	106.45388	104.0335929	101.6810634	99.39401651	97.1702664	95.00771327	92.90433946	90.85820565	88.86744738
171219A00063	12/19/2017	2.8	12/20/2027	12/19/2017	109.26567	105.4152422	101.7226011	98.1804313	94.78180125	91.52013689	88.38920123	85.38307514	82.49613931
180730A00023	7/30/2018	3.13	7/30/2024	7/30/2018	100.76012	100.3411234	99.92560876	99.51353313	99.10485391	98.6995292	98.29751784	97.89877931	97.50327375
180730A00081	7/30/2018	3.5	7/28/2028	7/30/2018	113.41742	108.8964232	104.5847588	100.4716272	96.54684527	92.80080443	89.22443511	85.80917391	82.5469327
170313A00032	3/13/2017	3.69	6/14/2032	3/13/2017	124.72704	116.0228445	108.0135233	100.6394485	93.8464174	87.58513154	81.81072918	76.48236426	71.56282746
170313A00033	3/13/2017	3.31	3/15/2027	3/13/2017	108.26801	105.2028631	102.2416436	99.3802403	96.61472916	93.94136382	91.35656661	88.85691977	86.43915737
170313A00034	3/13/2017	3.31	3/15/2027	3/13/2017	108.26801	105.2028631	102.2416436	99.3802403	96.61472916	93.94136382	91.35656661	88.85691977	86.43915737
170313A00035	3/13/2017	3.31	3/15/2027	3/13/2017	108.26801	105.2028631	102.2416436	99.3802403	96.61472916	93.94136382	91.35656661	88.85691977	86.43915737
170316A00018	3/16/2017	2.8	3/18/2024	3/16/2017	100.06552	100.0156163	99.96578377	99.91601799	99.86631877	99.81668599	99.7671195	99.71761916	99.66818485
170322A00011	3/22/2017	2.48	3/22/2024	3/22/2017	100.06721	100.0061719	99.94522014	99.88435756	99.82358392	99.76289903	99.70230268	99.64179467	99.5813748
170322A00022	3/22/2017	3.89	9/23/2041	3/22/2017	148.54537	129.7467068	113.768396	100.1592257	88.54310385	78.60616029	70.08612404	62.76356304	56.45465221
170322A00023	3/22/2017	3.82	9/22/2039	3/22/2017	141.5036	125.0515166	110.8420616	98.54989688	87.89883711	78.65417768	70.61625507	63.61503647	57.50556937
170322A00024	3/22/2017	3.72	9/22/2036	3/22/2017	134.01105	120.7725388	109.0452271	98.64549982	89.41306396	81.20787226	73.9074678	67.40468887	61.60568368
170322A00025	3/22/2017	3.58	3/22/2033	3/22/2017	125.77327	116.2764898	107.5995662	99.66667008	92.40938182	85.76592763	79.68050191	74.10266185	68.98678635
170322A00026	3/22/2017	3.22	3/22/2028	3/22/2017	111.13578	107.0104661	103.0634898	99.28616799	95.67029217	92.20809636	88.89223057	85.71573623	82.67202306
170728A00040	7/28/2017	2.44	1/27/2025	7/28/2017	101.19198	100.2834377	99.39117192	98.51475014	97.6537531	96.80777624	95.97642904	95.15933442	94.35612818
170803A00020	8/3/2017	2.84	8/3/2027	8/3/2017	107.87057	104.4327395	101.1238226	97.93830698	94.87094405	91.9167367	89.07092582	86.3289777	83.68657209
170803A00021	8/3/2017	2.5	8/5/2024	8/3/2017	100.46146	100.0275829	99.5974499	99.17101516	98.74823108	98.32905088	97.91342857	97.50131893	97.09267751
170327A00077	3/27/2019	2.74	3/27/2024	3/27/2019	100.09195	100.0171384	99.9424495	99.86787913	99.79342702	99.7190929	99.64487649	99.57077752	99.49679571
170327A00078	3/27/2019	3.04	3/27/2026	3/27/2019	104.6819	102.6166833	100.6027405	98.63845876	96.72228756	94.85273656	93.02837257	91.24781695	89.5097431
170327A00079	3/27/2019	3.19	3/29/2027	3/27/2019	108.01697	104.9182196	101.9255192	99.0346282	96.24150487	93.54229292	90.93331159	88.41104654	85.97214127
170327A00070	3/29/2017	3.05	3/29/2027	3/29/2017	107.99658	104.8884136	101.8868333	98.98756902	96.18655195	93.47990001	90.86390823	88.33503944	85.88991562
170327A00072	3/29/2017	3.09	3/29/2027	3/29/2017	108.12006	105.0099841	102.0065393	99.10545804	96.30266971	93.59429078	90.9766148	88.44610323	85.99937668
170328A00015	3/28/2017	2.75	11/29/2024	3/28/2017	101.0144	100.2667331	99.53011706	98.80430444	98.08905895	97.38415112	96.68935809	96.00446334	95.32925651
190211A00017	2/11/2019	3.12	2/11/2026	2/11/2019	104.4724	102.5308521	100.6353611	98.78455013	96.97709574	95.21172272	93.48720187	91.80234803	90.15601821
190211A00016	2/11/2019	3.01	2/11/2025	2/11/2019	101.66463	100.7156115	99.78430519	98.8702149	97.97286622	97.09180199	96.22658159	95.37678018	94.541988
170809A00005	8/9/2017	2.61	8/11/2025	8/9/2017	102.31002	100.8808666	99.47877267	98.10303545	96.75297701	95.4279422	94.12729767	92.85043101	91.59674984
170815A00006	8/15/2017	2.5	8/15/2024	8/15/2017	100.49424	100.033202	99.57639988	99.12377551	98.67527161	98.23083195	97.79040132	97.35392552	96.92135129
190222A00021	2/22/2019	2.95	8/21/2024	2/22/2019	100.73049	100.2525461	99.77914312	99.31021643	98.84570261	98.38553946	97.92966593	97.47802213	97.03054926

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190225A00026	2/25/2019	3.43	2/27/2034	2/25/2019	127.91304	117.3419618	107.767967	99.09067117	91.22032085	84.07661293	77.5876548	71.68904337	66.32304915
170818A00003	8/18/2017	2.23	8/20/2024	8/18/2017	100.44172	99.9665657	99.49591468	99.02970088	98.56786159	98.1103353	97.65706163	97.20798133	96.76303625
190301A00012	3/1/2019	3.41	3/1/2029	3/1/2019	114.77871	109.6345062	104.7562305	100.1287003	95.73768123	91.5698206	87.61258832	83.8542219	80.28367554
170821A00038	8/23/2017	2.39	8/23/2024	8/23/2017	100.52826	100.0447322	99.56585521	99.09156599	98.62179876	98.15648893	97.69557315	97.23898927	96.78667629
180814A00010	8/14/2018	3.1	8/14/2025	8/14/2018	103.27695	101.8288119	100.4082762	99.01462142	97.64715136	96.30519351	94.98809794	93.69523636	92.42600119
170822A00019	8/22/2017	2.44	8/22/2024	8/22/2017	100.48812	100.0081433	99.53275652	99.06189093	98.59548216	98.13346703	97.67578359	97.22237101	96.77316961
170822A00020	8/22/2017	2.59	8/22/2025	8/22/2017	102.34203	100.8839368	99.45395941	98.05136068	96.67542415	95.32545784	94.00079322	92.70078423	91.4248063
180816A00038	8/16/2018	3.38	8/16/2028	8/16/2018	113.04351	108.4800125	104.1302046	99.98294656	96.02773473	92.25466455	88.65439343	85.21810588	81.93748107
180313A00026	3/13/2018	3.34	3/13/2028	3/13/2018	111.54498	107.4356294	103.5029959	99.73852464	96.13411936	92.68211771	89.37526569	86.20669357	83.16989334
180323A00013	3/23/2018	3.18	3/23/2028	3/23/2018	111.53348	107.3820542	103.4104777	99.60998029	95.97226725	92.48949185	89.15422868	85.9594486	82.89849533
181109A00027	11/13/2018	3.48	4/15/2024	11/13/2018	100.25107	100.1237211	99.99671233	99.87004054	99.7437044	99.61770251	99.49203352	99.36669607	99.24168882
181109A00029	11/9/2018	3.72	11/9/2026	11/9/2018	108.28825	105.5676272	102.9299356	100.3721176	97.89124657	95.48452479	93.14927634	90.88294096	88.68306812
181109A00028	11/9/2018	3.72	11/9/2026	11/9/2018	108.28825	105.5676272	102.9299356	100.3721176	97.89124657	95.48452479	93.14927634	90.88294096	88.68306812
190308A00007	3/8/2019	2.8	3/8/2024	3/8/2019	100.03138	100.0091854	99.98701689	99.96487197	99.94275058	99.92065269	99.89857824	99.87652721	99.85449954
140911A00027	9/11/2014	3.18	9/16/2024	9/11/2014	100.95379	100.4051333	99.86244352	99.32562557	98.79458437	98.26922686	97.74946198	97.23520061	96.72635554
190314A00027	3/22/2019	2.92	3/21/2025	3/22/2019	101.80919	100.7578455	99.72820138	98.71958773	97.73136468	96.76291812	95.81365842	94.88301917	93.97045606
190315A00014	3/15/2019	2.74	3/15/2024	3/15/2019	100.05307	100.0114794	99.96993967	99.9284522	99.88701683	99.84563346	99.80430198	99.7630223	99.72179431
190318A00008	3/18/2019	2.76	3/18/2024	3/18/2019	100.0635	100.0136003	99.96376938	99.9140052	99.86430758	99.81467639	99.76511149	99.71561275	99.66618003
190318A00021	3/18/2019	2.76	3/18/2024	3/18/2019	100.0635	100.0136003	99.96376938	99.9140052	99.86430758	99.81467639	99.76511149	99.71561275	99.66618003
170908A00017	9/9/2019	2.32	9/9/2024	9/9/2019	100.46983	99.94142311	99.41856797	98.90118092	98.38917639	97.88247061	97.38098153	96.88462878	96.39333364
180328A00010	3/28/2018	3.1	3/28/2025	3/28/2018	102.04736	100.9759466	99.92701419	98.89986391	97.89382222	96.90824309	95.94250665	94.99601783	94.06820515
180329A00003	3/29/2018	3.08	3/29/2028	3/29/2018	111.1762	107.0157849	103.0362551	99.22876016	95.58493131	92.09685344	88.75703791	85.55839712	82.49422072
180403A00006	4/3/2018	3.07	4/3/2028	4/3/2018	111.17746	107.0032895	103.0110898	99.19193556	95.53738622	92.03946015	88.69060701	85.48368203	82.4119218
180403A00041	4/3/2018	2.91	4/3/2025	4/3/2018	102.05259	100.9625512	99.89576971	98.85150586	97.82905216	96.82773045	95.84689047	94.88590837	93.94418545
190321A00003	3/21/2019	2.67	3/21/2024	3/21/2019	100.0682	100.0100027	99.95188543	99.8938508	99.83589859	99.77802863	99.72024076	99.66253478	99.60491053
150601A01024	6/1/2015	5.33	2/27/2026	6/1/2015	108.89593	106.8622193	104.8776251	102.9406501	101.0498545	99.20385207	97.40130767	95.64093519	93.92149525
190326A00024	3/26/2019	2.59	3/26/2024	3/26/2019	100.07783	100.0057994	99.93387941	99.86207158	99.79037564	99.71879135	99.64731844	99.57595667	99.50470577
171228A00023	12/28/2017	2.69	3/29/2024	12/28/2017	100.09447	100.0141344	99.9339296	99.85385653	99.77391487	99.69410431	99.61442452	99.53487521	99.45545605
180820A00055	8/20/2018	3.37	8/21/2028	8/20/2018	113.03951	108.4627539	104.1009148	99.94275802	95.97769143	92.1957288	88.58745215	85.14397637	81.8569163
180827A00020	8/27/2018	3.21	8/27/2025	8/27/2018	103.29928	101.8206774	100.3708121	98.94891914	97.55426098	96.18612531	94.84382418	93.52669296	92.23408931
180828A00032	8/28/2018	3.49	8/29/2033	8/28/2018	127.33237	117.2778701	108.1297952	99.80077871	92.21232478	85.29386628	78.98192619	73.21937131	67.95474813
190326A00032	3/26/2019	2.4	3/26/2024	3/26/2019	100.07306	100.0009439	99.92893777	99.85704491	99.78526507	99.71359798	99.64204335	99.57060093	99.49927044
190327A00013	3/27/2019	2.53	3/27/2024	3/27/2019	100.0762	100.0014011	99.92672482	99.85216703	99.77772749	99.70340592	99.62920204	99.55511557	99.48114625

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190327A00006	3/27/2019	2.53	3/27/2024	3/27/2019	100.0762	100.0014011	99.92672482	99.85216703	99.77772749	99.70340592	99.62920204	99.55511557	99.48114625
190327A00027	3/27/2019	2.66	1/15/2025	3/27/2019	101.18922	100.3147867	99.45545233	98.61082584	97.78053179	96.96420738	96.161502	95.37207668	94.59560361
190327A00031	3/27/2019	2.53	3/27/2024	3/27/2019	100.0762	100.0014011	99.92672482	99.85216703	99.77772749	99.70340592	99.62920204	99.55511557	99.48114625
190328A00065	3/28/2019	2.56	3/28/2024	3/28/2019	100.08123	100.0036661	99.92622859	99.84891614	99.77172844	99.69466518	99.61772609	99.54091085	99.46421919
190328A00003	3/28/2019	2.64	9/30/2024	3/28/2019	100.68207	100.0968133	99.51833925	98.94653431	98.3812837	97.82247531	97.26999958	96.72374939	96.18362007
180102A00021	1/2/2018	2.82	1/2/2026	1/2/2018	103.60856	101.7833677	99.99926555	98.25508685	96.54970991	94.88205153	93.25106547	91.65574094	90.09510117
190328A00019	3/28/2019	2.56	3/28/2024	3/28/2019	100.08123	100.0036661	99.92622859	99.84891614	99.77172844	99.69466518	99.61772609	99.54091085	99.46421919
190328A00031	4/25/2019	2.56	4/25/2024	4/25/2019	100.1629	100.0080881	99.85375901	99.6999129	99.54654754	99.39366067	99.24125005	99.08931345	98.93784865
190328A00046	3/28/2019	2.7	3/4/2025	3/28/2019	101.48034	100.4761894	99.4918783	98.52682215	97.58045996	96.65225237	95.74168055	94.84824533	93.9714662
190328A00033	4/25/2019	2.56	4/25/2024	4/25/2019	100.1629	100.0080881	99.85375901	99.6999129	99.54654754	99.39366067	99.24125005	99.08931345	98.93784865
190328A00083	3/28/2019	2.37	3/28/2024	3/28/2019	100.07611	99.99845484	99.92092408	99.84351958	99.76624103	99.68908812	99.61206056	99.53515802	99.4583802
190328A00079	3/28/2019	2.37	3/28/2024	3/28/2019	100.07611	99.99845484	99.92092408	99.84351958	99.76624103	99.68908812	99.61206056	99.53515802	99.4583802
180831A00019	8/31/2018	3.21	9/2/2025	8/31/2018	103.34418	101.8492534	100.3836227	98.94650339	97.53713663	96.15478983	94.79875572	93.4683512	92.16291633
170915A00001	9/15/2017	2.43	9/16/2024	9/15/2017	100.5391	99.99174992	99.4503559	98.91482372	98.38505841	97.86096704	97.34245869	96.82944436	96.32183694
190329A00018	3/29/2019	2.6	3/29/2024	3/29/2019	100.08723	100.006899	99.92670005	99.84663278	99.76669691	99.68689211	99.60721809	99.52767453	99.44826112
160401A00016	4/1/2016	2.42	4/1/2025	4/1/2016	101.33032	100.2523832	99.19731223	98.16438827	97.1529196	96.16224309	95.19172266	94.24074798	93.30873309
160524A00027	5/24/2016	3.06	5/27/2031	5/24/2016	117.39538	109.9855875	103.1049898	96.71281251	90.77163844	85.24711137	80.10766985	75.32430551	70.87034357
171018A00011	10/18/2017	2.68	10/18/2027	10/18/2017	108.34147	104.6787702	101.1605105	97.78018868	94.53163018	91.40897351	88.4066526	85.51937993	82.74213087
190401A00010	4/1/2019	2.62	4/1/2024	4/1/2019	100.09805	100.0094162	99.92094167	99.83262434	99.74446382	99.65645971	99.56861159	99.48091905	99.39338169
170919A00073	9/19/2017	2.28	9/19/2024	9/19/2017	100.55658	99.99994237	99.44947101	98.90506039	98.36661064	97.83402408	97.30720516	96.7860604	96.27049833
180412A00034	4/12/2018	3.23	4/15/2030	4/12/2018	117.19905	110.8474547	104.8879096	99.29405838	94.0414543	89.10741185	84.47087102	80.11227229	76.01344207
180412A00036	4/12/2018	3.54	4/15/2038	4/12/2018	136.32086	121.3826769	108.3365111	96.92797696	86.93832957	78.17929487	70.48867611	63.72661359	57.77239777
160307A00027	3/7/2016	2.71	3/6/2026	3/7/2016	103.85512	101.8542746	99.90229902	97.99769169	96.13900649	94.32485174	92.55388766	90.82482405	89.13641808
160307A00028	3/7/2016	2.91	3/7/2028	3/7/2016	109.76511	105.7074954	101.8242396	98.10691903	94.54756008	91.13861535	87.87293853	84.7437608	81.74466888
161214A00023	12/14/2016	3.3	12/15/2031	12/14/2016	121.46587	113.3274603	105.8081633	98.85733071	92.42871942	86.48008331	80.97280812	75.87158148	71.14409455
190402A00004	4/2/2019	2.9	4/2/2029	4/2/2019	113.12076	107.909424	102.972514	98.2941054	93.85927915	89.65405603	85.66533248	81.88082104	78.28899517
190403A00006	4/3/2019	2.48	4/3/2024	4/3/2019	100.10279	100.0085231	99.91444043	99.82054035	99.72682235	99.63328586	99.53993036	99.44675528	99.3537601
190404A00003	4/4/2019	2.47	4/4/2024	4/4/2019	100.10488	100.0078544	99.91102386	99.81438817	99.7179467	99.62169883	99.52564396	99.42978148	99.33411078
190409A00019	4/9/2019	2.91	4/9/2029	4/9/2019	113.21737	107.9842708	103.0275938	98.33124776	93.88016189	89.66021809	85.65818549	81.86165987	78.25900762
190409A00031	4/9/2019	2.64	4/9/2024	4/9/2019	100.12502	100.0143263	99.90389091	99.79371172	99.68378785	99.57411835	99.46470233	99.35553887	99.24662705
190411A00017	4/15/2019	2.65	4/15/2024	4/15/2019	100.14517	100.0179306	99.8910267	99.7644596	99.63822792	99.51233029	99.38676533	99.2615317	99.13662803
180904A00012	9/4/2018	3.35	9/4/2030	9/4/2018	118.78217	111.9994144	105.6581903	99.72731759	94.17797284	88.9835032	84.1192523	79.56240084	75.29182069
180904A00014	9/4/2018	3.37	9/1/2028	9/4/2018	113.12923	108.5209894	104.1304462	99.94615086	95.95731318	92.15376414	88.52591689	85.06473038	81.76167533

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180910A00028	9/10/2018	3.56	9/9/2033	9/10/2018	128.06745	117.9492691	108.7449523	100.3662185	92.73377686	85.77636404	79.42989298	73.63669591	68.34485052
180910A00032	9/10/2018	3.22	9/10/2024	9/10/2018	100.95014	100.4176251	99.89073263	99.3693738	98.85346162	98.34291092	97.8376383	97.33756207	96.84260224
180910A00033	9/10/2018	3.43	9/8/2028	9/10/2018	113.46035	108.8252395	104.4097606	100.2023169	96.19199061	92.36849451	88.72213255	85.24376249	81.92476142
180912A00011	9/12/2018	3.41	9/11/2026	9/12/2018	106.92319	104.380771	101.9125387	99.51588921	97.18832733	94.92746098	92.73099611	90.59673204	88.522557
180913A00030	9/13/2018	3.33	9/12/2025	9/13/2018	103.60884	102.0843878	100.5900869	99.12511892	97.6886901	96.28003492	94.89841478	93.54311687	92.213453
180914A00013	9/14/2018	3.48	9/14/2028	9/14/2018	113.73949	109.0814073	104.6446114	100.4173875	96.38870758	92.54818264	88.88602236	85.39299732	82.06040386
180914A00028	9/14/2018	3.37	9/12/2025	9/14/2018	103.67056	102.1456105	100.6508248	99.18538034	97.74848327	96.33936778	94.9572951	93.60155219	92.27145068
180914A00029	9/14/2018	3.48	9/14/2028	9/14/2018	113.73949	109.0814073	104.6446114	100.4173875	96.38870758	92.54818264	88.88602236	85.39299732	82.06040386
180104A00017	1/4/2018	2.77	1/3/2025	1/4/2018	101.22152	100.3790249	99.55053337	98.73569831	97.93418406	97.14566589	96.36982956	95.6063709	94.85499537
180104A00018	1/4/2018	2.97	1/4/2027	1/4/2018	106.68918	103.8402457	101.0825458	98.41268183	95.82739842	93.32357841	90.89823632	88.548512	86.27166467
180109A00028	1/9/2018	2.6	1/9/2025	1/9/2018	101.24209	100.381587	99.53569375	98.70403961	97.88626711	97.08203061	96.29099588	95.51283963	94.74724904
180110A00028	1/10/2018	2.85	1/10/2025	1/10/2018	101.32925	100.4675253	99.62044892	98.78764707	97.96876089	97.16344346	96.37135935	95.5921841	94.8256038
180110A00029	1/10/2018	3.13	1/10/2028	1/10/2018	110.17818	106.2684124	102.5204964	98.92689175	95.48045199	92.17439827	89.00229845	85.95804764	83.03584987
180111A00007	1/11/2018	2.66	1/14/2025	1/11/2018	101.32204	100.4477396	99.58851645	98.74397927	97.91375367	97.09747785	96.29480213	95.50538844	94.72890984
180116A00014	1/16/2018	3.01	1/19/2027	1/16/2018	106.91506	104.0234237	101.2255671	98.51795185	95.89719031	93.36004074	90.90340015	88.52429758	86.21988776
180116A00015	1/16/2018	3.06	1/18/2028	1/16/2018	109.96967	106.0427895	102.2793502	98.67169797	95.21258023	91.89511946	88.7127918	85.65940706	82.72908986
180118A00004	1/18/2018	2.88	1/17/2025	1/18/2018	101.39548	100.514711	99.649231	98.79864812	97.96257985	97.1406567	96.33252162	95.53782952	94.75624672
180918A00041	9/18/2018	3.18	9/18/2024	9/18/2018	101.05639	100.5008621	99.95145455	99.40806258	98.87058755	98.33893299	97.8130045	97.29270975	96.77795837
190422A00030	4/22/2019	2.93	12/22/2025	4/22/2019	103.73595	101.938546	100.1810254	98.46224035	96.78108235	95.13648309	93.52741254	91.95287728	90.41191889
190424A00007	4/24/2019	2.66	4/24/2024	4/24/2019	100.17523	100.0231612	99.87155801	99.72042256	99.5697527	99.41954628	99.26980113	99.12051513	98.97168615
190426A00023	4/26/2019	2.91	6/24/2026	4/26/2019	105.0747	102.7650583	100.5178807	98.33111814	96.20280067	94.13103482	92.11400037	90.14994693	88.23719083
190701A00023	7/1/2019	1.95	7/1/2024	7/1/2019	100.20624	99.86752732	99.53110486	99.19694594	98.86502778	98.53532789	98.20782407	97.88249444	97.55931739
190701A00009	7/3/2019	2.14	7/2/2024	7/3/2019	100.23005	99.88906406	99.5503904	99.21400969	98.87989871	98.54803456	98.21839462	97.89095661	97.56569852
190702A00002	7/2/2019	2.16	7/2/2024	7/2/2019	100.23692	99.89591647	99.55722831	99.22083318	98.88670785	98.55482941	98.22517526	97.89772311	97.57245095
190703A00017	7/3/2019	2.33	5/4/2026	7/3/2019	103.43092	101.2763946	99.17731963	97.13187681	95.13832027	93.19497539	91.30023522	89.45255711	87.65045961
190708A00011	7/8/2019	2.2	7/8/2024	7/8/2019	100.26462	99.90725368	99.55244147	99.20015443	98.85036556	98.50304828	98.15817638	97.815724	97.47566567
190709A00018	7/9/2019	2.24	7/9/2024	7/9/2019	100.28145	99.92133337	99.56380718	99.20884548	98.85642065	98.50650546	98.15907308	97.81409706	97.47155131
190710A00022	7/10/2019	2.22	7/10/2024	7/10/2019	100.27658	99.91375435	99.55356177	99.19597291	98.84095949	98.48849366	98.13854796	97.79109532	97.44610908
190712A00001	7/12/2019	2.05	7/12/2024	7/12/2019	100.26513	99.89635766	99.53031084	99.16695693	98.80626611	98.44820904	98.09275678	97.73988085	97.38955316
190715A00010	7/15/2019	2.23	7/15/2024	7/15/2019	100.29227	99.91582647	99.54221522	99.17140639	98.80336842	98.4380702	98.0754811	97.71557094	97.35830999
180126A00029	1/26/2018	2.88	1/27/2025	1/26/2018	101.45272	100.5448874	99.65328358	98.7774758	97.91704694	97.07159444	96.24072969	95.42407741	94.62127512
180130A00085	1/30/2018	2.79	1/30/2025	1/30/2018	101.53141	100.6131165	99.71140695	98.82583456	97.95596903	97.10139523	96.26171257	95.43653434	94.6254871
180130A00070	1/30/2018	3.14	1/29/2027	1/30/2018	107.36918	104.4445465	101.6155261	98.87847461	96.22991089	93.66650525	91.18507172	88.78256109	86.45605422

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180131A00022	1/31/2018	2.96	1/30/2025	1/31/2018	101.54402	100.6276936	99.7278849	98.84414919	97.97605864	97.12320048	96.28517637	95.46160173	94.65210518
180201A00022	2/1/2018	2.99	2/3/2025	2/1/2018	101.59628	100.6689966	99.75862312	98.86469994	97.98678401	97.12444811	96.2772801	95.44488228	94.62687072
190426A00009	4/26/2019	2.63	4/26/2024	4/26/2019	100.17688	100.0192986	99.86221306	99.70562607	99.54953521	99.39393813	99.23883249	99.08421596	98.93008622
190717A00008	7/17/2019	2.22	7/17/2024	7/17/2019	100.29324	99.91135521	99.53238919	99.15630602	98.78307275	98.41265698	98.04502675	97.68015061	97.31799759
190719A00006	7/19/2019	2.17	7/19/2024	7/19/2019	100.27848	99.89119706	99.50691343	99.12559343	98.74720274	98.3717076	97.99907474	97.62927144	97.26226542
190724A00023	7/24/2019	2.13	7/24/2025	7/24/2019	101.7567	100.3750406	99.0188042	97.68734961	96.38005672	95.0963257	93.83557619	92.59724646	91.38079272
190724A00021	7/24/2019	2.33	7/23/2027	7/24/2019	106.50921	103.1121186	99.84188113	96.69309899	93.66063403	90.73959275	87.92531335	85.21335348	82.59947873
190724A00024	7/24/2019	2.49	7/24/2029	7/24/2019	111.57919	106.1034436	100.9321548	96.04682296	91.43016345	87.06602162	82.93929356	79.03585259	75.34248128
190726A00014	7/26/2019	2.23	7/24/2024	7/26/2019	100.31392	99.9129689	99.5152243	99.12064868	98.72920424	98.34085374	97.95556053	97.57328857	97.19400236
190726A00017	7/26/2019	2.44	7/24/2026	7/26/2019	104.16348	101.7856076	99.47415544	97.22690015	95.04170699	92.91652475	90.84938208	88.83838379	86.88170753
190730A00016	7/30/2019	2	7/30/2024	7/30/2019	100.28464	99.86683596	99.45250881	99.04161341	98.63410726	98.22994857	97.82909621	97.43150974	97.03714939
190730A00007	7/30/2019	2.19	7/30/2024	7/30/2019	100.31151	99.89426318	99.48047576	99.07010785	98.66311724	98.25946241	97.85910251	97.46199737	97.06810746
180503A00040	5/3/2018	3.3	5/5/2025	5/3/2018	102.5438	101.3678735	100.2189227	99.0960274	97.99830809	96.92492445	95.87507321	94.84798614	93.84292813
181004A00029	10/4/2018	3.7	10/4/2028	10/4/2018	114.92471	110.1843086	105.6709496	101.3725144	97.27759435	93.37544845	89.6559608	86.10960061	82.72738518
190731A00004	7/31/2019	2.18	7/31/2024	7/31/2019	100.30957	99.88960841	99.47315169	99.0601567	98.65058049	98.2443808	97.84151607	97.44194542	97.04562863
190802A00003	8/2/2019	2.01	8/2/2024	8/2/2019	100.24145	99.81624999	99.39465075	98.97660542	98.5620692	98.15099807	97.74334872	97.33907859	96.93814578
190802A00032	8/2/2019	2.01	8/2/2024	8/2/2019	100.24145	99.81624999	99.39465075	98.97660542	98.5620692	98.15099807	97.74334872	97.33907859	96.93814578
181005A00012	10/5/2018	3.33	10/4/2024	10/5/2018	101.23561	100.6361905	100.0438739	99.45853177	98.88004122	98.30828236	97.74313807	97.18449392	96.63223813
190429A00004	4/29/2019	2.65	4/15/2024	4/29/2019	100.14517	100.0179306	99.8910267	99.7644596	99.63822792	99.51233029	99.38676533	99.2615317	99.13662803
190430A00001	4/30/2019	2.47	5/2/2024	4/30/2019	100.18993	100.015594	99.84186329	99.66873913	99.49621835	99.3242978	99.15297431	98.98224477	98.81210607
180604A00050	6/4/2018	3.15	6/4/2024	6/4/2018	100.44152	100.1765466	99.91297776	99.65079872	99.38999853	99.13056631	98.87249127	98.61576278	98.36037028
190501A00017	5/1/2019	2.61	5/1/2024	5/1/2019	100.18914	100.0177702	99.84698979	99.67679185	99.50717337	99.33813141	99.16966305	99.00176539	98.83443554
190501A00028	5/1/2019	2.42	5/1/2024	5/1/2019	100.1782	100.0066159	99.83562469	99.66521923	99.49539645	99.32615337	99.15748701	98.98939443	98.82187268
190501A00014	5/1/2019	2.62	5/1/2024	5/1/2019	100.19085	100.0194869	99.84870432	99.67850421	99.50888356	99.33983944	99.17136893	99.00346912	98.83613712
190507A00027	5/7/2019	2.59	5/7/2024	5/7/2019	100.20448	100.0166412	99.82951809	99.64310431	99.45739574	99.27238835	99.08807811	98.90446104	98.72153319
190513A00013	5/13/2019	2.52	5/13/2024	5/13/2019	100.20888	100.0045889	99.80114076	99.59853407	99.39676351	99.19582384	98.99570986	98.79641642	98.5979384
180205A00019	2/5/2018	2.88	2/5/2025	2/5/2018	101.65263	100.7176396	99.79982655	98.89872419	98.01387906	97.14485398	96.29122733	95.45259236	94.62855652
180207A00002	2/7/2018	3.13	2/6/2026	2/7/2018	104.46883	102.5414684	100.6595094	98.82160635	97.02646344	95.27283147	93.55950609	91.88532578	90.24917004
180207A00003	2/7/2018	3.28	2/7/2028	2/7/2018	110.99543	106.9943513	103.1617613	99.48967709	95.97053377	92.5971627	89.3627687	86.26090862	83.28547122
190514A00020	5/14/2019	2.66	5/14/2025	5/14/2019	101.83472	100.6393183	99.47193219	98.3315875	97.21735241	96.12833744	95.06369315	94.02260786	93.00430561
190514A00073	5/14/2019	2.53	5/14/2024	5/14/2019	100.21389	100.0068507	99.80067616	99.59536557	99.39091346	99.18731437	98.9845629	98.78265369	98.58158143
190514A00021	5/14/2019	2.72	11/14/2025	5/14/2019	103.09075	101.4010068	99.747017	98.1277109	96.54206109	94.98908094	93.46782257	91.97737488	90.51686181
181227A00027	12/27/2018	3.24	12/26/2025	12/27/2018	104.33098	102.5174301	100.7443094	99.01046529	97.31478469	95.65619361	94.03365573	92.44617077	90.89277296

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
181227A00028	12/27/2018	3.46	12/27/2028	12/27/2018	114.51252	109.552971	104.8413134	100.3638539	96.10772196	92.06081951	88.21177071	84.54987525	81.06506475
190805A00050	8/5/2019	1.91	8/5/2024	8/5/2019	100.20351	99.77029788	99.34082695	98.91505016	98.49291994	98.07438956	97.65941305	97.24794526	96.83994177
190805A00009	8/5/2019	1.91	8/5/2024	8/5/2019	100.20351	99.77029788	99.34082695	98.91505016	98.49291994	98.07438956	97.65941305	97.24794526	96.83994177
190805A00011	8/5/2019	1.91	8/5/2024	8/5/2019	100.20351	99.77029788	99.34082695	98.91505016	98.49291994	98.07438956	97.65941305	97.24794526	96.83994177
181010A00023	10/10/2018	3.41	4/1/2024	10/10/2018	100.16818	100.0794866	99.9909519	99.90257454	99.81435411	99.72629017	99.63838233	99.55063018	99.4630333
190514A00024	5/14/2019	2.34	5/14/2024	5/14/2019	100.20059	99.99328492	99.7868525	99.58128832	99.37658684	99.17274252	98.96974989	98.76760352	98.56629804
190515A00032	5/15/2019	2.49	5/15/2024	5/15/2019	100.20843	99.99864963	99.78976355	99.58176409	99.37464555	99.16840226	98.96302861	98.75851904	98.55486802
190807A00021	8/7/2019	2	8/7/2026	8/7/2019	103.17208	100.7699297	98.43592412	96.167753	93.96319442	91.8201148	89.73646488	87.7102758	85.73965547
181227A00019	12/28/2020	3.1	12/29/2025	12/28/2020	104.09687	102.277588	100.4990248	98.76003024	97.05949064	95.39633078	93.7695125	92.17803311	90.62092395
190808A00025	8/8/2019	1.7	8/8/2024	8/8/2019	100.17102	99.72911268	99.2911114	98.85695974	98.42660697	98.00000327	97.57709966	97.15784803	96.7422011
190808A00050	8/8/2019	1.7	8/8/2024	8/8/2019	100.17102	99.72911268	99.2911114	98.85695974	98.42660697	98.00000327	97.57709966	97.15784803	96.7422011
190808A00052	8/8/2019	1.7	8/8/2024	8/8/2019	100.17102	99.72911268	99.2911114	98.85695974	98.42660697	98.00000327	97.57709966	97.15784803	96.7422011
190808A00009	8/8/2019	1.89	8/8/2024	8/8/2019	100.19955	99.7582403	99.32081341	98.88722268	98.45741771	98.03134899	97.60896785	97.19022648	96.77507789
190809A00012	8/9/2019	1.69	8/9/2024	8/9/2019	100.16795	99.72334364	99.282691	98.84593571	98.41302608	97.98391134	97.5585416	97.13686787	96.71884198
190517A00005	5/17/2019	2.31	5/17/2024	5/17/2019	100.20244	99.98689091	99.77228691	99.5586199	99.34588366	99.13407201	98.92317884	98.71319809	98.50412375
190520A00048	5/20/2019	2.53	5/20/2024	5/20/2019	100.23165	100.0081216	99.7856069	99.5640945	99.34357763	99.12404951	98.90550345	98.68793282	98.47133102
190809A00011	8/9/2019	1.69	8/9/2024	8/9/2019	100.16795	99.72334364	99.282691	98.84593571	98.41302608	97.98391134	97.5585416	97.13686787	96.71884198
190809A00022	8/9/2019	1.88	8/9/2024	8/9/2019	100.19667	99.75265713	99.31258276	98.87639215	98.44403393	98.01545765	97.59061374	97.1694535	96.75192907
190809A00020	8/9/2019	2.44	8/9/2034	8/9/2019	118.6183	108.0842243	98.59550666	90.04225621	82.32667385	75.36166846	69.06963526	63.38137909	58.23516454
190809A00021	8/9/2019	2.12	8/9/2029	8/9/2019	109.63044	104.165124	99.00677629	94.13657729	89.53695716	85.19150445	81.08488396	77.20276084	73.53173047
190809A00010	8/9/2019	1.88	8/8/2024	8/9/2019	100.1951	99.75379713	99.31638184	98.88280263	98.45300911	98.02695176	97.60458193	97.1858518	96.77071438
190812A00006	8/12/2019	1.86	8/12/2024	8/12/2019	100.19224	99.74012959	99.29210305	98.84810392	98.40807795	97.97197185	97.53973328	97.11131083	96.68665401
190812A00003	8/12/2019	1.67	8/12/2024	8/12/2019	100.16297	99.71026017	99.26164374	98.81706874	98.37648057	97.93982561	97.5070512	97.07810561	96.65293803
190520A00007	5/20/2019	2.52	5/20/2024	5/20/2019	100.2294	100.0058801	99.78336876	99.56185971	99.34134618	99.12182139	98.90327865	98.68571132	98.46911282
190102A00050	1/2/2019	3.38	1/3/2034	1/2/2019	127.08407	116.7020926	107.2864848	98.74127544	90.98051612	83.9271845	77.51221545	71.67364183	66.35583187
190813A00008	8/13/2019	1.88	8/13/2024	8/13/2019	100.20294	99.74809456	99.29738525	98.85075174	98.40813878	97.96949212	97.53475849	97.10388557	96.67682198
190813A00016	8/13/2019	1.88	8/13/2024	8/13/2019	100.20294	99.74809456	99.29738525	98.85075174	98.40813878	97.96949212	97.53475849	97.10388557	96.67682198
190814A00003	8/14/2019	2.01	8/14/2029	8/14/2019	109.04535	103.5827941	98.42801761	93.56209785	88.96737386	84.62735205	80.52662324	76.65078603	72.98637596
190814A00015	8/14/2019	1.84	8/14/2024	8/14/2019	100.18602	99.72852173	99.27520355	98.82600921	98.38088246	97.93976811	97.50261196	97.06936075	96.63996223
190814A00008	8/14/2019	1.84	8/14/2024	8/14/2019	100.18602	99.72852173	99.27520355	98.82600921	98.38088246	97.93976811	97.50261196	97.06936075	96.63996223
190814A00009	8/14/2019	1.84	8/14/2024	8/14/2019	100.18602	99.72852173	99.27520355	98.82600921	98.38088246	97.93976811	97.50261196	97.06936075	96.63996223
190522A00003	5/22/2019	2.55	5/22/2024	5/22/2019	100.24216	100.0131347	99.7851667	99.55824838	99.33237244	99.10753166	98.8837189	98.66092705	98.43914911
190522A00019	5/23/2019	2.55	5/15/2024	5/23/2019	100.22107	100.0112708	99.80236675	99.59434935	99.38721293	99.18095181	98.9755604	98.77103311	98.56736444

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190523A00015	5/23/2019	2.51	4/1/2024	5/23/2019	100.08828	99.99965959	99.91119341	99.82288443	99.73473226	99.64673648	99.55889667	99.47121243	99.38368336
190816A00036	8/16/2019	1.77	8/16/2024	8/16/2019	100.1562	99.69337953	99.23483465	98.78051014	98.33034779	97.88429045	97.44228203	97.00426746	96.57019266
190816A00033	8/16/2019	1.77	8/16/2024	8/16/2019	100.1562	99.69337953	99.23483465	98.78051014	98.33034779	97.88429045	97.44228203	97.00426746	96.57019266
190816A00011	8/16/2019	1.77	8/16/2024	8/16/2019	100.1562	99.69337953	99.23483465	98.78051014	98.33034779	97.88429045	97.44228203	97.00426746	96.57019266
190816A00020	8/16/2019	1.79	8/16/2024	8/16/2019	100.16556	99.70270506	99.24413487	98.78978521	98.33959788	97.89351572	97.45148265	97.01344359	96.57934445
190816A00006	8/16/2019	1.77	8/16/2024	8/16/2019	100.1562	99.69337953	99.23483465	98.78051014	98.33034779	97.88429045	97.44228203	97.00426746	96.57019266
190816A00031	8/16/2019	1.77	8/16/2024	8/16/2019	100.1562	99.69337953	99.23483465	98.78051014	98.33034779	97.88429045	97.44228203	97.00426746	96.57019266
190816A00022	8/16/2019	1.77	8/16/2024	8/16/2019	100.1562	99.69337953	99.23483465	98.78051014	98.33034779	97.88429045	97.44228203	97.00426746	96.57019266
190523A00017	5/23/2019	2.51	3/15/2024	5/23/2019	100.04335	100.0017687	99.96023669	99.91875689	99.87732918	99.83595346	99.79462963	99.75335758	99.71213721
190523A00018	5/23/2019	2.51	3/15/2024	5/23/2019	100.04335	100.0017687	99.96023669	99.91875689	99.87732918	99.83595346	99.79462963	99.75335758	99.71213721
190104A00033	1/4/2019	3.37	1/31/2029	1/4/2019	114.33973	109.2911821	104.499578	99.95048349	95.63034691	91.52644249	87.62681583	83.92023327	80.39613486
180823A00035	8/23/2018	3.05	8/22/2025	8/23/2018	103.26171	101.7926381	100.3519407	98.93887017	97.55270208	96.19273695	94.85829906	93.54873545	92.26341498
190524A00040	5/24/2019	2.47	5/24/2024	5/24/2019	100.22934	99.99484824	99.76146342	99.52917606	99.2979784	99.06786275	98.83882148	98.61084707	98.38393201
190528A00009	5/28/2019	2.45	5/15/2024	5/28/2019	100.2	99.9902355	99.78136141	99.57337391	99.3662673	99.16003589	98.95467409	98.75017632	98.54653708
190108A00039	1/8/2019	3.04	4/30/2024	1/8/2019	100.25867	100.0899583	99.92181106	99.75422585	99.5871999	99.42073044	99.25481473	99.08945003	98.92463363
190110A00004	1/10/2019	3.09	1/10/2025	1/10/2019	101.53848	100.6757695	99.82771657	98.99394972	98.17410984	97.36784979	96.57483394	95.79473761	95.02724668
190110A00005	1/10/2019	3.2	1/9/2026	1/10/2019	104.36488	102.5141369	100.7054076	98.93749687	97.20924734	95.51954167	93.86730109	92.25148374	90.67108318
180514A00035	5/14/2018	3.07	5/14/2024	5/14/2018	100.35238	100.1448544	99.93820769	99.7324299	99.52751548	99.32345889	99.12025467	98.91789737	98.71638163
180521A00025	5/21/2018	3.24	5/21/2025	5/21/2018	102.78334	101.5601776	100.3661307	99.20016764	98.0613055	96.94860681	95.8611769	94.79816153	93.75874457
191113A00016	11/15/2019	2.02	8/15/2024	11/15/2019	100.27114	99.81070631	99.35450508	98.90247765	98.45456679	98.01071631	97.57087104	97.13497681	96.70298042
191115A00015	11/18/2019	2.61	11/18/2024	11/18/2019	100.85765	100.1401948	99.43293902	98.73566474	98.04816162	97.37022514	96.70165649	96.04226233	95.3918546
191115A00014	11/18/2019	2.45	11/18/2024	11/18/2019	100.74146	100.0244743	99.3176791	98.62086089	97.93380932	97.25631998	96.58819409	95.92923841	95.27926495
191115A00016	11/18/2019	2.48	11/18/2024	11/18/2019	100.76325	100.0461719	99.33929033	98.64238661	97.95525038	97.27767719	96.60946829	95.9504304	95.30037551
191115A00030	11/15/2019	2.35	11/9/2029	11/15/2019	110.47594	104.77077	99.39757176	94.33525572	89.56418392	85.0660626	80.82384289	76.8216293	73.04459564
191115A00028	11/15/2019	2.34	9/28/2029	11/15/2019	110.27746	104.6875158	99.4173643	94.44702587	89.75787426	85.33253576	81.15479853	77.20952889	73.48259414
190819A00030	8/19/2019	2.01	8/20/2029	8/19/2019	109.06271	103.58415	98.41511338	93.536526	88.93058078	84.58065099	80.47120608	76.58773403	72.9166695
191119A00027	11/19/2019	1.8	11/19/2024	11/19/2019	100.40579	99.68571335	98.97593913	98.27625024	97.58643273	96.90627867	96.23558594	95.57415802	94.92180383
191120A00024	11/20/2019	2.23	11/16/2029	11/20/2019	109.8165	104.1112022	98.73917808	93.67918609	88.91144814	84.41754451	80.18031318	76.1837571	72.41295886
191120A00006	11/20/2019	2.67	11/20/2035	11/20/2019	120.65694	108.9442936	98.51126021	89.2099144	80.91019191	73.49764669	66.87150173	60.94295197	55.63368567
191120A00005	11/20/2019	2.63	11/20/2034	11/20/2019	119.42501	108.6714995	99.00538416	90.31007385	82.48207143	75.4294409	69.07046087	63.33244131	58.15068271
190819A00004	8/20/2019	1.81	5/24/2024	8/20/2019	100.07387	99.83962849	99.60648669	99.37444149	99.14348511	98.91360989	98.6848082	98.4570725	98.23039531
180823A00055	8/23/2018	3.44	8/23/2033	8/23/2018	126.82406	116.808669	107.6953438	99.39724422	91.83633485	84.94245201	78.65247231	72.90957271	67.66257176
190819A00026	8/19/2019	1.62	8/19/2024	8/19/2019	100.14849	99.67686162	99.20967887	98.74687854	98.28839901	97.83417983	97.38416165	96.93828623	96.49649642

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190529A00028	5/29/2019	2.38	5/29/2024	5/29/2019	100.22084	99.97265071	99.72569173	99.47995238	99.23542363	98.99209659	98.74996242	98.50901238	98.26923781
190529A00023	5/29/2019	2.38	5/29/2024	5/29/2019	100.22084	99.97265071	99.72569173	99.47995238	99.23542363	98.99209659	98.74996242	98.50901238	98.26923781
190529A00089	5/29/2019	2.38	5/29/2024	5/29/2019	100.22084	99.97265071	99.72569173	99.47995238	99.23542363	98.99209659	98.74996242	98.50901238	98.26923781
190529A00013	5/29/2019	2.38	5/29/2024	5/29/2019	100.22084	99.97265071	99.72569173	99.47995238	99.23542363	98.99209659	98.74996242	98.50901238	98.26923781
180823A00053	8/23/2018	3.2	8/23/2028	8/23/2018	112.90669	108.3093913	103.9287484	99.75339399	95.77261928	91.97632994	88.35500774	84.89967461	81.60185917
180529A00044	5/29/2018	3.11	5/29/2024	5/29/2018	100.40288	100.1543927	99.90713345	99.66109492	99.41626815	99.17264422	98.93021428	98.68896959	98.44890148
180529A00042	5/29/2018	3.42	5/30/2028	5/29/2018	112.55855	108.216365	104.0687193	100.1057812	96.31827947	92.69746427	89.23507396	85.92330495	82.75478332
180530A00025	5/30/2018	3.49	5/30/2030	5/30/2018	118.20886	111.7371399	105.6702365	99.98054413	94.64248955	89.63237067	84.92820934	80.50961666	76.35766958
180530A00024	5/30/2018	3.44	5/30/2029	5/30/2018	115.59128	110.1824195	105.064318	100.2197159	95.6324751	91.28750003	87.17066403	83.26874163	79.5693459
180530A00026	5/30/2018	3.55	5/30/2031	5/30/2018	120.93681	113.3942733	106.38841	99.87793731	93.82496357	88.19469523	82.95516728	78.07699871	73.53317036
180530A00027	5/30/2018	3.61	6/1/2032	5/30/2018	123.97733	115.338308	107.3868936	100.0642319	93.31681889	87.09598466	81.3574317	76.06082035	71.1693953
180530A00028	5/30/2018	3.67	5/31/2033	5/30/2018	127.06471	117.3252914	108.4407435	100.3306624	92.92263192	86.15139056	79.95808925	74.2896292	69.09807162
180530A00030	5/30/2018	3.68	5/30/2034	5/30/2018	129.4992	118.6828672	108.903387	100.0545447	92.04157704	84.77987844	78.19386178	72.21595265	66.78570054
180530A00072	5/30/2018	3.06	5/30/2024	5/30/2018	100.39483	100.1436105	99.89364437	99.64492389	99.39743977	99.15118283	98.90614398	98.66231422	98.41968465
190111A00026	1/11/2019	3.48	1/11/2034	1/11/2019	128.10527	117.6541528	108.176503	99.57552686	91.76454945	84.66591089	78.20998624	72.33431651	66.98283737
190114A00040	1/14/2019	2.89	1/14/2025	1/14/2019	101.52523	100.6499597	99.78977599	98.9442898	98.11312647	97.29592395	96.49233237	95.70201344	94.92464001
190122A00046	1/22/2019	3.29	1/22/2029	1/22/2019	114.55511	109.5041615	104.709635	100.1571612	95.83325072	91.7252339	87.82120693	84.10998168	80.58103912
190122A00043	1/22/2019	2.96	1/22/2025	1/22/2019	101.63808	100.7407624	99.85928351	98.99322423	98.14218223	97.30576913	96.48360985	95.67534202	94.88061549
190122A00045	1/22/2019	3.17	1/22/2027	1/22/2019	107.78728	104.8662095	102.0402052	99.30565951	96.65912599	94.09730711	91.61704718	89.21532532	86.88924899
191121A00010	11/21/2019	2.59	11/20/2037	11/21/2019	122.89936	109.1995023	97.22051746	86.73456669	77.54516031	69.48270072	62.40067597	56.17240921	50.68828003
191121A00034	11/21/2019	2.28	11/2/2029	11/21/2019	110.05528	104.3804887	99.03511253	93.99827582	89.25054016	84.77379376	80.55115367	76.5668759	72.80627255
191121A00009	11/21/2019	2.55	11/21/2036	11/21/2019	121.57109	108.8211732	97.57277011	87.6393209	78.85840092	71.08848734	64.20617158	58.10375599	52.68718012
191121A00004	11/21/2019	1.77	11/21/2024	11/21/2019	100.38824	99.66287394	98.94796209	98.24328206	97.54861529	96.86374938	96.18847792	95.52260027	94.86592132
191122A00021	11/26/2019	3.4	11/22/2038	11/26/2019	133.49261	118.3443901	105.1839515	93.73463324	83.75985798	75.05712541	67.45293635	60.79849591	54.96607277
191122A00018	11/26/2019	3.11	11/22/2039	11/26/2019	131.34252	115.4836925	101.8333947	90.06612123	79.90620022	71.11992192	63.50894636	56.90477607	51.16411745
191122A00020	11/26/2019	3.2	11/23/2037	11/26/2019	129.12469	115.1393749	102.8901865	92.14880529	82.71818732	74.4281305	67.13148853	60.70093607	55.02620229
191125A00036	11/25/2019	2.29	11/23/2029	11/25/2019	110.18167	104.4474886	99.04910276	93.96504486	89.17533807	84.66138169	80.40584875	76.3925918	72.60655629
191126A00026	11/26/2019	1.91	11/25/2026	11/26/2019	103.84023	101.1290102	98.50214971	95.95647901	93.48896776	91.09672161	88.77697497	86.52708413	84.3445209
191126A00023	11/26/2019	1.81	5/27/2025	11/26/2019	101.0437	99.81589331	98.61777007	97.44826419	96.30636036	95.19109078	94.10153243	93.03680449	91.99606594
191129A00012	11/29/2019	1.99	11/29/2024	11/29/2019	100.43953	99.69426035	98.96001245	98.23654344	97.52361742	96.82100534	96.12848473	95.44583949	94.77285963
191202A00005	12/2/2019	2.03	12/2/2024	12/2/2019	100.48554	99.73197117	98.9896674	98.25837904	97.53786235	96.82788075	96.12820454	95.43861065	94.75888239
191203A00004	12/4/2019	1.87	12/4/2024	12/4/2019	100.36081	99.60252803	98.85566737	98.11997156	97.39519172	96.68108628	95.9774208	95.28396761	94.60050565
191204A00013	12/4/2019	1.72	12/4/2024	12/4/2019	100.38011	99.61995893	98.87127929	98.1338163	97.40731935	96.69154524	95.98625791	95.29122818	94.60623351

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190820A00020	8/20/2019	1.76	8/20/2024	8/20/2019	100.15647	99.68283046	99.21367385	98.74893339	98.28854683	97.83245307	97.38059218	96.93290532	96.48933474
190820A00021	8/20/2019	2.13	8/20/2029	8/20/2019	108.98641	103.5349962	98.39086349	93.53510418	88.95007227	84.61928932	80.52736138	76.65990225	73.00346258
190820A00029	8/20/2019	1.76	8/20/2024	8/20/2019	100.15647	99.68283046	99.21367385	98.74893339	98.28854683	97.83245307	97.38059218	96.93290532	96.48933474
190820A00038	8/20/2019	1.76	8/20/2024	8/20/2019	100.15647	99.68283046	99.21367385	98.74893339	98.28854683	97.83245307	97.38059218	96.93290532	96.48933474
190820A00008	8/20/2019	1.76	8/20/2024	8/20/2019	100.15647	99.68283046	99.21367385	98.74893339	98.28854683	97.83245307	97.38059218	96.93290532	96.48933474
190821A00017	8/21/2019	1.8	8/21/2024	8/21/2019	100.17695	99.70055794	99.22869215	98.76129218	98.29829476	97.83963778	97.38526033	96.93510262	96.48910596
190821A00030	8/21/2019	1.8	8/21/2024	8/21/2019	100.17695	99.70055794	99.22869215	98.76129218	98.29829476	97.83963778	97.38526033	96.93510262	96.48910596
190529A00032	5/29/2019	2.38	5/29/2024	5/29/2019	100.22084	99.97265071	99.72569173	99.47995238	99.23542363	98.99209659	98.74996242	98.50901238	98.26923781
190530A00008	5/30/2019	2.38	5/30/2025	5/30/2019	101.7713	100.5307012	99.32024914	98.1388529	96.98547608	95.85913105	94.75887614	93.68381295	92.63308391
190530A00006	5/30/2019	2.25	5/30/2024	5/30/2019	100.22231	99.97102666	99.72100783	99.47223921	99.22471144	98.97841526	98.73334148	98.48948101	98.24682487
190530A00029	5/30/2019	2.25	5/30/2024	5/30/2019	100.22231	99.97102666	99.72100783	99.47223921	99.22471144	98.97841526	98.73334148	98.48948101	98.24682487
190530A00024	5/30/2019	2.25	5/30/2024	5/30/2019	100.22231	99.97102666	99.72100783	99.47223921	99.22471144	98.97841526	98.73334148	98.48948101	98.24682487
190823A00005	8/23/2019	1.62	8/23/2024	8/23/2019	100.15326	99.67078576	99.19296242	98.71971964	98.25099165	97.78671397	97.32682331	96.87125761	96.41995596
190826A00018	8/26/2019	1.9	8/27/2029	8/26/2019	108.47801	102.9971479	97.82720431	92.94894161	88.3444122	83.99686241	79.89064698	76.01115029	72.34471343
190530A00045	5/30/2019	2.44	5/30/2024	5/30/2019	100.23851	99.98754617	99.73784076	99.48937997	99.24215453	98.99615528	98.75137313	98.50779909	98.26542426
190531A00037	5/31/2019	2.61	5/31/2029	5/31/2019	111.96058	106.6194057	101.5675762	96.78782688	92.26402402	87.98108011	83.92487982	80.08221176	76.44070545
190531A00038	5/31/2019	2.82	5/31/2034	5/31/2019	122.2753	111.7356917	102.2196005	93.62137081	85.84679956	78.81183703	72.44144349	66.66857989	61.43331644
190603A00005	6/3/2019	2.25	6/3/2024	6/3/2019	100.1998	99.9379805	99.67752705	99.41843186	99.16068432	98.90427392	98.64919027	98.39542307	98.14296215
190603A00003	6/3/2019	2.05	6/3/2024	6/3/2019	100.18027	99.91811759	99.65734052	99.39792767	99.13986829	98.8831518	98.62776767	98.37370552	98.12095507
190603A00033	6/3/2019	2.05	6/3/2024	6/3/2019	100.18027	99.91811759	99.65734052	99.39792767	99.13986829	98.8831518	98.62776767	98.37370552	98.12095507
180620A00014	6/20/2018	3.4	6/20/2028	6/20/2018	112.6573	108.2550417	104.0524259	100.0393311	96.20620301	92.54402024	89.04426137	85.69887452	82.50024899
180620A00038	6/20/2018	3.4	6/20/2028	6/20/2018	112.6573	108.2550417	104.0524259	100.0393311	96.20620301	92.54402024	89.04426137	85.69887452	82.50024899
190826A00057	8/26/2019	1.87	8/26/2025	8/26/2019	101.28684	99.82650595	98.39453762	96.99018341	95.61271636	94.2614345	92.93565978	91.63473705	90.35803313
190826A00056	8/26/2019	1.72	8/26/2024	8/26/2019	100.14406	99.65424681	99.16921464	98.68889619	98.21322295	97.74212776	97.27554474	96.81340927	96.35565795
190826A00058	8/26/2019	1.91	8/26/2026	8/26/2019	103.03791	100.5881119	98.20918743	95.89867992	93.65423502	91.47359389	89.3545888	87.29513878	85.29324564
190826A00065	8/26/2019	2.09	8/28/2029	8/26/2019	108.78998	103.3233265	98.16603264	93.29899358	88.70438056	84.36554904	80.26695403	76.39407202	72.73332881
190826A00060	8/26/2019	2.02	8/26/2027	8/26/2019	105.17437	101.7230257	98.4037721	95.21084885	92.13878256	89.18236697	86.33664836	83.59691192	80.95866881
190826A00063	8/26/2019	2.05	8/28/2028	8/26/2019	107.16666	102.7020644	98.44963625	94.39819118	90.53719411	86.85671659	83.34739867	80.00041338	76.80743358
190827A00001	8/27/2019	1.74	8/27/2024	8/27/2019	100.15514	99.6625925	99.17487761	98.69192677	98.21367043	97.74004037	97.27096971	96.80639283	96.3462454
190827A00002	8/27/2019	1.74	8/27/2024	8/27/2019	100.15514	99.6625925	99.17487761	98.69192677	98.21367043	97.74004037	97.27096971	96.80639283	96.3462454
190828A00019	8/28/2019	2	3/28/2028	8/28/2019	106.21347	102.171845	98.30664271	94.60922472	91.07142106	87.68550447	84.4441639	81.34047968	78.36790034
190828A00020	8/28/2019	1.95	5/28/2027	8/28/2019	104.49272	101.2892286	98.20052929	95.22182059	92.34853108	89.57631047	86.90101723	84.31870693	81.82562145
190828A00015	8/28/2019	2.04	8/28/2029	8/28/2019	108.51585	103.0566088	97.90642802	93.04621683	88.45816047	84.12562757	80.03308558	76.16602276	72.510876

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190828A00009	8/28/2019	1.71	8/28/2024	8/28/2019	100.1413	99.64608889	99.15576293	98.67025099	98.18948246	97.71338808	97.24189997	96.77495152	96.31247742
190828A00031	8/28/2019	1.71	8/28/2024	8/28/2019	100.1413	99.64608889	99.15576293	98.67025099	98.18948246	97.71338808	97.24189997	96.77495152	96.31247742
190829A00050	8/29/2019	1.73	8/29/2024	8/29/2019	100.15246	99.65451636	99.16150753	98.67336334	98.1900121	97.71138351	97.23740866	96.76801996	96.30315112
180621A00017	6/21/2018	3.42	6/21/2028	6/21/2018	112.7522	108.3451421	104.1380389	100.1207495	96.28370342	92.61786396	89.11469486	85.76613011	82.56454552
190606A00027	6/6/2019	2.51	6/5/2026	6/6/2019	104.02271	101.7770513	99.59097173	97.46247462	95.38964297	93.37063946	91.40370236	89.48714175	87.61933593
190606A00028	6/6/2019	2.74	6/6/2029	6/6/2019	111.96008	106.6262918	101.581582	96.80872027	92.29159304	88.01512896	83.96522566	80.12868204	76.49313571
190606A00029	6/6/2019	2.96	6/6/2034	6/6/2019	122.2866	111.8064277	102.341977	93.78852553	86.0526862	79.0511259	72.70943511	66.96112955	61.74676828
190606A00023	6/6/2019	2.23	6/6/2024	6/6/2019	100.20139	99.93138306	99.66283194	99.39572926	99.13006329	98.8658224	98.60299511	98.34157004	98.08153595
190829A00045	8/29/2019	1.9	8/28/2026	8/29/2019	103.02192	100.5671396	98.18351549	95.86858212	93.61997093	91.43540972	89.31271806	87.24980303	85.2446551
190829A00031	8/29/2019	1.54	8/29/2024	8/29/2019	100.12012	99.62149894	99.1278362	98.63905455	98.15508185	97.6758474	97.20128188	96.7313173	96.265887
190830A00012	8/30/2019	1.76	8/30/2024	8/30/2019	100.1688	99.66809971	99.17239279	98.68160139	98.19565272	97.71447545	97.23799962	96.76615664	96.29887924
190830A00002	8/30/2019	1.93	8/28/2026	8/30/2019	103.09691	100.641181	98.25662941	95.940789	93.69129053	91.5058612	89.38232002	87.31857351	85.31261162
180621A00068	6/21/2018	3.32	6/23/2025	6/21/2018	102.96588	101.659614	100.3782714	99.12115856	97.88761048	96.67698675	95.48867024	94.32206609	93.17660064
180622A00005	6/22/2018	3.5	7/2/2029	6/22/2018	116.14306	110.6290397	105.4159108	100.4856639	95.82145765	91.40753674	87.22915642	83.27251288	79.52467864
180622A00004	6/22/2018	3.47	12/22/2028	6/22/2018	114.52103	109.5747066	104.8749866	100.4082593	96.16173561	92.12339512	88.2819355	84.62672602	81.14776405
180622A00006	6/22/2018	3.53	12/21/2029	6/22/2018	117.44863	111.4344391	105.7731612	100.4421692	95.42040287	90.68825223	86.22745033	82.02097451	78.05295544
200403A00006	4/3/2020	1.05	4/3/2025	4/3/2020	99.834048	98.75953458	97.70798874	96.67868115	95.67091289	94.68401403	93.71734215	92.77028094	91.8422389
190607A00018	6/7/2019	2.19	6/7/2024	6/7/2019	100.19271	99.91998349	99.64874961	99.37899448	99.11070594	98.84387202	98.57848085	98.31452068	98.05197992
200406A00006	4/6/2020	1.13	4/7/2025	4/6/2020	99.927726	98.84210119	97.7799098	96.74039992	95.72285162	94.72657515	93.75090936	92.79522022	91.8588995
190131A00019	1/31/2019	3.44	1/30/2034	1/31/2019	127.82504	117.3380714	107.832852	99.21128499	91.38558313	84.27713328	77.81549431	71.93750909	66.58651687
180920A00014	9/20/2018	3.59	9/20/2028	9/20/2018	114.29354	109.6062309	105.1420839	100.8892593	96.83660913	92.97363352	89.2904393	85.77770172	82.42662868
200922A00033	9/24/2020	2.37	9/23/2024	9/24/2020	100.51456	99.94856327	99.38893707	98.83557057	98.28835912	97.74720038	97.21199429	96.68264297	96.15905068
200922A00034	9/24/2020	2.24	9/23/2026	9/24/2020	104.02571	101.4878019	99.02487037	96.63425467	94.31340405	92.05987453	89.8713237	87.74550575	85.68026681
200922A00035	9/24/2020	2.94	9/23/2024	9/24/2020	100.84068	100.273632	99.71295509	99.15854631	98.61030085	98.06811626	97.53189238	97.00153122	96.47693693
200922A00041	9/24/2020	2.68	9/23/2024	9/24/2020	100.69192	100.125355	99.5651574	99.01122404	98.46345023	97.92173358	97.38597395	96.85607342	96.33193618
200922A00036	9/24/2020	1.55	9/23/2025	9/24/2020	100.89999	99.36737932	97.86546162	96.39338036	94.95031413	93.5354713	92.14808871	90.78743031	89.45278601
200922A00027	9/24/2020	1.65	9/23/2025	9/24/2020	101.05728	99.52339713	98.02022107	96.5469034	95.10262211	93.68658501	92.29802837	90.93621563	89.60043618
200922A00037	9/24/2020	2.76	9/23/2025	9/24/2020	102.8033	101.2551948	99.73805097	98.25100913	96.79324071	95.36394718	93.96235867	92.58773275	91.23935312
200922A00039	9/24/2020	3	9/23/2025	9/24/2020	103.18082	101.6296376	100.1094737	98.61946442	97.15877987	95.72662008	94.32221387	92.94481753	91.59371353
200922A00040	9/24/2020	2	9/23/2024	9/24/2020	100.30286	99.73755377	99.17860958	98.62591965	98.0793794	97.53888656	97.00434115	96.47564534	95.95270347
200925A00008	9/25/2020	0.74	9/25/2025	9/25/2020	99.628256	98.10061981	96.60365723	95.13651332	93.69836458	92.28841746	90.90590704	89.55009569	88.22027187
200925A00002	9/25/2020	0.74	9/25/2025	9/25/2020	99.628256	98.10061981	96.60365723	95.13651332	93.69836458	92.28841746	90.90590704	89.55009569	88.22027187
200925A00003	9/25/2020	0.59	9/25/2024	9/25/2020	99.486275	98.91833551	98.35685273	97.80171701	97.25282124	96.71006073	96.1733331	95.64253824	95.11757826

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200928A00003	9/28/2020	0.55	9/26/2025	9/28/2020	99.576058	98.04196681	96.53877484	95.06561762	93.62166298	92.20610915	90.81818339	89.45714068	88.12226244
191206A00013	12/6/2019	3.05	12/6/2044	12/6/2019	141.03138	120.1041281	102.8259202	88.52164521	76.6456086	66.75605169	58.49480182	51.57099988	45.74807138
191206A00009	12/6/2019	2.87	12/4/2037	12/6/2019	124.79317	111.0617819	99.04789668	88.52452818	79.29590061	71.19300816	64.06982773	57.80008423	52.27448568
191206A00008	12/6/2019	2.44	12/6/2030	12/6/2019	112.29755	105.5131016	99.18801554	93.28872301	87.78428021	82.64615008	77.84800277	73.36553366	69.17629734
191206A00021	12/6/2019	2.02	12/6/2024	12/6/2019	100.48975	99.72548528	98.97281434	98.23147506	97.50121295	96.78178109	96.07293986	95.37445666	94.68610566
191206A00044	12/10/2019	2.01	10/31/2024	12/10/2019	100.36728	99.70004346	99.04164583	98.39191338	97.75067607	97.11776827	96.49302863	95.87629992	95.26742895
191217A00012	12/20/2019	2.03	12/20/2024	12/20/2019	100.53936	99.73750205	98.94840614	98.17176704	97.40729141	96.65469506	95.91370262	95.18404713	94.46546981
191218A00014	12/18/2019	2.04	12/18/2024	12/18/2019	100.54933	99.75266858	98.96859869	98.19682721	97.43706633	96.68903717	95.95246944	95.22710109	94.51267803
191219A00036	12/20/2019	2.1	12/20/2024	12/20/2019	100.59635	99.79423724	99.00489121	98.22800475	97.46328449	96.71044618	95.96921438	95.23932212	94.52051055
191220A00002	12/20/2019	3.02	12/20/2038	12/20/2019	128.25944	113.4070056	100.525268	89.33777107	79.60835384	71.13508949	63.74516015	57.29052129	51.644231
191220A00001	12/20/2019	2.62	12/19/2031	12/20/2019	115.14348	107.2811504	100.0210251	93.31368837	87.11402063	81.38080773	76.07638399	71.16630987	66.61908032
191223A00055	12/23/2019	2.46	12/7/2029	12/23/2019	111.20348	105.4036913	99.94508373	94.80575993	89.96534667	85.40487762	81.10668869	77.05432162	73.2324353
191223A00056	12/23/2019	2.46	12/14/2029	12/23/2019	111.22686	105.4083066	99.93304063	94.77899922	89.92564792	85.35387018	81.04586209	76.98503543	73.15592845
191226A00020	12/26/2019	2.44	12/21/2029	12/26/2019	111.13438	105.300349	99.81159285	94.64587455	89.78250421	85.20222051	80.88708487	76.82038404	72.98654033
191226A00019	12/26/2019	2.4	12/22/2028	12/26/2019	109.37689	104.5529801	99.97124106	95.61825725	91.48142814	87.54891188	83.80957564	80.25294946	76.86918334
191230A00031	12/30/2019	1.85	12/30/2024	12/30/2019	100.55692	99.72638945	98.9095249	98.10599285	97.3154691	96.53763984	95.77220133	95.01885941	94.2773292
191230A00013	12/30/2019	1.84	12/2/2024	12/30/2019	100.46676	99.71158789	98.96773463	98.23494343	97.51296901	96.80157326	96.10052504	95.40959988	94.72857977
200407A00001	4/8/2020	2.41	4/7/2025	4/8/2020	101.34902	100.2550173	99.18457386	98.13693428	97.1113756	96.10720516	95.12375898	94.16040033	93.21651834
200407A00002	4/8/2020	1.82	4/8/2024	4/8/2020	100.03316	99.92530485	99.81769414	99.7103266	99.6032014	99.49631768	99.38967459	99.28327128	99.17710692
200408A00021	4/8/2020	0.99	4/4/2025	4/8/2020	99.941235	98.86090691	97.8037662	96.76907292	95.75611874	94.76422487	93.79274048	92.84104131	91.90852832
190904A00019	9/4/2019	1.69	9/4/2024	9/4/2019	100.13362	99.61962547	99.11089375	98.60734604	98.10890338	97.61548843	97.12702538	96.64343996	96.16465937
190904A00001	9/4/2019	1.5	9/4/2024	9/4/2019	100.10526	99.59049384	99.08100984	98.57672869	98.07757096	97.58345881	97.09431598	96.61006774	96.13064084
190613A00011	6/13/2019	2.26	6/13/2024	6/13/2019	100.22611	99.93694712	99.64946784	99.36365265	99.07948706	98.79695671	98.51604744	98.23674522	97.95903621
190906A00012	9/6/2019	1.76	9/6/2024	9/6/2019	100.1623	99.64295956	99.12899627	98.62032554	98.11686589	97.6185375	97.12526218	96.63696331	96.15356584
190909A00025	9/9/2019	1.88	9/9/2024	9/9/2019	100.23502	99.70732641	99.18518366	98.66850368	98.15720097	97.65119181	97.15039421	96.65472788	96.16411416
190910A00030	9/10/2019	1.86	9/10/2024	9/10/2019	100.22062	99.69034848	99.16567826	98.646525	98.13280193	97.62442406	97.1213082	96.62337286	96.13053824
190910A00017	9/16/2019	1.86	9/16/2024	9/16/2019	100.22394	99.67757856	99.13716931	98.60261431	98.07381868	97.55068958	97.0331362	96.52106961	96.01440281
190910A00004	9/11/2019	1.86	9/11/2024	9/11/2019	100.22207	99.68910009	99.16179284	98.64005871	98.12380957	97.61295915	97.10742299	96.60711837	96.11196429
190913A00014	9/13/2019	2.08	9/13/2024	9/13/2019	100.33951	99.80085901	99.26798793	98.74080387	98.21921599	97.70313543	97.19247517	96.68715003	96.18707661
190919A00007	9/19/2019	2.04	9/19/2024	9/19/2019	100.32376	99.76907921	99.22052637	98.67799981	98.14140053	97.61063169	97.08559853	96.56620835	96.05237046
190919A00025	9/19/2019	1.8	9/19/2024	9/19/2019	100.28707	99.73129491	99.18167827	98.63811565	98.10050728	97.56875557	97.04276504	96.52244231	96.00769599
190923A00017	9/23/2019	1.74	9/23/2024	9/23/2019	100.25958	99.6931101	99.13303097	98.57923625	98.03162051	97.49008068	96.95451596	96.42482776	95.90091969
190923A00012	9/23/2019	2.43	9/25/2034	9/23/2019	118.64183	107.9878767	98.40270349	89.77275816	81.99711891	74.98602965	68.65961278	62.94673612	57.78401494

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190923A00081	9/23/2019	1.96	9/20/2024	9/23/2019	100.28053	99.72329897	99.1722519	98.62728736	98.08830498	97.55520656	97.02789604	96.50627948	95.99026491
190923A00078	9/23/2019	1.96	6/28/2024	9/23/2019	100.16186	99.83189897	99.50411058	99.17847114	98.85495959	98.53355514	98.21423727	97.89698573	97.58178053
190923A00020	9/23/2019	2.05	9/24/2029	9/23/2019	109.39644	103.8155214	98.55452448	93.59344789	88.91363929	84.49770135	80.32940087	76.39358491	72.67610337
200414A00016	4/16/2020	1.64	4/15/2024	4/16/2020	100.01631	99.88919753	99.7624213	99.63598159	99.50987703	99.38410626	99.25866789	99.13356058	99.00878299
200415A00035	4/17/2020	2.16	4/16/2025	4/17/2020	101.1097	99.9932006	98.90128135	97.83313612	96.78799478	95.76512016	94.7638063	93.78337682	92.82318334
200417A00016	4/21/2020	2.18	4/21/2025	4/21/2020	101.15393	100.0238819	98.91899828	97.83844758	96.78143262	95.74719077	94.73499199	93.74413721	92.77395659
200417A00009	4/17/2020	1.35	4/16/2027	4/17/2020	102.40978	99.34978181	96.39658278	93.5458415	90.79342268	88.135384	85.56796581	83.08758139	80.69080784
050923A00096	9/23/2005	4.86	9/22/2025	9/23/2005	106.34817	104.7697247	103.2228183	101.706572	100.2201417	98.76271416	97.33350542	95.93175933	94.55674644
200428A00013	4/30/2020	1.49	4/29/2024	4/30/2020	99.996579	99.83095042	99.66586936	99.50133342	99.33733992	99.17388621	99.01096962	98.84858755	98.68673739
200428A00011	4/30/2020	1.95	4/29/2025	4/30/2020	100.91912	99.76926822	98.64549726	97.54693126	96.47272995	95.42209003	94.39424317	93.38845409	92.40401884
200429A00051	5/1/2020	2.54	4/30/2025	5/1/2020	101.6151	100.4582713	99.3277122	98.22253682	97.14189764	96.08498449	95.05102252	94.0392703	93.04901801
200429A00035	5/1/2020	1.41	4/30/2024	5/1/2020	99.983006	99.81464241	99.64684272	99.47960412	99.31292382	99.14679906	98.9812271	98.81620519	98.65173064
200429A00045	5/1/2020	1.54	4/30/2025	5/1/2020	100.44171	99.29216038	98.16877004	97.0706513	95.99695958	94.94688751	93.91966296	92.91454711	91.93083267
200429A00056	5/1/2020	1.54	4/30/2025	5/1/2020	100.44171	99.29216038	98.16877004	97.0706513	95.99695958	94.94688751	93.91966296	92.91454711	91.93083267
200429A00043	5/1/2020	1.56	4/30/2025	5/1/2020	100.46517	99.31548259	98.19194888	97.09368901	96.01985834	94.96964945	93.94229015	92.93704158	91.95319637
200429A00050	5/1/2020	2.61	4/30/2025	5/1/2020	101.69724	100.5398991	99.40883815	98.30316881	97.22204331	96.16465128	95.13021769	94.11800092	93.12729098
200429A00053	5/1/2020	2.18	4/30/2025	5/1/2020	101.19268	100.0384714	98.91049302	97.80785804	96.72971994	95.67526958	94.64373308	93.63436995	92.64647128
200429A00058	5/1/2020	1.83	4/30/2025	5/1/2020	100.78199	99.63033254	98.50486327	97.4046981	96.32899162	95.27693563	94.24775724	93.24071684	92.25510641
200429A00047	5/1/2020	2.7	4/30/2025	5/1/2020	101.80284	100.644849	99.51314295	98.4068385	97.32508773	96.26708001	95.23204005	94.21922601	93.22792766
200429A00052	5/1/2020	1.43	4/30/2024	5/1/2020	99.986388	99.81802052	99.65021656	99.48297371	99.31628917	99.15016018	98.984584	98.81955789	98.65507915
200429A00046	5/1/2020	2.07	4/30/2025	5/1/2020	101.06361	99.91019916	98.78300938	97.68115063	96.60377675	95.55007891	94.51928353	93.5106504	92.5234709
200429A00009	4/29/2020	0.78	4/29/2025	4/29/2020	99.732301	98.58703364	97.46784315	96.37384812	95.30420652	94.25811341	93.23479899	92.23352664	91.25359118
200429A00010	4/29/2020	0.78	4/29/2025	4/29/2020	99.732301	98.58703364	97.46784315	96.37384812	95.30420652	94.25811341	93.23479899	92.23352664	91.25359118
200429A00015	4/29/2020	0.66	4/29/2024	4/29/2020	99.879479	99.71377636	99.54862414	99.3840198	99.21996062	99.05644389	98.89346693	98.73102707	98.56912165
200429A00044	5/1/2020	1.86	4/30/2025	5/1/2020	100.81719	99.66531587	98.53963153	97.43925467	96.36333976	95.31107854	94.28169802	93.27445853	92.28865197
200430A00017	4/30/2020	0.94	4/30/2025	4/30/2020	99.737669	98.59249383	97.47340474	96.37951999	95.30999674	94.26402932	93.24084723	92.2397132	91.25992146
200430A00016	4/30/2020	0.82	4/30/2024	4/30/2020	99.883226	99.71498817	99.5473143	99.38020116	99.21364597	99.04764599	98.88219844	98.71730062	98.55294981
200430A00008	4/30/2020	0.94	4/30/2025	4/30/2020	99.737669	98.59249383	97.47340474	96.37951999	95.30999674	94.26402932	93.24084723	92.2397132	91.25992146
200430A00009	4/30/2020	1.16	4/30/2026	4/30/2020	100.867	98.75129898	96.68999312	94.68130177	92.72351771	90.81500303	88.95418567	87.13955622	85.36966483
200504A00004	5/4/2020	0.75	5/5/2025	5/4/2020	99.702081	98.54115794	97.40703816	96.29880337	95.21557644	94.15651946	93.12083153	92.10774681	91.11653255
200505A00005	5/5/2020	0.77	5/5/2025	5/5/2020	99.725847	98.56477407	97.43050738	96.322128	95.23875875	94.17956165	93.14373575	92.13051514	91.13916704
200505A00004	5/5/2020	0.77	5/5/2025	5/5/2020	99.725847	98.56477407	97.43050738	96.322128	95.23875875	94.17956164	93.14373575	92.13051514	91.13916704
200506A00005	5/6/2020	0.97	5/6/2025	5/6/2020	99.778875	98.6176537	97.48325466	96.37475761	95.29128418	94.23199531	93.19608906	92.18279859	91.19139024

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200506A00002	5/8/2020	0.97	5/5/2025	5/8/2020	99.777874	98.61929105	97.48740745	96.38130981	95.30012573	94.2430217	93.20920105	92.19790187	91.20839517
200506A00010	5/6/2020	0.94	5/6/2026	5/6/2020	100.68108	98.54635206	96.46694231	94.44102093	92.46683787	90.54271484	88.66704176	86.83827329	85.05492569
200108A00021	1/13/2020	1.97	1/13/2025	1/13/2020	100.57175	99.70560642	98.85434213	98.0175743	97.19493488	96.38606819	95.59063042	94.80828912	94.03872272
200110A00022	1/13/2020	2	1/6/2025	1/13/2020	100.57497	99.72747219	98.89421596	98.07484285	97.26900807	96.47637815	95.69663051	94.92945299	94.17454347
200121A00009	1/24/2020	1.94	1/24/2025	1/24/2020	100.57994	99.68443671	98.8048234	97.94068393	97.09161271	96.25721821	95.43712239	94.63096006	93.8383784
200122A00035	1/22/2020	1.94	1/22/2025	1/22/2020	100.57366	99.68351094	98.80907417	97.94993208	97.10568601	96.27595104	95.46035542	94.65854	93.87015773
200123A00048	1/23/2020	1.7	1/23/2025	1/23/2020	100.50015	99.60573058	98.72717336	97.86405794	97.01597993	96.18254899	95.36338815	94.55813331	93.76643265
200123A00013	1/27/2020	1.89	1/27/2025	1/27/2020	100.54345	99.64012833	98.75297536	97.88156316	97.02547572	96.18431161	95.35768329	94.54521654	93.74654988
200127A00016	1/27/2020	1.81	1/27/2025	1/27/2020	100.46998	99.56701649	98.68022318	97.80916618	96.95342956	96.11261199	95.28632601	94.47419748	93.67586501
200127A00023	1/27/2020	1.8	1/27/2025	1/27/2020	100.46079	99.55787751	98.67112916	97.80011655	96.94442379	96.10364954	95.27740635	94.46532009	93.6670294
200127A00030	1/27/2020	1.8	1/27/2025	1/27/2020	100.46079	99.55787751	98.67112916	97.80011655	96.94442379	96.10364954	95.27740635	94.46532009	93.66702941
200128A00028	1/28/2020	1.81	1/28/2025	1/28/2020	100.47276	99.56712501	98.67774708	97.80419555	96.94605101	96.10290876	95.27437816	94.46008203	93.65965606
200130A00016	1/30/2020	1.58	1/30/2025	1/30/2020	100.40924	99.49657336	98.60041415	97.72032233	96.85586907	96.00664069	95.17223794	94.35227546	93.54638113
200130A00006	1/30/2020	1.77	1/30/2025	1/30/2020	100.44127	99.5304595	98.63609553	97.75773625	96.89495528	96.04734123	95.21449711	94.39603965	93.59159873
200131A00038	1/31/2020	1.73	1/30/2025	1/31/2020	100.4042	99.49357768	98.59939673	97.72121817	96.85861567	96.0111779	95.17850789	94.36022243	93.55595146
200131A00015	2/5/2020	1.73	2/5/2025	2/5/2020	100.42021	99.49355455	98.58392946	97.69086911	96.81392433	95.95266203	95.10666453	94.27552888	93.45886617
200131A00016	1/31/2020	1.73	1/31/2025	1/31/2020	100.40677	99.49346824	98.596705	97.71603461	96.85102719	96.00126805	95.166357	94.34590776	93.53954731
200131A00032	1/31/2020	2.1	1/31/2030	1/31/2020	109.25663	103.3720534	97.84276765	92.64550489	87.7586361	83.16204653	78.83702228	74.76614607	70.9332012
190924A00035	9/24/2019	1.88	9/13/2024	9/24/2019	100.23058	99.69226627	99.15973121	98.6328806	98.11162367	97.59587155	97.08553728	96.58053569	96.08078341
190925A00004	9/25/2019	1.7	9/24/2024	9/25/2019	100.23812	99.66902363	99.10637711	98.55007255	98.0000031	97.45606429	96.91815399	96.38617232	95.86002159
190925A00011	9/25/2019	1.89	9/25/2024	9/25/2019	100.23721	99.66680584	99.10288233	98.54532555	97.99402813	97.44888511	96.90979386	96.37665403	95.84936747
190926A00016	9/26/2019	2.28	5/24/2030	9/26/2019	110.66345	104.4379768	98.6050324	93.13777161	88.01132339	83.20263816	78.69034468	74.45461895	70.47706403
190926A00017	9/26/2019	2.23	9/26/2029	9/26/2019	109.65815	104.0905665	98.84150894	93.89108452	89.22074657	84.81319494	80.65228578	76.72294834	73.01110815
190926A00015	9/26/2019	2.32	11/26/2030	9/26/2019	111.45919	104.7281363	98.45170708	92.59675846	87.13273233	82.03144364	77.26688371	72.8150409	68.653737
190927A00036	9/27/2019	1.94	9/6/2024	9/27/2019	100.25687	99.73724361	99.22299694	98.71404492	98.21030605	97.71170049	97.21815	96.72957797	96.24590929
190927A00012	10/1/2019	1.96	10/1/2024	10/1/2019	100.28167	99.69507333	99.11531705	98.54228148	97.97585037	97.41591012	96.86234975	96.31506078	95.77393716
190930A00012	9/30/2019	1.93	9/30/2024	9/30/2019	100.2622	99.67834498	99.10126675	98.53084605	97.96696829	97.40952154	96.85839638	96.31348585	95.77468541
190930A00071	9/30/2019	2.05	9/29/2025	9/30/2019	101.73083	100.1748664	98.65022303	97.15602585	95.69142905	94.25561786	92.84780709	91.4672398	90.113186
190930A00070	9/30/2019	1.93	9/27/2024	9/30/2019	100.26336	99.68749996	99.11823362	98.55545103	97.99904195	97.44889861	96.90491567	96.36699012	95.83502126
190930A00077	9/30/2019	2.23	9/28/2029	9/30/2019	109.66516	104.0920206	98.83798457	93.8831071	89.20879436	84.79770326	80.6336508	76.70153055	72.98723551
190930A00075	9/30/2019	2.19	9/29/2027	9/30/2019	105.96809	102.4110352	98.99283203	95.70729735	92.54856227	89.5110514	86.58946632	83.77877021	81.07417327
190930A00035	9/30/2019	1.93	9/30/2024	9/30/2019	100.2622	99.67834498	99.10126675	98.53084605	97.96696829	97.40952154	96.85839638	96.31348585	95.77468541
191001A00023	10/1/2019	1.85	9/27/2024	10/1/2019	100.21671	99.64100289	99.07188955	98.50925872	97.95300017	97.40300614	96.85917132	96.32139271	95.78956963

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
191002A00006	10/2/2019	1.84	10/2/2024	10/2/2019	100.21177	99.62273574	99.04060028	98.46524636	97.89655608	97.33441424	96.7787083	96.22932826	95.68616665
191002A00017	10/2/2019	1.84	10/2/2024	10/2/2019	100.21177	99.62273574	99.04060028	98.46524636	97.89655608	97.33441424	96.7787083	96.22932826	95.68616665
191003A00019	10/3/2019	1.71	9/27/2024	10/3/2019	100.13507	99.55963303	98.99078744	98.42842218	97.87242705	97.32269433	96.77911871	96.24159725	95.71002927
191003A00014	10/3/2019	1.71	9/20/2024	10/3/2019	100.13955	99.58277206	99.03217321	98.48765338	97.94911222	97.41645159	96.88957548	96.36838997	95.85280316
191004A00001	10/4/2019	2.47	10/4/2034	10/4/2019	117.64098	107.0941069	97.60515072	89.06169564	81.36382929	74.42269654	68.15922435	62.50299935	57.39127935
191004A00012	10/4/2019	1.78	10/4/2024	10/4/2019	100.17843	99.58415053	98.99690331	98.41656263	97.84300721	97.27611858	96.71578104	96.16188152	95.61430957
191004A00032	10/4/2019	2.01	1/3/2028	10/4/2019	105.81729	102.0095753	98.35968985	94.86029759	91.50444075	88.28551827	85.1972657	82.23373633	79.38928343
191004A00003	10/4/2019	1.89	10/5/2026	10/4/2019	103.18443	100.6254058	98.14275071	95.73372208	93.39569489	91.12615547	88.92269592	86.78300893	84.70488282
191004A00004	10/4/2019	1.54	10/4/2024	10/4/2019	100.15658	99.56084236	98.97217135	98.39044409	97.81553822	97.24733425	96.68571546	96.13056785	95.58178
191004A00005	10/4/2019	1.54	10/4/2024	10/4/2019	100.15658	99.56084236	98.97217135	98.39044409	97.81553822	97.24733425	96.68571546	96.13056785	95.58178
191004A00002	10/4/2019	2.08	10/4/2029	10/4/2019	108.84689	103.2805777	98.03412337	93.08748001	88.42195795	84.02012828	79.86573124	75.94359179	72.23954163
191007A00029	10/7/2019	1.88	10/9/2029	10/7/2019	108.48805	102.8926358	97.62036688	92.65090244	87.96528643	83.54584676	79.37610163	75.44067314	71.72520766
191008A00031	10/8/2019	1.52	10/8/2024	10/8/2019	100.14881	99.54236182	98.94324034	98.35131709	97.7664628	97.18855127	96.61745933	96.05306667	95.49525583
191008A00033	10/8/2019	1.71	10/8/2024	10/8/2019	100.14042	99.53557184	98.93800998	98.34760701	97.76423479	97.18776822	96.61808518	96.05506638	95.49859535
191009A00028	10/9/2019	1.76	10/9/2024	10/9/2019	100.17227	99.56463325	98.96435184	98.37129393	97.78532965	97.2063322	96.63417782	96.06874563	95.50991763
191009A00017	10/9/2019	1.76	10/4/2024	10/9/2019	100.16638	99.57214377	98.98493716	98.40463676	97.83112128	97.26427226	96.70397399	96.15011344	95.60258013
191015A00029	10/15/2019	1.91	10/15/2024	10/15/2019	100.27423	99.65017529	99.03387598	98.42518825	97.82397163	97.23008903	96.64340676	96.06379433	95.4911244
190618A00002	6/18/2019	2.11	6/18/2025	6/18/2019	101.54544	100.2583316	98.99725395	97.76142424	96.55009392	95.36254428	94.19808496	93.0560525	91.93580905
200511A00017	5/11/2020	0.83	2/3/2025	5/11/2020	99.570945	98.6538951	97.75362374	96.86967465	96.00160753	95.14899778	94.31143581	93.48852637	92.67988795
200511A00021	5/11/2020	1.53	2/1/2029	5/11/2020	105.29711	100.465669	95.88333726	91.53602796	87.41051731	83.49439087	79.77598994	76.2443618	72.88921354
200511A00023	5/11/2020	1.7	2/3/2031	5/11/2020	107.39817	100.6293642	94.33206495	88.47104857	83.0138903	77.93072943	73.19405452	68.77850757	64.66070558
200511A00018	5/11/2020	0.98	2/2/2026	5/11/2020	100.25693	98.38322275	96.55357307	94.76668381	93.02130336	91.31622499	89.65028493	88.02236055	86.43136859
200511A00028	5/13/2020	1.02	5/13/2024	5/13/2020	99.901205	99.69734109	99.49432265	99.29214429	99.09080072	98.89028672	98.69059708	98.49172666	98.29367035
200511A00020	5/11/2020	1.4	2/1/2028	5/11/2020	103.56629	99.72737372	96.05108038	92.52969953	89.15592423	85.92282977	82.82385165	79.85276494	77.00366493
200511A00019	5/11/2020	1.18	2/1/2027	5/11/2020	101.65453	98.80586577	96.05125377	93.3870962	90.80994948	88.31652028	85.90365807	83.56834811	81.30770479
200511A00022	5/11/2020	1.6	2/1/2030	5/11/2020	106.30681	100.5051975	95.055515	89.93465332	85.12113543	80.59499048	76.33764099	72.33179897	68.56137028
190826A00029	8/26/2019	1.53	8/26/2024	8/26/2019	100.11225	99.62177851	99.1361036	98.6551584	98.17887402	97.70718287	97.24001869	96.77731648	96.31901249
190826A00030	8/26/2019	1.72	8/26/2026	8/26/2019	102.88744	100.4326988	98.04911819	95.73422914	93.48566361	91.30114988	89.17850799	87.11564542	85.11055303
120312A00009	3/12/2012	2.72	3/15/2024	3/12/2012	100.057	100.0153608	99.97377142	99.93223484	99.89075092	99.84931957	99.80794068	99.76661412	99.7253398
190619A00009	6/19/2019	2.26	6/19/2024	6/19/2019	100.24029	99.93473189	99.63104436	99.32921137	99.0292159	98.7310411	98.43467038	98.14008732	97.84727569
190620A00045	6/20/2019	2.14	6/20/2024	6/20/2019	100.20543	99.89720914	99.59089247	99.28646226	98.98390105	98.68319158	98.38431684	98.08725998	97.7920044
190620A00027	6/20/2019	2.14	6/20/2024	6/20/2019	100.20543	99.89720914	99.59089247	99.28646226	98.98390105	98.68319158	98.38431684	98.08725998	97.7920044
190621A00015	6/21/2019	2.2	6/21/2024	6/21/2019	100.22624	99.91524911	99.60619615	99.2990622	98.99382935	98.69047993	98.38899649	98.08936178	97.79155876

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190621A00039	6/21/2019	2.21	6/17/2024	6/21/2019	100.22047	99.92040479	99.62214813	99.32568182	99.0309897	98.73805577	98.44686426	98.15739956	97.86964627
201022A00012	10/26/2020	2.25	10/24/2030	10/26/2020	110.8915	104.2648542	98.08083252	92.30752718	86.91549245	81.87754236	77.16856582	72.76535784	68.64646528
200513A00002	5/13/2020	0.56	5/13/2024	5/13/2020	99.832636	99.62859184	99.42539718	99.22304655	99.0215346	98.82085602	98.62100556	98.421978	98.22376818
200513A00003	5/13/2020	0.68	5/13/2025	5/13/2020	99.623936	98.44239768	97.28864022	96.16169443	95.06063529	93.98457991	92.9326851	91.9041452	90.89819001
201028A00003	10/30/2020	1.42	2/27/2026	10/30/2020	101.22416	99.26900185	97.36143323	95.49999734	93.68329607	91.90998333	90.17876275	88.48838546	86.837648
201028A00005	10/30/2020	1.85	10/31/2025	10/30/2020	101.53885	99.90055482	98.29638386	96.72533175	95.1864364	93.67877301	92.20145223	90.75361845	89.33444816
201030A00005	11/2/2020	2.49	10/29/2040	11/2/2020	123.69914	107.6380102	93.95085071	82.26822204	72.28021178	63.72656123	56.38847556	50.08182015	44.65146296
201030A00001	11/2/2020	2.54	10/29/2040	11/2/2020	124.48723	108.3653178	94.62384292	82.89257933	72.86092713	64.26803121	56.89457842	50.5559831	45.09671998
201030A00002	11/2/2020	2.8	10/29/2040	11/2/2020	128.58534	112.147317	98.12340241	86.13923723	75.88064697	67.08367507	59.5263133	53.0216304	47.4120565
201030A00003	11/2/2020	2.58	10/29/2040	11/2/2020	125.11771	108.9471638	95.16223668	83.39206516	73.32549941	64.70120718	57.29946071	50.93531345	45.4529256
201030A00004	11/2/2020	2.56	10/29/2040	11/2/2020	124.80247	108.6562408	94.8930398	83.14232225	73.09321327	64.4846192	57.09701957	50.74564827	45.27482279
201116A00011	11/16/2020	0.71	11/15/2024	11/16/2020	99.474802	98.77095378	98.07702092	97.39279493	96.71807323	96.05265884	95.39636019	94.74899096	94.11036985
200529A00004	5/29/2020	0.56	5/29/2024	5/29/2020	99.79825	99.55042054	99.30382314	99.0584483	98.81428694	98.57133005	98.32956872	98.08899415	97.84959758
200601A00009	6/1/2020	0.84	6/2/2025	6/1/2020	99.644536	98.41346086	97.21182137	96.03856932	94.89270603	93.77327924	92.67938043	91.61014234	90.56473665
200604A00004	6/4/2020	0.76	6/4/2024	6/4/2020	99.805849	99.54198024	99.27950796	99.01842114	98.7587088	98.5003601	98.2433643	97.98771075	97.73338896
200604A00005	6/4/2020	0.89	6/4/2025	6/4/2020	99.712245	98.47574788	97.26822334	96.08865781	94.93608435	93.80958032	92.70826482	91.63129641	90.57787085
200604A00012	6/4/2020	1.59	6/4/2030	6/4/2020	106.39081	100.2679444	94.53516706	89.16561771	84.13442188	79.41853568	74.99660137	70.84881526	66.95680657
200604A00013	6/4/2020	2.21	6/4/2035	6/4/2020	115.25849	104.2457438	94.40285258	85.59862169	77.71722355	70.65632288	64.32544235	58.64453357	53.54272675
200604A00014	6/4/2020	2.42	6/4/2040	6/4/2020	121.89508	106.2956046	92.95965718	81.54171815	71.75087607	63.34194306	56.10805399	49.87449577	44.49355695
200604A00010	6/4/2020	0.89	6/4/2025	6/4/2020	99.712245	98.47574788	97.26822334	96.08865781	94.93608435	93.80958032	92.70826482	91.63129641	90.57787085
200604A00009	6/4/2020	0.7	6/4/2025	6/4/2020	99.669181	98.42988748	97.2196852	96.03755469	94.88252369	93.75366453	92.65009158	91.57095891	90.51545809
200611A00011	6/11/2020	1.2	6/9/2028	6/11/2020	103.15721	98.98709843	95.00733092	91.20821575	87.58060614	84.11586967	80.80585619	77.64286805	74.61963232
190625A00012	6/25/2019	2.12	6/25/2024	6/25/2019	100.2091	99.88723207	99.56743084	99.24967936	98.93395794	98.62024715	98.3085278	97.99878096	97.69098791
190625A00024	6/25/2019	2.26	6/25/2025	6/25/2019	101.57736	100.2756858	98.9983066	97.74456987	96.51384895	95.30553937	94.11905784	92.95384129	91.80934602
190625A00023	6/25/2019	2.47	6/25/2027	6/25/2019	106.36092	103.0512728	99.86245534	96.78942083	93.82736057	90.97169183	88.21804586	85.56225674	83.00035076
190626A00004	6/26/2019	2.15	6/26/2024	6/26/2019	100.22088	99.89625741	99.57373737	99.25330028	98.93492599	98.61859461	98.30428653	97.99198236	97.68166298
190626A00015	6/26/2019	2.15	6/26/2024	6/26/2019	100.22088	99.89625741	99.57373737	99.25330028	98.93492599	98.61859461	98.30428653	97.99198236	97.68166298
190627A00010	6/27/2019	1.97	6/27/2024	6/27/2019	100.20527	99.87747817	99.5518357	99.22831778	98.90690366	98.58757282	98.27030503	97.95508032	97.64187896
190830A00021	8/30/2019	1.76	8/30/2024	8/30/2019	100.1688	99.66809971	99.17239279	98.68160139	98.19565272	97.71447545	97.23799962	96.76615664	96.29887924
200615A00019	6/17/2020	1.34	6/16/2025	6/17/2020	100.32532	99.05479963	97.81051702	96.59166358	95.39746589	94.22718209	93.08010025	91.95553688	90.85283547
200626A00014	6/26/2020	0.62	6/26/2025	6/26/2020	99.61074	98.31697635	97.04714805	95.80062596	94.57680298	93.37509305	92.19493025	91.03576791	89.8970778
200630A00004	6/30/2020	0.66	7/1/2024	6/30/2020	99.723825	99.3866205	99.05168804	98.71900507	98.38854902	98.06029761	97.73422888	97.41032114	97.088553
200203A00006	2/3/2020	1.76	2/3/2025	2/3/2020	100.44296	99.52150823	98.61688736	97.72864387	96.85633629	95.9995389	95.15784099	94.33084627	93.5181722

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200204A00012	2/4/2020	1.98	2/4/2027	2/4/2020	104.01384	101.1218237	98.32528111	95.62054568	93.00411682	90.47264711	88.0229346	85.65191569	83.35665835
200204A00020	2/4/2020	1.6	2/4/2025	2/4/2020	100.44164	99.51547458	98.60630902	97.71368171	96.83714474	95.97626625	95.13062969	94.2998332	93.48348889
200204A00001	2/4/2020	1.79	2/4/2025	2/4/2020	100.47395	99.54967589	98.6423409	97.75147961	96.87664663	96.01741251	95.17336302	94.34409847	93.5292331
200207A00018	2/7/2020	2.14	2/7/2030	2/7/2020	109.51543	103.6036629	98.04987305	92.83054392	87.92382054	83.30938288	78.96833063	74.88307711	71.03725173
200207A00017	2/7/2020	1.96	2/8/2027	2/7/2020	103.97734	101.0744027	98.26766071	95.55341414	92.92812257	90.38840111	87.9310126	85.55286026	83.25098084
200207A00009	2/7/2020	1.58	2/7/2025	2/7/2020	100.43106	99.49695219	98.58013986	97.68015007	96.79652321	95.92881625	95.07660204	94.23946858	93.41701839
200210A00009	2/10/2020	1.57	2/10/2025	2/10/2020	100.42973	99.48762854	98.56312444	97.65572893	96.76497054	95.890395	95.03156446	94.18805673	93.35946458
200210A00005	2/10/2020	1.77	2/10/2027	2/10/2020	103.81265	100.8974621	98.0792714	95.3543303	92.71905613	90.17002418	87.70395978	85.31773085	83.00834085
200210A00021	2/10/2020	1.76	2/10/2025	2/10/2020	100.46235	99.52219342	98.59956253	97.69397338	96.80495718	95.93206217	95.07485292	94.23290953	93.40582699
200212A00003	2/12/2020	1.63	2/12/2025	2/12/2020	100.49296	99.54519738	98.61523857	97.70258392	96.80675394	95.92728673	95.06373715	94.21567608	93.38268972
200214A00005	2/14/2020	1.59	2/14/2025	2/14/2020	100.45998	99.50705992	98.57213773	97.65470943	96.75428758	95.87040275	95.00260262	94.15045123	93.31352827
200214A00002	2/14/2020	1.58	11/15/2024	2/14/2020	100.23874	99.53003968	98.83134044	98.14242721	97.46309533	96.79314582	96.13238518	95.48062521	94.83768282
200214A00007	2/14/2020	1.59	2/14/2025	2/14/2020	100.45998	99.50705992	98.57213773	97.65470943	96.75428758	95.87040275	95.00260262	94.15045123	93.31352827
200214A00015	2/18/2020	1.76	8/6/2024	2/18/2020	100.13917	99.70341754	99.27145693	98.84323665	98.4187082	97.99782392	97.58053698	97.16680135	96.75657176
200214A00014	2/18/2020	1.8	2/18/2025	2/18/2020	100.52365	99.5619091	98.61849647	97.69289526	96.78460473	95.89314277	95.01804502	94.15886406	93.31516868
200214A00020	2/18/2020	1.78	1/15/2025	2/18/2020	100.40995	99.53925638	98.68360939	97.84262615	97.01593204	96.20316515	95.40397568	94.61802547	93.84498752
200220A00015	2/20/2020	1.57	2/20/2025	2/20/2020	100.45692	99.48802223	98.53772366	97.60549757	96.69083233	95.79323549	94.91223283	94.04736757	93.19819956
200221A00003	2/25/2020	1.69	2/25/2025	2/25/2020	100.43401	99.45413688	98.4932923	97.55092941	96.6265192	95.71955266	94.82953985	93.95600903	93.09850582
200221A00013	2/21/2020	1.69	2/21/2025	2/21/2020	100.42371	99.45452047	98.5039552	97.57148364	96.65659309	95.75879007	94.87759939	94.01256335	93.16324093
200221A00031	2/21/2020	1.69	2/21/2025	2/21/2020	100.42371	99.45452047	98.5039552	97.57148364	96.65659309	95.75879007	94.87759939	94.01256335	93.16324093
200221A00016	2/21/2020	1.69	2/21/2025	2/21/2020	100.42371	99.45452047	98.5039552	97.57148364	96.65659309	95.75879007	94.87759939	94.01256335	93.16324093
200221A00004	2/21/2020	1.69	2/21/2025	2/21/2020	100.42371	99.45452047	98.5039552	97.57148364	96.65659309	95.75879007	94.87759939	94.01256335	93.16324093
200224A00025	2/24/2020	1.59	1/23/2025	2/24/2020	100.25918	99.36791306	98.4924251	97.63230247	96.78714344	95.95656016	95.14017811	94.33763548	93.54858267
200224A00046	2/24/2020	1.59	2/24/2025	2/24/2020	100.33191	99.35523828	98.39748693	97.45811307	96.53659195	95.6324186	94.74510694	93.87418888	93.01921354
200224A00007	2/24/2020	1.59	2/24/2025	2/24/2020	100.33191	99.35523828	98.39748693	97.45811307	96.53659195	95.6324186	94.74510694	93.87418888	93.01921354
200224A00001	2/24/2020	1.59	2/24/2025	2/24/2020	100.33191	99.35523828	98.39748693	97.45811307	96.53659195	95.6324186	94.74510694	93.87418888	93.01921354
200224A00024	2/24/2020	1.59	2/24/2025	2/24/2020	100.33191	99.35523828	98.39748693	97.45811307	96.53659195	95.6324186	94.74510694	93.87418888	93.01921354
200224A00019	2/24/2020	1.59	2/18/2025	2/24/2020	100.3181	99.35743937	98.41509131	97.49054064	96.58328695	95.69284841	94.81876096	93.96057747	93.11786697
200225A00050	2/25/2020	1.57	2/25/2025	2/25/2020	100.31425	99.33501755	98.37480456	97.43306479	96.5092694	95.60290958	94.71349556	93.84055579	92.98363603
200225A00018	2/25/2020	1.94	2/25/2030	2/25/2020	108.37959	102.4506211	96.88428721	91.65654414	86.74506293	82.12909706	77.78936249	73.70792746	69.86811108
200225A00017	2/25/2020	1.94	2/25/2030	2/25/2020	108.37959	102.4506211	96.88428721	91.65654414	86.74506293	82.12909706	77.78936249	73.70792746	69.86811108
200225A00012	2/25/2020	1.57	2/25/2025	2/25/2020	100.31425	99.33501755	98.37480456	97.43306479	96.5092694	95.60290958	94.71349556	93.84055579	92.98363603
191015A00013	10/15/2019	1.72	10/15/2024	10/15/2019	100.28293	99.65721456	99.03929407	98.42902681	97.82627106	97.23088859	96.64274454	96.06170732	95.48764855

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200226A00025	2/26/2020	1.38	2/26/2025	2/26/2020	100.28294	99.29897046	98.33420652	97.388086	96.46007298	95.54965187	94.65632652	93.77961923	92.91906998
200226A00016	2/26/2020	1.57	2/26/2025	2/26/2020	100.3165	99.3345956	98.37181636	97.42760759	96.50143634	95.5927899	94.7011748	93.82611594	92.96715573
200226A00006	2/26/2020	1.57	2/26/2025	2/26/2020	100.3165	99.3345956	98.37181636	97.42760759	96.50143634	95.5927899	94.7011748	93.82611594	92.96715573
200226A00008	2/26/2020	1.38	2/26/2025	2/26/2020	100.28294	99.29897046	98.33420652	97.388086	96.46007298	95.54965187	94.65632652	93.77961923	92.91906998
200226A00009	2/26/2020	1.75	2/26/2030	2/26/2020	108.04239	102.0913292	96.50552274	91.26069031	86.33428446	81.70535953	77.35445	73.26345871	69.41555401
200227A00006	2/27/2020	1.47	2/27/2025	2/27/2020	100.2184	99.23436485	98.26955145	97.32339871	96.39536974	95.48494805	94.59163662	93.71495695	92.85444824
200227A00016	2/27/2020	1.47	2/27/2025	2/27/2020	100.2184	99.23436485	98.26955145	97.32339871	96.39536974	95.48494805	94.59163662	93.71495695	92.85444824
200227A00009	2/27/2020	1.47	2/27/2025	2/27/2020	100.2184	99.23436485	98.26955145	97.32339871	96.39536974	95.48494805	94.59163662	93.71495695	92.85444824
200227A00027	2/27/2020	1.47	2/27/2025	2/27/2020	100.2184	99.23436485	98.26955145	97.32339871	96.39536974	95.48494805	94.59163662	93.71495695	92.85444824
200227A00004	2/27/2020	1.65	2/27/2030	2/27/2020	107.44504	101.5087775	95.93734358	90.70646425	85.7935994	81.17781135	76.83964315	72.76100654	68.92507913
191017A00022	10/17/2019	2.25	7/17/2028	10/17/2019	107.85101	103.4803441	99.31229596	95.33644377	91.54295339	87.92254316	84.46645003	81.16639802	78.01456865
191017A00026	10/17/2019	2.3	7/17/2029	10/17/2019	109.80036	104.4146099	99.32735532	94.52052996	89.97724914	85.68172738	81.61920148	77.7758594	74.13877441
191021A00021	10/21/2019	2.22	12/21/2027	10/21/2019	106.55265	102.7648162	99.13253668	95.64859958	92.30617105	89.09876926	86.02024423	83.06475899	80.22677185
191023A00006	10/23/2019	1.95	10/23/2024	10/23/2019	100.31312	99.66750417	99.03018314	98.4009959	97.77978741	97.16640657	96.56070606	95.96254225	95.37177507
191025A00013	10/25/2019	1.98	10/25/2024	10/25/2019	100.33632	99.68526089	99.04263563	98.4082765	97.78202476	97.16372572	96.55322858	95.95038635	95.35505571
191025A00010	10/25/2019	2.24	7/25/2028	10/25/2019	107.84819	103.45682	99.26995504	95.27702845	91.46807222	87.83368095	84.36497722	81.05357924	77.89157071
191025A00005	10/28/2019	1.98	10/28/2024	10/28/2019	100.34165	99.68254231	99.03206824	98.39005888	97.75634987	97.13078107	96.51319647	95.90344397	95.30137536
191025A00009	10/25/2019	2.26	5/25/2029	10/25/2019	109.39016	104.1547138	99.20244544	94.51650618	90.08114706	85.88163667	81.90418957	78.13590012	74.56468143
190530A00034	5/30/2019	2.44	5/30/2024	5/30/2019	100.23851	99.98754617	99.73784076	99.48937997	99.24215453	98.99615528	98.75137313	98.50779909	98.26542426
190807A00005	8/7/2019	1.77	8/7/2024	8/7/2019	100.14483	99.70636413	99.27173421	98.84089205	98.41378823	97.99037415	97.57060208	97.1544251	96.7417971
200227A00030	2/27/2020	1.59	2/27/2026	2/27/2020	101.5646	99.6059606	97.69497686	95.83019173	94.01020526	92.23366958	90.49928661	88.80580582	87.15202216
200709A00003	7/10/2020	1.63	7/10/2026	7/10/2020	102.164	99.84666756	97.59328554	95.40174071	93.27000469	91.19612729	89.17823306	87.21451798	85.30324628
200709A00004	7/10/2020	1.4	7/10/2025	7/10/2020	100.47692	99.14450412	97.83597078	96.55073727	95.28823544	94.04791521	92.82924381	91.63170508	90.45479891
200709A00008	7/10/2020	1.88	7/10/2026	7/10/2020	102.75547	100.4310451	98.17071952	95.97237833	93.83398878	91.75359649	89.729322	87.75935738	85.84196314
200709A00005	7/10/2020	2.23	7/10/2030	7/10/2020	110.4775	104.1357541	98.201518	92.64651367	87.44456443	82.57142615	78.0046354	73.72337034	69.7083231
200709A00006	7/10/2020	2.58	7/10/2030	7/10/2020	112.69385	106.2831092	100.2830386	94.66518627	89.40321206	84.47271842	79.85109803	75.51739401	71.4521717
200709A00007	7/10/2020	1.67	7/9/2027	7/10/2020	103.76158	100.4585758	97.27784581	94.21424116	91.26285794	88.41902309	85.67828221	83.03638821	80.48929054
200709A00002	7/10/2020	1.66	7/10/2025	7/10/2020	100.83256	99.49759324	98.18656098	96.89887059	95.63395281	94.39125643	93.17024763	91.97040924	90.79124015
191031A00033	10/31/2019	2.2	5/31/2028	10/31/2019	107.38226	103.1466963	99.10231574	95.23941736	91.54885471	88.02199684	84.65069587	81.42725686	78.34440981
200716A00015	7/20/2020	1.54	7/19/2024	7/20/2020	100.03259	99.64588376	99.26217216	98.88142098	98.50359595	98.12866332	97.75658986	97.38734287	97.02089011
200720A00039	7/22/2020	2.48	7/21/2025	7/22/2020	102.01117	100.639057	99.29200355	97.96938605	96.67059708	95.39504889	94.14217262	92.91141757	91.70225047
200720A00042	7/22/2020	2.04	7/21/2026	7/22/2020	103.1873	100.8291174	98.53667524	96.30778112	94.14032743	92.03228884	89.9817186	87.98674497	86.04556788
200720A00044	7/22/2020	2.22	7/21/2026	7/22/2020	103.61857	101.2551475	98.95758176	96.72367355	94.55131199	92.43846863	90.3831937	88.38361257	86.43792236

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200720A00034	7/20/2020	0.77	7/21/2025	7/20/2020	99.620734	98.26605306	96.93613858	95.63037047	94.34814913	93.08889438	91.85204465	90.63705623	89.44340262
200720A00035	7/20/2020	1.81	7/20/2035	7/20/2020	110.85216	99.96968909	90.26226413	81.59643905	73.85455308	66.9327945	60.73950931	55.19372368	50.22385235
200720A00037	7/22/2020	2.1	7/21/2025	7/22/2020	101.47997	100.1117228	98.768478	97.44960481	96.15449754	94.88257011	93.63325529	92.40600394	91.20028428
210323A00007	3/23/2021	0.51	3/25/2024	3/23/2021	99.938926	99.8696821	99.80054509	99.73151494	99.6625914	99.59377422	99.52506313	99.4564579	99.38795827
200730A00001	7/30/2020	0.46	7/30/2024	7/30/2020	99.636636	99.22046198	98.80775312	98.39846617	97.99255873	97.58998911	97.19071628	96.7946999	96.40190026
180716A00054	7/16/2018	3.59	7/16/2040	7/16/2018	142.62306	125.1851539	110.2395757	97.40790801	86.37147119	76.8615963	68.65152573	61.54966199	55.39393444
200730A00002	7/30/2020	0.67	11/6/2024	7/30/2020	99.452019	98.7722779	98.10178247	97.4403449	96.78778267	96.14391815	95.50857842	94.88159512	94.26280429
200731A00005	7/31/2020	0.45	7/31/2024	7/31/2020	99.630263	99.21139472	98.79603414	98.38413761	97.97566199	97.57056485	97.16880445	96.77033973	96.37513031
200803A00011	8/3/2020	0.72	8/4/2025	8/3/2020	99.556261	98.16597215	96.80172273	95.4628461	94.14869756	92.85865375	91.59211183	90.34848858	89.12721966
200806A00002	8/6/2020	0.43	8/6/2024	8/6/2020	99.609245	99.17421855	98.74298709	98.31550099	97.89171152	97.47157081	97.0550318	96.64204824	96.23257468
180717A00047	7/17/2018	3.3	9/17/2025	7/17/2018	103.61905	102.0805252	100.572581	99.09437832	97.64510605	96.22398202	94.83025192	93.46318799	92.12208783
180719A00063	7/19/2018	3.21	7/19/2024	7/19/2018	100.68439	100.2961587	99.91093077	99.52867175	99.14934729	98.77292355	98.39936725	98.02864558	97.66072625
180719A00064	7/19/2018	3.3	7/21/2025	7/19/2018	103.15747	101.7769887	100.4217166	99.09101926	97.78428558	96.50092415	95.24036264	94.00204698	92.78544066
180719A00065	7/19/2018	3.36	7/20/2026	7/19/2018	106.34147	103.9476334	101.620218	99.35701693	97.15590529	95.01484119	92.93186181	90.90507983	88.93268014
201208A00031	12/10/2020	1.43	12/9/2024	12/10/2020	100.02853	99.25833599	98.49996024	97.75313073	97.01758529	96.29306963	95.57933703	94.87614811	94.18327052
201208A00029	12/10/2020	1.52	12/9/2025	12/10/2020	101.11335	99.37459543	97.6738513	96.00998511	94.38190634	92.7885669	91.22895903	89.70211332	88.20709691
200810A00004	8/10/2020	0.43	8/9/2024	8/10/2020	99.602972	99.15985809	98.72068499	98.28539981	97.85395094	97.42628773	97.00236038	96.58211998	96.16551848
200811A00003	8/11/2020	0.57	8/11/2025	8/11/2020	99.568224	98.15611909	96.77084072	95.41169247	94.07800147	92.76911752	91.48441209	90.22327745	88.9851258
200812A00004	8/12/2020	0.59	8/12/2025	8/12/2020	99.597876	98.18296274	96.79497555	95.43321387	94.09700129	92.78568421	91.49863084	90.23523036	88.99489197
200228A00019	2/28/2020	1.21	2/20/2025	2/28/2020	100.10229	99.13525864	98.18680953	97.25640837	96.34354407	95.4477247	94.56847655	93.70534334	92.8578854
200228A00014	2/28/2020	1.4	2/28/2025	2/28/2020	100.14993	99.16361544	98.19661323	97.24836405	96.318327	95.4059818	94.51082778	93.63238302	92.77018344
200228A00026	2/28/2020	2.14	2/28/2035	2/28/2020	114.39772	103.6596487	94.04052504	85.41724529	77.68084684	70.73482238	64.49363949	58.88144272	53.83091493
200228A00025	2/28/2020	1.57	3/2/2027	2/28/2020	102.92531	99.97565828	97.12587431	94.37202887	91.71037259	89.13732435	86.64946276	84.24351799	81.91636419
200228A00059	2/28/2020	1.79	2/28/2030	2/28/2020	107.4909	101.5796999	96.03101095	90.82075138	85.92655729	81.32765249	77.00472799	72.93983126	69.11626434
200228A00012	3/3/2020	1.4	3/3/2025	3/3/2020	100.15598	99.16167886	98.18701463	97.23140703	96.29430175	95.37516582	94.47348652	93.5887705	92.72054283
200302A00045	3/4/2020	1.31	3/4/2025	3/4/2020	100.06644	99.06998375	98.09325679	97.13568119	96.19669832	95.2757711	94.37238293	93.48603675	92.61625412
200302A00011	3/2/2020	1.31	2/27/2025	3/2/2020	100.05784	99.07467107	98.11070886	97.16539582	96.23819532	95.32859112	94.43608644	93.56020301	92.70048027
200302A00033	3/2/2020	1.31	3/3/2025	3/2/2020	100.06468	99.0708739	98.09669829	97.14157264	96.20494282	95.28627598	94.38505955	93.50080032	92.63302348
200302A00034	3/2/2020	1.25	3/1/2024	3/2/2020	100.0008	99.99802999	99.99526157	99.99249556	99.98973194	99.98697071	99.98421188	99.98145543	99.97870136
200302A00036	3/2/2020	1.45	3/2/2026	3/2/2020	101.29472	99.33075241	97.41472804	95.54517551	93.72068133	91.93988485	90.2014759	88.50419251	86.84681879
200302A00053	3/2/2020	1.31	3/3/2025	3/2/2020	100.06468	99.0708739	98.09669829	97.14157264	96.20494282	95.28627598	94.38505955	93.50080032	92.63302348
200302A00054	3/2/2020	1.31	3/3/2025	3/2/2020	100.06468	99.0708739	98.09669829	97.14157264	96.20494282	95.28627598	94.38505955	93.50080032	92.63302348
200303A00010	3/3/2020	1.34	3/3/2025	3/3/2020	100.09511	99.10114222	98.12680373	97.17151744	96.23472913	95.31590592	94.41453521	93.53012371	92.6621966

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200303A00018	3/3/2020	1.27	3/3/2025	3/3/2020	100.0241	99.03051614	98.05655769	97.10164625	96.16522774	95.24676938	94.34575867	93.46170246	92.59412599
200303A00034	3/3/2020	1.21	3/3/2025	3/3/2020	99.963231	98.9699795	97.9963468	97.04175666	96.10565512	95.18750948	94.28680736	93.40305567	92.53577976
200303A00001	3/3/2020	1.15	3/3/2025	3/3/2020	100.06096	99.0649	98.08854498	97.13131704	96.19265888	95.27203465	94.36892894	93.48284581	92.61330787
200303A00007	3/3/2020	1.11	3/4/2024	3/3/2020	99.99813	99.98703328	99.97594736	99.96487213	99.95380759	99.9427537	99.93171045	99.92067783	99.90965558
200303A00012	3/3/2020	1.71	3/1/2030	3/3/2020	107.01393	101.1142298	95.57671815	90.3773189	85.49367319	80.90501044	76.59202775	72.53677902	68.722573
200304A00054	3/6/2020	2.35	3/8/2027	3/6/2020	105.30606	102.3046279	99.4048866	96.6028299	93.89462941	91.27662938	88.74533781	86.29741806	83.92968102
200304A00010	3/4/2020	1.2	3/4/2027	3/4/2020	102.20854	99.25529893	96.40246458	93.64607568	90.98234943	88.40767349	85.9185972	83.51182335	81.18420044
200304A00021	3/4/2020	0.94	3/4/2024	3/4/2020	99.99605	99.98495449	99.97387009	99.96279638	99.95173335	99.94068097	99.92963923	99.91860812	99.9075876
200304A00052	3/6/2020	2.11	3/8/2027	3/6/2020	104.58041	101.5899949	98.70099562	95.90941216	93.21142507	90.60338713	88.08181451	85.64337842	83.28489729
200304A00053	3/6/2020	2.33	3/6/2025	3/6/2020	101.11311	100.1056324	99.1181819	98.15016311	97.20100658	96.27016499	95.357112	94.46134126	93.5823655
200304A00040	3/4/2020	1.12	3/1/2024	3/4/2020	100.00027	99.99750386	99.99473573	99.99197001	99.98920668	99.98644574	99.98368719	99.98093103	99.97817725
200304A00034	3/4/2020	1.12	3/4/2024	3/4/2020	99.996874	99.98579109	99.97471921	99.96365786	99.95260704	99.94156672	99.93053689	99.91951753	99.90850863
200305A00029	3/5/2020	1.14	3/5/2025	3/5/2020	99.894822	98.89665004	97.91830402	96.95919814	96.01876956	95.09647719	94.19180067	93.30423939	92.43331152
200305A00007	3/5/2020	1.14	3/5/2025	3/5/2020	99.894822	98.89665004	97.91830402	96.95919814	96.01876956	95.09647719	94.19180067	93.30423939	92.43331152
200305A00012	3/5/2020	1.14	3/5/2025	3/5/2020	99.894822	98.89665004	97.91830402	96.95919814	96.01876956	95.09647719	94.19180067	93.30423939	92.43331152
200305A00002	3/5/2020	1.14	3/5/2025	3/5/2020	99.894822	98.89665004	97.91830402	96.95919814	96.01876956	95.09647719	94.19180067	93.30423939	92.43331152
200305A00035	3/5/2020	1.25	3/5/2026	3/5/2020	100.90069	98.9329459	97.01337344	95.14049097	93.31287336	91.52914897	89.78799728	88.08814656	86.42837172
200305A00036	3/5/2020	1.36	3/5/2027	3/5/2020	102.30327	99.35522905	96.50727219	93.75545615	91.09601426	88.5253494	86.0400253	83.63675834	81.31240986
200306A00001	3/6/2020	1.11	3/6/2026	3/6/2020	100.62036	98.65289955	96.73365895	94.86115191	93.03395019	91.2506793	89.51001601	87.81068606	86.15146201
200306A00046	3/6/2020	1.01	3/3/2025	3/6/2020	99.760341	98.76819071	97.79564382	96.8421247	95.90707971	94.98997649	94.09030297	93.20756636	92.34129232
200306A00012	3/6/2020	0.95	3/6/2024	3/6/2020	99.991723	99.97510173	99.95849731	99.94190964	99.92533868	99.9087844	99.89224677	99.87572577	99.85922137
200306A00065	3/6/2020	1.38	3/6/2030	3/6/2020	105.04226	99.18804268	93.69493093	88.53883867	83.6974066	79.14986808	74.87692785	70.86065061	67.08435861
200306A00014	3/6/2020	1.38	3/6/2030	3/6/2020	105.04226	99.18804268	93.69493093	88.53883867	83.6974066	79.14986808	74.87692785	70.86065061	67.08435861
200309A00004	3/9/2020	0.71	3/8/2024	3/9/2020	99.985535	99.96335347	99.94119587	99.9190621	99.89695213	99.87486589	99.85280335	99.83076446	99.80874918
200309A00027	3/9/2020	0.97	3/10/2025	3/9/2020	99.725606	98.71514002	97.72501883	96.75463357	95.80339906	94.87075307	93.95615517	93.05908572	92.17904484
200309A00019	3/9/2020	0.89	3/11/2024	3/9/2020	99.981904	99.95144217	99.9210149	99.89062251	99.86026492	99.82994209	99.79965394	99.76940041	99.73918143
200309A00020	3/9/2020	0.96	3/10/2025	3/9/2020	99.71527	98.7048606	97.71479563	96.74446581	95.79328598	94.86069392	93.94614924	93.04913229	92.16914322
200309A00005	3/9/2020	0.77	3/7/2025	3/9/2020	99.677981	98.67339593	97.68891533	96.72394079	95.77789758	94.85023332	93.94041696	93.04793772	92.17230413
200309A00046	3/9/2020	0.78	3/11/2025	3/9/2020	99.691193	98.67593036	97.68120175	96.70638921	95.75089971	94.81416357	93.89563329	92.99478252	92.11110501
200309A00033	3/9/2020	1.06	3/9/2026	3/9/2020	100.52585	98.55155139	96.62576723	94.74699406	92.91379029	91.12476881	89.37859445	87.67398168	86.00969238
200309A00021	3/9/2020	1.05	3/9/2026	3/9/2020	100.50555	98.53146246	96.60588449	94.72731351	92.89430804	91.10548106	89.35949753	87.65507201	85.99096648
200310A00025	3/10/2020	0.87	3/11/2024	3/10/2020	99.984776	99.95427731	99.92381402	99.89338602	99.86299325	99.83263563	99.80231309	99.77202557	99.74177299
200310A00073	3/12/2020	2.12	3/11/2027	3/12/2020	104.62634	101.6273419	98.73024305	95.93101367	93.22580861	90.6109565	88.08295089	85.63844176	83.27422758

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200310A00042	3/10/2020	1.41	3/11/2030	3/10/2020	105.22461	99.35245034	93.84307382	88.67224724	83.81747307	79.25785911	74.973996	70.94784473	67.16263319
200310A00065	3/13/2020	1.1	3/13/2025	3/13/2020	99.863553	98.8443901	97.84590456	96.86747191	95.90849303	94.96839247	94.04661725	93.14263584	92.25593705
200311A00006	3/13/2020	1.12	3/10/2025	3/13/2020	99.880653	98.86933134	97.87836685	96.90714996	95.95509524	95.02164019	94.10624414	93.20838718	92.32756921
200311A00056	3/13/2020	1.27	4/10/2024	3/13/2020	99.972358	99.85905159	99.74601538	99.63324817	99.52074898	99.40851682	99.29655069	99.18484961	99.07341261
200311A00040	3/12/2020	1.3	3/11/2025	3/12/2020	100.06845	99.0534428	98.05891608	97.08425326	96.128864	95.19218118	94.27365971	93.37277551	92.4890245
200312A00004	3/13/2020	1.23	1/24/2025	3/13/2020	99.933687	99.04135543	98.16487857	97.30383694	96.45782575	95.62645425	94.80934511	94.00613391	93.2164685
200313A00032	3/18/2020	1.46	3/18/2025	3/18/2020	100.24951	99.21495492	98.20164348	97.20892858	96.2361873	95.28282164	94.34825725	93.4319423	92.53334636
200317A00026	3/17/2020	1.22	3/15/2024	3/17/2020	99.988846	99.94730457	99.90581565	99.86437886	99.82299411	99.7816613	99.74038033	99.69915108	99.65797346
200317A00065	3/19/2020	2.05	3/19/2025	3/19/2020	100.8761	99.83535642	98.81602171	97.81743604	96.83897068	95.88002209	94.94001066	94.01837954	93.11459353
191104A00023	11/4/2019	2.24	8/4/2028	11/4/2019	107.89909	103.4806247	99.2690827	95.25371282	91.42437571	87.77150755	84.28608449	80.95958935	77.7839806
191104A00025	11/4/2019	2.33	8/2/2030	11/4/2019	111.17186	104.7503373	98.74474612	93.12598668	87.86713484	82.9432713	78.33132273	74.0099163	69.95924626
191104A00022	11/4/2019	2.17	8/4/2027	11/4/2019	105.57977	102.1786119	98.90547243	95.754866	92.72156974	89.80061137	86.98725581	84.27699256	81.66552383
191104A00024	11/4/2019	2.26	8/3/2029	11/4/2019	109.64169	104.216452	99.0943388	94.25685621	89.68673116	85.36782401	81.28504867	77.42429861	73.77237855
191104A00018	11/5/2019	1.96	11/5/2024	11/5/2019	100.34404	99.66353659	98.99224038	98.32996312	97.67652396	97.03174686	96.39546046	95.76749786	95.14769652
191105A00008	11/5/2019	1.83	11/5/2024	11/5/2019	100.39501	99.71249495	99.03923547	98.37504525	97.71974192	97.07314796	96.43509056	95.80540145	95.18391678
191105A00007	11/5/2019	1.98	11/5/2026	11/5/2019	103.92217	101.2640478	98.68726656	96.1888208	93.76583893	91.41557542	89.13540423	86.92281267	84.77539563
191106A00012	11/6/2019	2.02	10/11/2024	11/6/2019	100.33625	99.72269246	99.11662325	98.51791022	97.92641991	97.34202208	96.76458963	96.19399846	95.63012741
191106A00022	11/6/2019	2.34	1/2/2030	11/6/2019	110.59091	104.7415052	99.24030311	94.06480213	89.19406061	84.60858432	80.29021947	76.22205424	72.388328
210414A00001	4/14/2021	0.7	5/16/2024	4/14/2021	99.829252	99.61727858	99.40621875	99.19606661	98.98681623	98.77846176	98.57099736	98.36441729	98.15871581
210428A00015	4/28/2021	2.02	4/28/2031	4/28/2021	109.84517	102.7740745	96.20844529	90.10949083	84.44159377	79.17203246	74.27073108	69.71003267	65.4644927
210428A00007	4/28/2021	1.74	10/27/2028	4/28/2021	106.00589	101.4090123	97.03747503	92.87903489	88.92218499	85.15610265	81.57060478	78.15610646	74.90358242
210428A00008	4/28/2021	1.93	4/26/2030	4/28/2021	108.44124	102.3547377	96.64911528	91.29855768	86.27912829	81.5686261	77.14645081	72.99347921	69.09195177
210428A00006	4/28/2021	1.23	4/28/2026	4/28/2021	101.01306	98.90111475	96.84336017	94.8380263	92.88341588	90.9779004	89.11991666	87.30796359	85.54059919
210429A00005	4/29/2021	2.08	4/29/2031	4/29/2021	110.2748	103.1861342	96.60404252	90.48965488	84.80727547	79.52411093	74.61001985	70.03728522	65.78040751
210507A00008	5/7/2021	1.94	5/7/2031	5/7/2021	109.29848	102.2238711	95.6568902	89.55844862	83.89266782	78.6265956	73.72995288	69.17490351	64.93584517
210507A00009	5/7/2021	2.02	5/7/2032	5/7/2021	110.92416	102.8685075	95.46078733	88.64541831	82.37186388	76.594148	71.27042153	66.36257187	61.83587146
210514A00033	5/18/2021	2.8	5/18/2028	5/18/2021	109.84193	105.5888554	101.5257603	97.64309705	93.9318522	90.38351559	86.99004918	83.74385789	80.63776241
210114A00009	1/19/2021	2.66	1/17/2030	1/19/2021	112.5106	106.5674946	100.9794914	95.72352131	90.77813063	86.12335668	81.740617	77.61260732	73.72320757
210125A00007	1/27/2021	2.98	1/27/2031	1/27/2021	116.17718	109.1303887	102.5671751	96.45173571	90.75109309	85.43486071	80.47502686	75.84575787	71.52321845
210125A00006	1/27/2021	2.16	1/26/2027	1/27/2021	104.49228	101.6176945	98.83718652	96.14717417	93.54423549	91.02509696	88.58662614	86.22582477	83.93982225
191108A00014	11/8/2019	2.25	11/8/2029	11/8/2019	110.67058	104.9357043	99.53512413	94.44757228	89.65324708	85.13370396	80.87175507	76.85137691	73.05762522
191108A00011	11/8/2019	2.08	10/18/2024	11/8/2019	100.38795	99.7554547	99.13091994	98.51419469	97.90513301	97.30359259	96.70943462	96.12252368	95.54272768
191108A00013	11/8/2019	2.25	11/8/2029	11/8/2019	110.67058	104.9357043	99.53512413	94.44757228	89.65324708	85.13370396	80.87175507	76.85137691	73.05762522

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210621A00008	6/21/2021	1.04	6/23/2025	6/21/2021	99.953388	98.66798401	97.40714419	96.17018752	94.95645873	93.76532662	92.59618298	91.44844149	90.32153675
210624A00022	6/24/2021	0.87	6/24/2025	6/24/2021	99.938178	98.64712536	97.38051222	96.13767205	94.9179626	93.72076488	92.54548206	91.39153844	90.25837856
210624A00020	6/24/2021	0.78	6/24/2024	6/24/2021	99.776649	99.45837233	99.14212805	98.8278965	98.5156585	98.20539508	97.89708752	97.59071736	97.28626632
200814A00011	8/18/2020	1.58	8/16/2030	8/18/2020	106.3868	100.0809011	94.18851368	88.68044217	83.5296958	78.71130908	74.2021801	69.98092262	66.02773052
200814A00009	8/18/2020	1.36	8/16/2028	8/18/2020	104.03525	99.67104494	95.51374444	91.55249242	87.77705911	84.17780048	80.7456216	77.47194258	74.34866678
200818A00004	8/18/2020	0.92	8/18/2026	8/18/2020	100.55421	98.1562566	95.82731955	93.5650293	91.36710811	89.23136997	87.1557163	85.13813188	83.17668103
200818A00006	8/18/2020	1.18	8/18/2028	8/18/2020	103.23685	98.88523165	94.74038705	90.79145322	87.02819023	83.44094531	80.02061611	76.75861652	73.64684472
200818A00007	8/18/2020	1.31	8/20/2029	8/18/2020	104.50839	99.17760299	94.14923165	89.40460809	84.92631224	80.69807889	76.70471539	72.93202571	69.36674014
200818A00005	8/18/2020	1.05	8/18/2027	8/18/2020	101.77075	98.39920559	95.1565476	92.03717605	89.0357687	86.14726178	83.36683601	80.68990339	78.11209485
200818A00010	8/18/2020	1.88	8/20/2035	8/18/2020	111.62617	100.6310503	90.82965315	82.08559541	74.27872689	67.30312712	61.06535657	55.48293022	50.48298447
200818A00008	8/18/2020	1.5	8/18/2031	8/18/2020	106.29217	99.06957051	92.38593149	86.19832205	80.46743712	75.15727191	70.23482947	65.66985551	61.43459781
200818A00009	8/18/2020	1.7	8/18/2033	8/18/2020	109.22876	100.0942404	91.7986394	84.26046527	77.40652627	71.17104892	65.49489267	60.32485106	55.61302968
200325A00030	3/25/2020	1.5	3/25/2025	3/25/2020	100.47603	99.41916381	98.38440897	97.37108112	96.37852038	95.40609372	94.45319359	93.51923669	92.6036627
200326A00026	3/26/2020	1.32	3/26/2024	3/26/2020	99.986048	99.9140891	99.84224253	99.770508	99.69888526	99.62737405	99.55597412	99.4846852	99.41350704
200326A00028	3/26/2020	1.54	3/26/2025	3/26/2020	100.35312	99.29677374	98.26254581	97.24975196	96.25773152	95.28585074	94.33350138	93.40009951	92.48508423
200326A00029	3/26/2020	1.82	3/26/2027	3/26/2020	103.783	100.7575843	97.83607369	95.01431203	92.28833752	89.65436978	87.10880035	84.6481838	82.26922926
200327A00075	3/31/2020	1.75	3/29/2024	3/31/2020	100.01884	99.93856521	99.85842103	99.77840847	99.69852721	99.61877695	99.53915737	99.45966816	99.38030901
200327A00074	3/31/2020	1.76	3/29/2024	3/31/2020	100.01965	99.93936914	99.85922431	99.7792111	99.69932921	99.6195783	99.53995808	99.46046823	99.38110844
200825A00007	8/27/2020	4.79	8/27/2026	8/27/2020	110.23357	107.6902707	105.2200015	102.8202395	100.4885643	98.22265358	96.02027871	93.87930026	91.79766384
200827A00007	8/27/2020	0.77	8/27/2025	8/27/2020	99.64137	98.19125171	96.76937575	95.37499086	94.00737235	92.66582047	91.34965933	90.05823592	88.79091909
200330A00045	3/30/2020	1.47	3/30/2027	3/30/2020	102.7214	99.70194867	96.78660649	93.9711965	91.25173616	88.62442598	86.08563993	83.63191632	81.25994937
200330A00041	4/1/2020	1.09	4/1/2025	4/1/2020	99.875382	98.80590756	97.75917664	96.73447059	95.73110071	94.74840674	93.7857554	92.84253903	91.91817428
200828A00002	8/28/2020	0.73	8/28/2026	8/28/2020	100.41737	97.98871419	95.63082068	93.34122494	91.11756488	88.95757478	86.85908064	84.81999592	82.83831739
210201A00012	2/3/2021	0.75	11/17/2025	2/3/2021	99.715357	98.04740995	96.41497476	94.81698299	93.2524089	91.72026773	90.21961361	88.74953761	87.30916591
210201A00004	2/3/2021	1.15	2/3/2025	2/3/2021	99.870995	98.95242865	98.05066068	97.16523395	96.29570775	95.44165709	94.602672	93.77835687	92.96832984
210209A00029	2/12/2021	0.8	12/15/2025	2/12/2021	99.835529	98.09296762	96.38884675	94.72203676	93.09145086	91.49604314	89.93480666	88.40677165	86.91100376
210212A00016	2/17/2021	1.32	2/18/2025	2/17/2021	100.05383	99.09454972	98.15357038	97.23037041	96.32444979	95.43532709	94.5625386	93.70563755	92.86419335
210212A00014	2/17/2021	1.38	2/17/2026	2/17/2021	101.10627	99.18091743	97.30178253	95.46747448	93.6766531	91.9280274	90.2203534	88.55243207	86.92310738
210212A00008	2/12/2021	0.95	10/13/2026	2/12/2021	100.75388	98.20617307	95.73519793	93.33817461	91.01244474	88.75546377	86.56479525	84.43810538	82.37315798
210216A00009	2/16/2021	0.92	2/16/2027	2/16/2021	101.31671	98.42154859	95.62358734	92.91904011	90.30429221	87.77588943	85.33052989	82.96505641	80.67644932
210216A00006	2/16/2021	1.44	2/15/2030	2/16/2021	106.16433	100.2993261	94.79342586	89.62284304	84.76548605	80.20082592	75.90977818	71.87459429	68.07876166
210216A00007	2/16/2021	1.3	2/16/2029	2/16/2021	104.85746	99.97348363	95.34423314	90.95514325	86.7925557	82.84365713	79.09642256	75.53956286	72.16247608
210216A00008	2/16/2021	0.71	2/17/2026	2/16/2021	100.03482	98.11553653	96.24245925	94.41419373	92.62939768	90.88677817	89.18508944	87.52313084	85.89974485

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210709A00002	7/9/2021	1.36	7/9/2029	7/9/2021	105.45075	100.1763371	95.19567302	90.49095421	86.04554225	81.84388185	77.87142511	74.11456143	70.56055268
210720A00035	7/22/2021	2.27	7/21/2031	7/22/2021	111.90359	104.5472401	97.73029706	91.41037294	85.54861553	80.10939611	75.06002704	70.37050536	66.01327988
210802A00002	8/2/2021	0.7	8/1/2025	8/2/2021	99.749544	98.36191557	97.0001919	95.66371151	94.35183504	93.06394424	91.79944118	90.55774737	89.33830296
210804A00008	8/6/2021	2.28	8/4/2028	8/6/2021	108.07617	103.65381	99.43850981	95.4195079	91.58665963	87.93039618	84.4416889	81.11201604	77.93333176
210816A00003	8/16/2021	0.71	8/16/2024	8/16/2021	99.660601	99.19912656	98.74192324	98.28893143	97.84009301	97.39535094	96.95464921	96.51793285	96.08514787
210817A00013	8/19/2021	2	8/19/2026	8/19/2021	103.22912	100.7950943	98.43097071	96.13434576	93.90291316	91.73445958	89.62686028	87.57807497	85.58614393
210818A00007	8/18/2021	0.81	8/18/2025	8/18/2021	99.925721	98.4927937	97.08740984	95.70884622	94.35640439	93.02940965	91.72721008	90.44917558	89.19469691
210818A00005	8/18/2021	0.6	8/19/2024	8/18/2021	99.662981	99.19269796	98.72685143	98.26537832	97.80821712	97.35530746	96.90659009	96.46200688	96.02150077
200331A00060	3/31/2020	1.09	3/31/2025	3/31/2020	99.87406	98.80723397	97.7630373	96.74075712	95.73970989	94.75924021	93.79871939	92.85754411	91.93513513
200402A00021	4/2/2020	0.77	10/2/2024	4/2/2020	99.69441	99.10560363	98.52372274	97.94864611	97.38025498	96.81843332	96.2630678	95.71404768	95.17126473
210226A00012	2/26/2021	2.31	2/26/2036	2/26/2021	116.63592	104.9165456	94.51105319	85.26409635	77.0394644	69.71764012	63.19367794	57.37536101	52.18159941
210304A00004	3/4/2021	0.58	3/4/2024	3/4/2021	99.990266	99.97918847	99.9681214	99.95706486	99.94601884	99.93498333	99.92395829	99.91294372	99.9019396
210305A00013	3/5/2021	2.41	3/5/2036	3/5/2021	117.81343	106.0078452	95.52576696	86.21060037	77.92506023	70.54870312	63.97578412	58.11339581	52.87985089
210312A00010	3/12/2021	0.63	3/12/2024	3/12/2021	99.971296	99.9380734	99.90488972	99.871745	99.83863916	99.80557212	99.77254382	99.73955418	99.70660313
210312A00005	3/12/2021	0.53	3/12/2024	3/12/2021	99.971705	99.93844416	99.90522324	99.87204173	99.83889954	99.80579661	99.77273284	99.73970816	99.7067225
210916A00007	9/16/2021	0.75	9/16/2024	9/16/2021	99.610199	99.06577117	98.52727965	97.99462757	97.46772025	96.94646506	96.43077134	95.92055036	95.41571529
210917A00008	9/17/2021	1.55	9/15/2028	9/17/2021	104.9839	100.5201745	96.27115931	92.22541443	88.37217329	84.70129587	81.20322888	77.86896862	74.69002647
200720A00012	7/20/2020	0.77	7/15/2025	7/20/2020	99.617717	98.27853794	96.96358607	95.67226138	94.40398306	93.15818892	91.93433458	90.73189284	89.55035297
210722A00001	7/22/2021	1.1	7/22/2026	7/22/2021	100.93741	98.60397548	96.33583349	94.13080047	91.98677923	89.90175461	87.87378966	85.90102221	83.98166147
200722A00010	7/22/2020	0.66	7/22/2024	7/22/2020	99.683344	99.28933025	98.89843116	98.51061013	98.12583083	97.74405751	97.36525499	96.9893886	96.61642426
210924A00005	9/24/2021	2.37	9/24/2036	9/24/2021	117.56397	105.2985071	94.46409073	84.8847528	76.40704202	68.8970435	62.23780201	56.32709652	51.07551631
210924A00011	9/24/2021	2.19	9/25/2034	9/24/2021	114.71907	104.3421984	95.00834761	86.60665645	79.03859159	72.21651867	66.06244656	60.50692202	55.48805587
210924A00004	9/24/2021	2.37	9/24/2036	9/24/2021	117.56397	105.2985071	94.46409073	84.8847528	76.40704202	68.8970435	62.23780201	56.32709652	51.07551631
210924A00003	9/24/2021	2.37	9/24/2036	9/24/2021	117.56397	105.2985071	94.46409073	84.8847528	76.40704202	68.8970435	62.23780201	56.32709652	51.07551631
200228A00067	2/28/2020	1.4	2/28/2025	2/28/2020	100.14993	99.16361544	98.19661323	97.24836405	96.318327	95.4059818	94.51082778	93.63238302	92.77018344
200224A00020	2/24/2020	1.59	2/24/2025	2/24/2020	100.33191	99.35523828	98.39748693	97.45811307	96.53659195	95.6324186	94.74510694	93.87418888	93.01921354
200224A00021	2/24/2020	1.58	9/24/2024	2/24/2020	100.05757	99.49044881	98.92973535	98.37532598	97.82711484	97.28499841	96.74887547	96.21864704	95.6942163
210527A00009	5/27/2021	0.5	5/28/2024	5/27/2021	99.785599	99.54052922	99.29666612	99.05400073	98.81252424	98.57222789	98.33310302	98.09514107	97.85833354
210527A00019	5/27/2021	1	5/27/2026	5/27/2021	100.86279	98.67149037	96.53810587	94.46068223	92.43734724	90.46630762	88.54584491	86.67431167	84.8501278
210527A00026	6/1/2021	2.78	6/1/2028	6/1/2021	109.85429	105.5637991	101.4664375	97.55242187	93.81252591	90.23804252	86.82075123	83.5528879	80.42711655
210528A00003	5/28/2021	0.63	5/28/2024	5/28/2021	99.786731	99.54199664	99.29846325	99.05612206	98.81496436	98.57498149	98.33616489	98.09850608	97.86199664
210601A00002	6/1/2021	0.9	6/2/2025	6/1/2021	99.720362	98.48878253	97.28664749	96.11290819	94.96656572	93.8466676	92.7523051	91.68261075	90.63675603
220310A00005	3/10/2022	2.06	3/8/2024	3/10/2022	100.01425	99.99206642	99.96991111	99.94777937	99.92567114	99.90358639	99.88152507	99.85948715	99.83747258

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210603A00015	6/7/2021	2.71	6/7/2028	6/7/2021	109.59787	105.2964482	101.1894021	97.26687507	93.51956973	89.9387106	86.51601154	83.24364552	80.11421638
171005A00006	10/5/2017	2.32	10/7/2024	10/5/2017	100.6366	100.0311539	99.43298548	98.84196553	98.25796637	97.68086328	97.11053451	96.54686117	95.98972712
180829A00008	8/29/2018	3.23	8/30/2027	8/29/2018	109.90139	106.3449348	102.9244088	99.63388109	96.46770972	93.42052909	90.48723466	87.66296882	84.94310748
190814A00005	8/14/2019	1.65	8/14/2024	8/14/2019	100.15639	99.69828081	99.24436506	98.79458745	98.34889138	97.90722132	97.46952271	97.035742	96.60582659
180619A00021	6/19/2018	3.24	6/19/2028	6/19/2018	112.54768	108.1335532	103.9199616	99.89672044	96.05421703	92.38337587	88.87562555	85.52286804	82.31744988
160113A00030	1/13/2016	2.52	1/13/2025	1/13/2016	101.19319	100.322188	99.46616355	98.62472906	97.79751368	96.98415897	96.18431849	95.39765725	94.62385127
180619A00020	6/19/2018	3.1	6/19/2025	6/19/2018	102.85012	101.5515103	100.2788539	99.0313798	97.80835209	96.6090637	95.43283507	94.27901278	93.14696828
210608A00005	6/8/2021	0.51	6/7/2024	6/8/2021	99.766376	99.49402354	99.22316607	98.95379074	98.68588532	98.4194377	98.15443595	97.89086822	97.62872282
210608A00017	6/10/2021	2.67	6/8/2029	6/10/2021	111.60199	106.2720882	101.2314762	96.46289545	91.95020904	87.67832372	83.63311662	79.80136754	76.17069633
210609A00013	6/11/2021	1.64	6/11/2025	6/11/2021	100.69438	99.43383262	98.20073467	96.99418652	95.81333138	94.65734938	93.5254556	92.4168982	91.33095667
210609A00011	6/11/2021	1.32	6/11/2024	6/11/2021	99.953165	99.66996009	99.38836891	99.10837748	98.8299721	98.55313923	98.27786551	98.00413771	97.73194275
210609A00007	6/11/2021	2.6	6/11/2029	6/11/2021	111.24793	105.9191332	100.8801222	96.11359342	91.60336639	87.33430704	83.29225422	79.46395193	75.83698666
211206A00010	12/6/2021	1.54	12/4/2026	12/6/2021	102.50168	99.79315493	97.16953621	94.62761988	92.16435112	89.77681169	87.46221262	85.2178875	83.04128603
220323A00008	3/23/2022	2.47	3/25/2024	3/23/2022	100.06662	99.99736347	99.92821052	99.8591635	99.79022218	99.72138631	99.65265565	99.58402997	99.51550903
211217A00021	12/21/2021	2.44	12/18/2026	12/21/2021	105.07614	102.2949469	99.60170777	96.99313779	94.46609339	92.01756759	89.64468304	87.3446856	85.11493819
211222A00023	12/22/2021	1.13	4/15/2024	12/22/2021	99.951243	99.82419371	99.69748194	99.57110656	99.44506619	99.31935947	99.19398502	99.06894151	98.94422757
211222A00026	12/22/2021	1.2	7/15/2024	12/22/2021	99.901637	99.52608292	99.15335858	98.78343183	98.41627115	98.05184549	97.69012425	97.33107729	96.97467493
211222A00004	12/22/2021	1.26	10/15/2024	12/22/2021	99.863007	99.24040805	98.62555232	98.01829557	97.41849749	96.82602119	96.24073314	95.66250303	95.09120369
211222A00025	12/22/2021	1.2	7/15/2024	12/22/2021	99.901637	99.52608292	99.15335858	98.78343183	98.41627115	98.05184549	97.69012425	97.33107729	96.97467493
211222A00027	12/22/2021	1.26	10/15/2024	12/22/2021	99.863007	99.24040805	98.62555232	98.01829557	97.41849749	96.82602119	96.24073314	95.66250303	95.09120369
211222A00029	12/22/2021	1.26	10/15/2024	12/22/2021	99.863007	99.24040805	98.62555232	98.01829557	97.41849749	96.82602119	96.24073314	95.66250303	95.09120369
211222A00003	12/22/2021	1.33	1/15/2025	12/22/2021	100.01147	99.14267836	98.28891698	97.44979676	96.62494354	95.81399583	95.01660426	94.2324311	93.46114974
211222A00005	12/22/2021	1.2	7/15/2024	12/22/2021	99.901637	99.52608292	99.15335858	98.78343183	98.41627115	98.05184549	97.69012425	97.33107729	96.97467493
211222A00008	12/22/2021	1.13	4/15/2024	12/22/2021	99.951243	99.82419371	99.69748194	99.57110656	99.44506619	99.31935947	99.19398502	99.06894151	98.94422757
211222A00024	12/22/2021	1.13	4/15/2024	12/22/2021	99.951243	99.82419371	99.69748194	99.57110656	99.44506619	99.31935947	99.19398502	99.06894151	98.94422757
211222A00030	12/22/2021	1.33	1/15/2025	12/22/2021	100.01147	99.14267836	98.28891698	97.44979676	96.62494354	95.81399583	95.01660426	94.2324311	93.46114974
211222A00031	12/22/2021	1.33	1/15/2025	12/22/2021	100.01147	99.14267836	98.28891698	97.44979676	96.62494354	95.81399583	95.01660426	94.2324311	93.46114974
211022A00008	10/22/2021	1.12	10/22/2024	10/22/2021	99.770345	99.12938415	98.49663058	97.8719276	97.25512227	96.64606553	96.04461203	95.45062006	94.8639514
220401A00009	4/1/2022	2.98	4/1/2027	4/1/2022	107.39304	104.2958748	101.3049927	98.4161388	95.62525286	92.92846118	90.32206693	87.80254087	85.3665127
220909A00052	9/9/2022	3.95	3/8/2024	9/9/2022	100.058	100.0357892	100.0136002	99.99143479	99.96929296	99.94717464	99.92507979	99.90300838	99.88096035
210128A00008	1/28/2021	0.54	4/9/2024	1/28/2021	99.892009	99.7815298	99.6713069	99.56133983	99.45162768	99.34216952	99.23296443	99.12401151	99.01530985
210129A00008	1/29/2021	0.62	10/8/2024	1/29/2021	99.471824	98.86927811	98.27400292	97.68586719	97.10474304	96.53050567	95.96303319	95.40220658	94.84790963
210129A00013	1/29/2021	0.65	1/9/2025	1/29/2021	99.411677	98.56166337	97.72609677	96.90461169	96.09685466	95.30248398	94.5211692	93.75259067	92.99643908

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210128A00010	1/28/2021	0.57	7/9/2024	1/28/2021	99.675762	99.31697797	98.96077966	98.60713889	98.2560281	97.90742012	97.56128818	97.21760588	96.87634721
220518A00008	5/18/2022	3.01	5/20/2024	5/18/2022	100.3394	100.1157139	99.89303767	99.67136436	99.45068711	99.23099918	99.01229384	98.79456446	98.57780445
170918A00007	9/18/2017	2.8	9/20/2027	9/18/2017	108.08463	104.5144286	101.0824569	97.78260763	94.60907568	91.55634418	88.61916846	85.79256095	83.07177708
171227A00018	12/27/2017	2.83	12/27/2024	12/27/2017	101.23507	100.4112526	99.60083036	98.80347465	98.01887131	97.24671614	96.48671455	95.73858117	95.00203954
220106A00019	1/10/2022	3.17	1/7/2033	1/10/2022	121.67428	112.5526563	104.2064272	96.56512977	89.56505781	83.1485798	77.26353116	71.86267036	66.90319148
220106A00018	1/10/2022	3.11	1/8/2032	1/10/2022	119.04346	110.9819902	103.5385863	96.66239836	90.30700797	84.43002356	78.99271231	73.95966731	69.29850652
220112A00004	1/12/2022	1.55	1/12/2026	1/12/2022	101.55055	99.71423897	97.91997006	96.16653481	94.45276837	92.77754655	91.13978416	89.53843335	87.97248212
220112A00005	1/12/2022	1.55	1/12/2026	1/12/2022	101.55055	99.71423897	97.91997006	96.16653481	94.45276837	92.77754655	91.13978416	89.53843335	87.97248212
220118A00009	1/18/2022	1.65	1/17/2025	1/18/2022	100.29954	99.42404201	98.56377693	97.71834612	96.88736834	96.07047532	95.26731122	94.47753208	93.70080537
220125A00010	1/25/2022	1.89	1/25/2027	1/25/2022	103.70172	100.8413007	98.07451068	95.39778605	92.80772255	90.30106347	87.87469234	85.52562613	83.25100872
220729A00035	8/3/2022	3.14	8/3/2027	8/3/2022	108.89871	105.4432475	102.117192	98.91500815	95.83143073	92.86144662	90.0002814	87.24338671	84.58642825
220916A00043	9/16/2022	4.07	9/16/2031	9/16/2022	126.65046	118.5638321	111.0713316	104.1257882	97.68401802	91.70647065	86.15690513	81.00209676	76.21157135
220916A00042	9/16/2022	4.07	9/16/2030	9/16/2022	123.56912	116.5995484	110.0828086	103.9868916	98.28221629	92.94143385	87.93924831	83.25225205	78.85877545
220531A00020	5/31/2022	2.86	5/31/2024	5/31/2022	100.34827	100.0943814	99.84177381	99.59043663	99.34036029	99.09153537	98.84395251	98.59760248	98.35247613
220601A00038	6/3/2022	3.69	5/28/2032	6/3/2022	124.60142	115.9480785	107.9821234	100.6448104	93.88272695	87.64727986	81.89423606	76.58330937	71.67778859
220602A00039	6/2/2022	3.11	6/2/2027	6/2/2022	108.73284	105.4362529	102.257817	99.19257941	96.23583062	93.38308902	90.63008804	87.97276425	85.40724617
170914A00039	9/14/2017	2.23	9/16/2024	9/14/2017	100.5198	99.97138152	99.42895163	98.89240951	98.36165947	97.83660793	97.31716327	96.80323587	96.29473799
220815A00006	8/15/2022	3.52	8/15/2024	8/15/2022	100.96833	100.5060053	100.0479263	99.59403345	99.14426934	98.69857769	98.25690318	97.81919152	97.38538939
220920A00050	9/20/2022	4.37	9/20/2024	9/20/2022	101.63957	101.0779784	100.5226104	99.97335894	99.43012315	98.89280442	98.36130627	97.83553431	97.31539618
220819A00038	8/19/2022	3.59	8/19/2024	8/19/2022	101.02599	100.5526473	100.0837532	99.61924225	99.1590529	98.70312494	98.25139919	97.80381762	97.36032322
220406A00007	4/6/2022	2.87	4/8/2024	4/6/2022	100.14675	100.0387962	99.93108306	99.82361331	99.71638607	99.60940051	99.50265575	99.39615098	99.28988533
220823A00056	8/23/2022	3.5	8/23/2024	8/23/2022	101.06886	100.583798	100.103402	99.62760425	99.15633888	98.68954116	98.2271476	97.76909594	97.31532508
220823A00060	8/23/2022	3.5	8/23/2024	8/23/2022	101.06886	100.583798	100.103402	99.62760425	99.15633888	98.68954116	98.2271476	97.76909594	97.31532508
220922A00042	9/22/2022	4.6	3/22/2024	9/22/2022	100.1897	100.1286377	100.0676636	100.0067778	99.94598025	99.88527064	99.8246488	99.76411456	99.7036677
220923A00035	9/23/2022	4.7	3/22/2024	9/23/2022	100.19584	100.1347683	100.0737893	100.0128987	99.95209622	99.89138174	99.83075504	99.77021593	99.70976423
220622A00010	6/22/2022	3.43	7/12/2024	6/22/2022	100.73022	100.3609429	99.99438478	99.63051479	99.26930327	98.91072103	98.55473932	98.20132978	97.85046451
220421A00015	4/21/2022	3.12	9/16/2024	4/21/2022	100.92062	100.3720626	99.82947651	99.29276143	98.76182229	98.23656607	97.71690171	97.20274011	96.69399405
220421A00013	4/21/2022	3.33	9/15/2026	4/21/2022	106.75601	104.2047001	101.7280772	99.32350662	96.98846789	94.72054509	92.51742177	90.37687613	88.29677654
220826A00033	8/26/2022	3.73	8/26/2025	8/26/2022	104.07016	102.5881908	101.1349625	99.70971385	98.31170788	96.94023314	95.59460242	94.27415178	92.97823952
220624A00016	6/24/2022	3.34	6/24/2026	6/24/2022	106.37993	104.0486861	101.7805202	99.57335633	97.4252029	95.33414597	93.29834576	91.31603318	89.38550669
220429A00006	4/29/2022	3.06	4/29/2024	4/29/2022	100.25775	100.0917981	99.92639302	99.76153393	99.59721817	99.43344306	99.27020596	99.10750424	98.94533529
220429A00007	4/29/2022	3.14	10/29/2024	4/29/2022	101.12195	100.45724	99.80126386	99.15384562	98.51481866	97.88402062	97.26129331	96.64648257	96.03943813
220429A00002	4/29/2022	3.63	4/29/2032	4/29/2022	123.90684	115.3575317	107.4822555	100.2238599	93.53033338	87.35431961	81.65267804	76.38608754	71.51868947

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221130A00081	11/30/2022	4.15	11/30/2027	11/30/2022	114.19232	110.3028918	106.569817	102.9858804	99.54424763	96.23844093	93.0623185	90.01005462	87.0761212
221130A00069	11/30/2022	4.15	11/30/2027	11/30/2022	114.19232	110.3028918	106.569817	102.9858804	99.54424763	96.23844093	93.0623185	90.01005462	87.0761212
221130A00075	11/30/2022	4.15	11/30/2027	11/30/2022	114.19232	110.3028918	106.569817	102.9858804	99.54424763	96.23844093	93.0623185	90.01005462	87.0761212
221130A00078	11/30/2022	4.15	11/30/2027	11/30/2022	114.19232	110.3028918	106.569817	102.9858804	99.54424763	96.23844093	93.0623185	90.01005462	87.0761212
221201A00048	12/1/2022	4.22	12/1/2027	12/1/2022	113.94986	110.0758742	106.3574358	102.7873836	99.35892816	96.06563371	92.90139738	89.86042967	86.93723625
221201A00011	12/1/2022	3.95	12/1/2027	12/1/2022	113.45084	109.5725955	105.8504994	102.2773443	98.84630071	95.55089575	92.38499199	89.34276774	86.4186987
221201A00009	12/1/2022	4.22	12/1/2025	12/1/2022	106.11301	104.3450508	102.61526	100.9224723	99.26557025	97.64348177	96.05517778	94.49967001	92.97600892
221201A00037	12/1/2022	4.26	12/1/2026	12/1/2022	109.99534	107.1903918	104.4723454	101.8379349	99.28404288	96.80769182	94.40603637	92.07635655	89.81605117
221205A00034	12/5/2022	4.89	6/5/2024	12/5/2022	100.91395	100.6454224	100.3783326	100.112666	99.84841121	99.58555698	99.32409215	99.06400568	98.80528665
221205A00088	12/5/2022	4.13	12/3/2027	12/5/2022	113.63351	109.7600285	106.0423393	102.4732654	99.0460043	95.75410728	92.59145883	89.55225715	86.6309959
220927A00073	9/27/2022	4.72	9/26/2025	9/27/2022	105.93854	104.3563009	102.8057366	101.2859665	99.79613949	98.33543519	96.903063	95.49826061	94.12029271
220927A00024	9/27/2022	4.7	9/27/2024	9/27/2022	101.87867	101.2974609	100.7228969	100.1548598	99.59323868	99.03792531	98.48881373	97.9458004	97.40878406
221207A00101	12/7/2022	4.87	6/7/2024	12/7/2022	100.92775	100.6537231	100.3811969	100.1101546	99.84058419	99.57247359	99.30581091	99.04058437	98.77678234
221208A00062	12/8/2022	4.24	12/8/2028	12/8/2022	118.08239	113.089556	108.3427394	103.8284296	99.53393662	95.44733416	91.55740931	87.85361565	84.3260298
221208A00061	12/8/2022	4.11	12/8/2027	12/8/2022	113.61185	109.7252293	105.9954376	102.4152479	98.9778089	95.67662465	92.50553366	89.45868955	86.53054294
221208A00006	12/8/2022	4.88	12/8/2037	12/8/2022	151.45874	135.9914095	122.3994896	110.4393202	99.90038129	90.60061794	82.38244401	75.10932584	68.66285905
221208A00005	12/8/2022	4.88	12/8/2037	12/8/2022	151.45874	135.9914095	122.3994896	110.4393202	99.90038129	90.60061794	82.38244401	75.10932584	68.66285905
221208A00001	12/8/2022	4.6	12/8/2033	12/8/2022	137.26907	126.5471866	116.8013361	107.936009	99.86556418	92.51315985	85.80980555	79.69352064	74.1085871
221208A00050	12/8/2022	4.11	12/8/2027	12/8/2022	113.61185	109.7252293	105.9954376	102.4152479	98.9778089	95.67662465	92.50553366	89.45868955	86.53054294
221209A00035	12/9/2022	3.91	12/9/2027	12/9/2022	113.38475	109.4859672	105.7449879	102.1545208	98.7076587	95.39785312	92.21889302	89.16488548	86.23023729
221209A00037	12/9/2022	3.91	12/9/2027	12/9/2022	113.38475	109.4859672	105.7449879	102.1545208	98.7076587	95.39785312	92.21889302	89.16488548	86.23023729
220830A00055	8/30/2022	3.7	8/30/2029	8/30/2022	117.63119	111.9200855	106.528609	101.4371241	96.62730176	92.08202719	87.78531284	83.72221864	79.87877807
220902A00043	9/2/2022	3.91	3/4/2024	9/2/2022	100.03101	100.0199046	100.0088079	99.99772168	99.98664604	99.97558093	99.96452634	99.95348223	99.94244861
230126A00009	1/26/2023	4.84	7/26/2024	1/26/2023	101.38782	100.9788086	100.5731032	100.1706651	99.77145487	99.37543377	98.98256361	98.59280683	98.20612647
230126A00011	1/26/2023	4.84	7/26/2024	1/26/2023	101.38782	100.9788086	100.5731032	100.1706651	99.77145487	99.37543377	98.98256361	98.59280683	98.20612647
230127A00075	1/27/2023	4.23	7/28/2025	1/27/2023	104.75467	103.340342	101.9521816	100.5895278	99.25173739	97.93818854	96.64827972	95.38142893	94.13707286
230127A00079	1/27/2023	4.23	7/28/2025	1/27/2023	104.75467	103.340342	101.9521816	100.5895278	99.25173739	97.93818854	96.64827972	95.38142893	94.13707286
230127A00056	1/27/2023	3.78	1/27/2028	1/27/2023	113.38956	109.3578022	105.4944224	101.791497	98.24151586	94.83736003	91.57227889	88.43986928	85.43405576
230127A00059	1/27/2023	4.41	1/27/2025	1/27/2023	103.00274	102.0852054	101.1840604	100.29887	99.42921245	98.57468115	97.73488337	96.90943993	96.09798457
230127A00028	1/27/2023	4.7	7/26/2024	1/27/2023	101.38249	100.9728834	100.5665986	100.1635931	99.76382745	99.36726242	98.97385965	98.5835813	98.19639018
230127A00029	1/27/2023	4.7	7/26/2024	1/27/2023	101.38249	100.9728834	100.5665986	100.1635931	99.76382745	99.36726242	98.97385965	98.5835813	98.19639018
230127A00045	1/27/2023	4.12	1/27/2027	1/27/2023	110.20971	107.2487252	104.3840336	101.611985	98.92908409	96.33198697	93.81749391	91.38254209	89.02419911
230127A00046	1/27/2023	4	1/27/2028	1/27/2023	113.71421	109.690632	105.8346655	102.1384357	98.59448151	95.1957294	91.93547131	88.80734372	85.80530821

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230127A00044	1/27/2023	4.25	1/27/2026	1/27/2023	106.51615	104.5969849	102.7223203	100.8908605	99.10135223	97.35258697	95.64339883	93.97266281	92.33929315
230127A00048	1/27/2023	4	1/27/2028	1/27/2023	113.71421	109.690632	105.8346655	102.1384357	98.59448151	95.1957294	91.93547131	88.80734372	85.80530821
230127A00053	1/27/2023	4	1/27/2028	1/27/2023	113.71421	109.690632	105.8346655	102.1384357	98.59448151	95.1957294	91.93547131	88.80734372	85.80530821
230127A00073	1/27/2023	4.24	2/17/2026	1/27/2023	106.75554	104.7731632	102.838103	100.9489402	99.10430463	97.30287655	95.5433842	93.8246018	92.14534756
230127A00060	1/30/2023	4.25	2/3/2026	1/30/2023	106.59298	104.653639	102.7596841	100.9097819	99.10264276	97.33702353	95.61172529	93.92559163	92.2775068
230127A00012	1/27/2023	4	1/27/2028	1/27/2023	113.71421	109.690632	105.8346655	102.1384357	98.59448151	95.1957294	91.93547131	88.80734372	85.80530821
230130A00084	1/30/2023	4.29	1/30/2026	1/30/2023	106.62474	104.6965207	102.8131845	100.9734122	99.17593544	97.41953121	95.70301995	94.02526364	92.38516404
221006A00033	10/6/2022	4.56	10/7/2024	10/6/2022	101.87972	101.2715614	100.6706831	100.0769502	99.49023577	98.91041562	98.33736856	97.77097622	97.21112298
221007A00003	10/7/2022	4.67	10/7/2025	10/7/2022	105.98883	104.3763222	102.7964634	101.248325	99.73101611	98.24367888	96.78548706	95.35564455	93.95338401
220630A00045	6/30/2022	3.39	6/30/2026	6/30/2022	106.24265	103.9027622	101.6264782	99.41172234	97.25650058	95.15889493	93.11706005	91.12922006	89.19366555
230103A00070	1/3/2023	4.53	10/15/2025	1/3/2023	105.85326	104.2204846	102.6210471	101.0539922	99.51839987	98.01338507	96.5380957	95.09171121	93.67344105
230103A00066	1/3/2023	4.19	7/15/2026	1/3/2023	108.59197	106.1776909	103.8300134	101.5467335	99.32572939	97.16496194	95.06247055	93.01636984	91.02484627
230103A00068	1/3/2023	4.69	3/13/2025	1/3/2023	103.60386	102.563919	101.5449461	100.5463119	99.56741071	98.60766056	97.6665023	96.74339836	95.83783174
221018A00046	10/18/2022	4.9	4/30/2024	10/18/2022	100.57323	100.4041225	100.2355786	100.0675979	99.90017751	99.73331472	99.56700675	99.40125089	99.23604439
221018A00049	10/18/2022	4.59	10/18/2027	10/18/2022	114.79713	111.0299991	107.4099025	103.9302568	100.5848119	97.36763337	94.27308453	91.29580967	88.43071821
221018A00048	10/18/2022	4.71	10/19/2026	10/18/2022	110.69874	108.0029435	105.3877478	102.850232	100.3876046	97.99719423	95.67644314	93.42290182	91.23422345
221018A00047	10/18/2022	4.78	10/20/2025	10/18/2022	106.32126	104.6711215	103.0548442	101.471449	99.91999554	98.3995793	96.90932983	95.44840909	94.01600997
221018A00006	10/18/2022	4.55	10/18/2027	10/18/2022	114.65176	110.8872664	107.2697311	103.7925731	100.4495452	97.23471528	94.14244935	91.16739399	88.30446091
221213A00051	12/13/2022	4.02	12/13/2027	12/13/2022	113.32456	109.4298149	105.6927877	102.1062081	98.66318126	95.35716861	92.18196732	89.13169089	86.20075105
221213A00070	12/13/2022	4.07	12/13/2027	12/13/2022	113.51391	109.6155831	105.8750877	102.2851427	98.83884927	95.52966526	92.35138427	89.29811638	86.36427012
221213A00056	12/13/2022	4.02	5/13/2026	12/13/2022	107.50573	105.2760961	103.1042052	100.9881381	98.92606041	96.91621375	94.95691154	93.04653556	91.18353253
200305A00020	3/5/2020	0.95	3/5/2025	3/5/2020	99.860307	98.86002884	97.87965529	96.91859752	95.97628954	95.05218728	94.14576752	93.25652694	92.38398113
200124A00008	1/24/2020	1.92	1/22/2027	1/24/2020	104.15432	101.286361	98.5121629	95.82816367	93.23095755	90.71728626	88.28403171	85.92820919	83.64696087
221214A00077	12/14/2022	3.84	12/14/2027	12/14/2022	113.17159	109.2632303	105.5136103	101.9153948	98.46163103	95.14572602	91.96142558	88.90279487	85.96420018
221214A00079	12/14/2022	3.84	12/14/2027	12/14/2022	113.17159	109.2632303	105.5136103	101.9153948	98.46163103	95.14572602	91.96142558	88.90279487	85.96420018
221214A00046	12/14/2022	4.02	12/14/2027	12/14/2022	113.33502	109.4373707	105.6976557	102.1085944	98.6632819	95.3551698	92.17804566	89.12601368	86.19347665
221214A00002	12/14/2022	4.62	12/13/2024	12/14/2022	102.5694	101.7775182	100.9979079	100.2302812	99.47436255	98.72988522	97.99659029	97.27422668	96.5625508
180814A00033	8/14/2018	3.25	8/13/2027	8/14/2018	109.82381	106.3141648	102.9370354	99.68670476	96.5577367	93.54495791	90.64344365	87.84850447	85.15567357
180814A00032	8/14/2018	3.1	8/14/2025	8/14/2018	103.27695	101.8288119	100.4082762	99.01462142	97.64715136	96.30519351	94.98809794	93.69523636	92.42600119
221011A00036	10/11/2022	4.59	10/6/2026	10/11/2022	110.22558	107.5712581	104.9955549	102.4956522	100.0688552	97.7125831	95.42436391	93.20182865	91.04270647
221011A00037	10/11/2022	4.68	10/7/2024	10/11/2022	101.95299	101.3445867	100.7434586	100.1494782	99.56251826	98.98245466	98.40916618	97.84253441	97.28244372
221012A00051	10/12/2022	4.7	10/11/2024	10/12/2022	102.00227	101.3828999	100.7710694	100.1666446	99.5694914	98.97947878	98.39647898	97.82036724	97.25102176
221216A00023	12/16/2022	4.04	12/13/2027	12/16/2022	113.4003	109.5041222	105.7657077	102.177782	98.73344847	95.42616727	92.2497341	89.19826108	86.26615868

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221216A00013	12/16/2022	4.04	12/16/2027	12/16/2022	113.43184	109.5269452	105.7804605	102.1850837	98.73388787	95.42030346	92.23809736	89.18135378	86.24445627
221219A00009	12/19/2022	4.83	6/19/2024	12/19/2022	101.03041	100.7233325	100.4181305	100.1147899	99.81329358	99.51362467	99.21576652	98.91970264	98.62541679
221014A00043	10/14/2022	4.49	10/14/2027	10/14/2022	114.88616	111.1154756	107.4919115	104.0088787	100.6601275	97.43972384	94.34203085	91.36169246	88.49361749
221014A00050	10/14/2022	4.49	10/14/2027	10/14/2022	114.88616	111.1154756	107.4919115	104.0088787	100.6601275	97.43972384	94.34203085	91.36169246	88.49361749
230105A00028	1/5/2023	4.93	10/18/2024	1/5/2023	102.21452	101.5754804	100.9444597	100.3213059	99.70587211	99.09801533	98.49759589	97.90447758	97.31852752
221220A00029	12/20/2022	4.7	12/20/2024	12/20/2022	102.71305	101.9015444	101.102908	100.3168341	99.5430274	98.78120174	98.0310799	97.29239317	96.56488098
221221A00046	12/21/2022	4.33	12/19/2025	12/21/2022	106.2508	104.4379229	102.6650392	100.9309835	99.23463713	97.57492262	95.95080176	94.36127386	92.80537409
221221A00048	12/21/2022	4.22	12/21/2026	12/21/2022	110.1022	107.2419098	104.4717602	101.7883937	99.18860028	96.66930839	94.22757793	91.86059388	89.56566014
221221A00049	12/21/2022	4.15	12/21/2027	12/21/2022	113.90337	109.9759706	106.2083134	102.5930289	99.12313032	95.7919898	92.59331802	89.52114484	86.56980137
221014A00026	10/14/2022	4.63	10/14/2027	10/14/2022	114.89349	111.1355663	107.5239505	104.0521098	100.7138396	97.5032477	94.41473671	91.44298752	88.58294364
180118A00039	1/18/2018	3.09	1/19/2027	1/18/2018	107.14647	104.2514661	101.4503245	98.73950379	96.11561383	93.57541039	91.1157881	88.73377375	86.42651984
180118A00037	1/18/2018	2.88	1/21/2025	1/18/2018	101.41838	100.526788	99.65085945	98.79018601	97.9443714	97.11303301	96.29580127	95.49231913	94.70224147
230131A00087	2/3/2023	4.26	1/5/2026	2/3/2023	106.30332	104.4446159	102.6278175	100.8517365	99.11522453	97.41717285	95.75651076	94.13220406	92.5432535
230201A00003	2/1/2023	3.93	1/31/2028	2/1/2023	113.48097	109.4511815	105.5897344	101.8887039	98.34057737	94.93823337	91.67491931	88.5442304	85.54008991
230201A00047	2/1/2023	4.42	2/3/2025	2/1/2023	103.08513	102.1482469	101.2284397	100.3252438	99.43821154	98.56691129	97.71092672	96.86985606	96.04331149
230201A00048	2/1/2023	4.42	2/3/2025	2/1/2023	103.08513	102.1482469	101.2284397	100.3252438	99.43821154	98.56691129	97.71092672	96.86985606	96.04331149
230202A00065	2/2/2023	3.87	5/15/2028	2/2/2023	114.32191	109.983123	105.8366939	101.8729996	98.08295385	94.45797619	90.98996035	87.6712451	84.49458713
230202A00064	2/2/2023	4.11	5/15/2026	2/2/2023	107.43241	105.2040288	103.0333628	100.9184964	98.85759502	96.84889996	94.89072458	92.98145063	91.11952484
230202A00033	2/2/2023	4.26	2/3/2025	2/2/2023	102.93499	101.9988627	101.0798058	100.1773506	99.29104967	98.42047167	97.5652004	96.72483428	95.89898569
230202A00045	2/2/2023	3.62	2/2/2028	2/2/2023	112.82166	108.7844484	104.9166299	101.2101965	97.65756239	94.25153866	90.98530982	87.85241267	84.84671613
230202A00071	2/2/2023	4.03	2/2/2027	2/2/2023	110.01076	107.0361001	104.1587183	101.3749026	98.68110374	96.07392729	93.55012585	91.10659181	88.74035054
230202A00061	2/2/2023	4.16	2/2/2026	2/2/2023	106.40733	104.472747	102.5833892	100.7379228	98.9350646	97.17357753	95.45226862	93.76998711	92.12562261
230202A00006	2/2/2023	3.92	2/2/2027	2/2/2023	109.68837	106.7184629	103.8457153	101.0664204	98.37703272	95.7741613	93.25456216	90.81513096	88.4528962
230202A00011	2/2/2023	3.92	2/2/2027	2/2/2023	109.68837	106.7184629	103.8457153	101.0664204	98.37703272	95.7741613	93.25456216	90.81513096	88.4528962
230202A00042	2/2/2023	3.82	2/2/2028	2/2/2023	113.07059	109.0430934	105.1841668	101.4858573	97.94063043	94.54134494	91.28122992	88.15386377	85.15315428
230202A00041	2/2/2023	3.82	2/2/2028	2/2/2023	113.07059	109.0430934	105.1841668	101.4858573	97.94063043	94.54134494	91.28122992	88.15386377	85.15315428
230203A00038	2/3/2023	4.1	2/3/2027	2/3/2023	110.22731	107.2465134	104.3632602	101.5738271	98.87465254	96.26233002	93.73360088	91.28534686	88.91458327
230203A00039	2/3/2023	3.98	2/3/2028	2/3/2023	113.70958	109.6667249	105.7930567	102.080594	98.52177269	95.10942342	91.83674898	88.69730291	85.68496962
230203A00026	2/3/2023	3.98	2/3/2028	2/3/2023	113.70958	109.6667249	105.7930567	102.080594	98.52177269	95.10942342	91.83674898	88.69730291	85.68496962
230203A00065	2/3/2023	3.76	2/3/2028	2/3/2023	113.38338	109.3322812	105.4511518	101.7319538	98.16707339	94.74929506	91.47177836	88.32803661	85.31191663
230203A00025	2/3/2023	4.63	2/3/2025	2/3/2023	103.13403	102.198981	101.2809375	100.3794414	99.49404763	98.62432706	97.76986559	96.93026362	96.10513541
230206A00009	2/6/2023	4.58	2/6/2025	2/6/2023	103.26825	102.3223357	101.3938085	100.4821914	99.58702475	98.70786552	97.84428644	96.99587534	96.1622345
230206A00008	2/6/2023	4.58	2/6/2025	2/6/2023	103.26825	102.3223357	101.3938085	100.4821914	99.58702475	98.70786552	97.84428644	96.99587534	96.1622345

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230207A00045	2/7/2023	5.07	8/7/2024	2/7/2023	101.60582	101.1635464	100.7251316	100.2905284	99.85968713	99.43255894	99.00909587	98.58925075	98.17297725
230208A00024	2/8/2023	5.08	8/8/2024	2/8/2023	101.62065	101.1756112	100.7344854	100.2972192	99.86376185	99.4340637	99.00807583	98.58575019	98.16703956
230209A00015	2/9/2023	4.8	2/5/2025	2/9/2023	103.31566	102.3743007	101.4501625	100.5427738	99.65168157	98.77644883	97.91665424	97.07189126	96.24176751
230209A00037	2/9/2023	4.12	2/9/2028	2/9/2023	114.32705	110.2548513	106.3536383	102.6153087	99.03219116	95.59701657	92.3028945	89.14329155	86.11201092
230209A00027	2/9/2023	4.12	2/7/2028	2/9/2023	114.30456	110.2385558	106.3430491	102.6099718	99.03168449	95.60094735	92.31089737	89.15502664	86.12716207
230209A00023	2/9/2023	4.79	2/10/2025	2/9/2023	103.36164	102.4065728	101.4692279	100.5491144	99.64575949	98.75870744	97.88751896	97.03177045	96.19105328
230209A00025	2/9/2023	4.25	2/5/2027	2/9/2023	110.69095	107.6974068	104.8019542	102.0008422	99.29048321	96.6674467	94.12845105	91.67035633	89.29015732
230209A00024	2/9/2023	4.4	2/5/2026	2/9/2023	106.92721	104.9783269	103.0751765	101.2164098	99.40072381	97.62686248	95.89361472	94.19981248	92.54432893
230210A00035	2/10/2023	4.52	2/10/2026	2/10/2023	107.20222	105.2362754	103.316778	101.4423427	99.6116375	97.82337878	96.07632926	94.36929591	92.70112809
230210A00065	2/10/2023	4.02	2/10/2028	2/10/2023	114.48722	110.3942097	106.4735029	102.7169221	99.11671877	95.66555146	92.35646226	89.18285461	86.13847265
230210A00055	2/10/2023	4.02	2/10/2028	2/10/2023	114.48722	110.3942097	106.4735029	102.7169221	99.11671877	95.66555146	92.35646226	89.18285461	86.13847265
230210A00062	2/10/2023	4.13	2/10/2027	2/10/2023	110.79445	107.7754393	104.8560076	102.0323189	99.30070891	96.65767479	94.09986673	91.62408052	89.22725037
230210A00049	2/10/2023	5.07	8/12/2024	2/10/2023	101.65766	101.2016408	100.7497256	100.301863	99.8579984	99.41807825	98.98204996	98.54986188	98.12146324
230210A00009	2/10/2023	4.93	12/11/2024	2/10/2023	102.80172	102.014132	101.2386548	100.4750135	99.72293808	98.98216657	98.25244499	97.5335269	96.82517317
230106A00032	1/6/2023	4.28	1/6/2026	1/6/2023	106.61489	104.745791	102.9189577	101.1331862	99.38731482	97.68022236	96.01082605	94.37808018	92.78097457
221028A00056	10/28/2022	4.77	10/28/2024	10/28/2022	102.20645	101.5403958	100.883036	100.2342046	99.59373606	98.96146943	98.33724771	97.72091791	97.1123309
221031A00003	10/31/2022	4.89	11/12/2024	10/31/2022	102.445	101.7374805	101.039762	100.3516463	99.67293564	99.00343777	98.34296564	97.69133724	97.04837543
221031A00004	10/31/2022	4.79	10/28/2025	10/31/2022	106.43342	104.7608392	103.1228686	101.5184939	99.94674431	98.40668635	96.8974221	95.41808755	93.96785096
221031A00045	10/31/2022	4.79	10/31/2025	10/31/2022	106.46929	104.7883459	103.1422852	101.5300897	99.950777	98.4034026	96.88705827	95.40087016	93.94399721
221031A00044	10/31/2022	4.89	10/31/2024	10/31/2022	102.31598	101.6413882	100.9757086	100.3187624	99.67037841	99.03038999	98.39863476	97.7749545	97.15919505
221103A00050	11/3/2022	5.14	11/4/2024	11/3/2022	102.52858	101.8424061	101.1654398	100.4974995	99.83840549	99.18798248	98.54605998	97.9124719	97.28705644
221103A00036	10/13/2023	4.87	10/31/2024	10/13/2023	102.30244	101.6279066	100.9622776	100.3053815	99.65704714	99.01710789	98.38540138	97.7617694	97.14605779
230109A00027	1/9/2023	4.64	12/17/2024	1/9/2023	102.63374	101.8306836	101.0402386	100.2621075	99.4960035	98.74164886	97.9987742	97.2671184	96.54642818
230109A00011	1/9/2023	4.61	1/6/2025	1/9/2023	102.82171	101.9637178	101.1200884	100.2904633	99.47449533	98.67184876	97.88219875	97.10523097	96.34064119
230110A00074	1/12/2023	4.65	1/10/2025	1/12/2023	102.89849	102.0293567	101.1749563	100.334917	99.50887801	98.69649097	97.89741878	97.11133542	96.33792543
230110A00006	1/10/2023	4.06	1/10/2028	1/10/2023	113.77091	109.7919873	105.9770111	102.3183651	98.80882549	95.44153971	92.21000526	89.10805004	86.12981384
230110A00037	1/11/2023	4.66	11/15/2024	1/11/2023	102.31047	101.5953842	100.8903238	100.1950796	99.50944742	98.83322845	98.16622943	97.50826233	96.85914425
221107A00056	11/7/2022	4.73	11/8/2027	11/7/2022	115.57097	111.7314896	108.0436504	104.5005723	101.0957322	97.82294138	94.67632623	91.65030995	88.73959571
230307A00026	3/7/2023	4.98	3/6/2026	3/7/2023	108.44444	106.3962254	104.3978071	102.4476575	100.5443051	98.6863339	96.87238057	95.10113232	93.37132451
230307A00020	3/7/2023	4.98	3/9/2026	3/7/2023	108.48315	106.4264117	104.4198001	102.4617699	100.5508351	98.68556622	96.86458699	95.08657242	93.35024632
230307A00092	3/23/2023	5.6	9/6/2024	3/23/2023	102.17978	101.6543526	101.1343439	100.6196725	100.1102561	99.60601458	99.10686911	98.61274259	98.12355943
230307A00038	3/7/2023	5.56	3/7/2024	3/7/2023	100.08428	100.0648213	100.0453792	100.0259572	100.0065554	99.98717363	99.96781189	99.94847015	99.92914837
230308A00030	3/8/2023	5.22	9/8/2025	3/8/2023	106.47114	104.9349257	103.4289338	101.9523453	100.5043695	99.0842438	97.69123213	96.32462394	94.98373308

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230308A00029	3/8/2023	5.57	9/9/2024	3/8/2023	102.20426	101.6705465	101.1424293	100.6198196	100.1026312	99.59077996	99.08418329	98.58276039	98.08643209
230308A00019	3/8/2023	5.05	3/9/2026	3/8/2023	108.62524	106.5670342	104.5589793	102.5995337	100.6872109	98.82058045	96.99826543	95.21894012	93.48132764
230112A00059	3/1/2023	4.04	3/2/2026	3/1/2023	106.50268	104.4852291	102.5167623	100.5957812	98.72084401	96.89056256	95.10360029	93.35866979	91.65453063
230309A00002	3/9/2023	5.41	3/10/2025	3/9/2023	104.31499	103.279203	102.2641201	101.2691189	100.2936062	99.33701204	98.39878855	97.47840884	96.57536603
230309A00004	3/9/2023	4.86	3/9/2027	3/9/2023	112.90789	109.7882731	106.7734238	103.8592242	101.0417442	98.31723089	95.68209889	93.13292226	90.66642626
230309A00003	3/9/2023	5.06	3/9/2026	3/9/2023	108.64554	106.5871231	104.578862	102.6192143	100.7066932	98.8398682	97.01736235	95.23784979	93.50005354
230309A00038	3/9/2023	4.85	3/9/2026	3/9/2023	108.48998	106.4280673	104.4164971	102.4537149	100.538226	98.66859255	96.84343053	95.06140742	93.32123993
230309A00041	3/9/2023	4.85	3/9/2026	3/9/2023	108.48998	106.4280673	104.4164971	102.4537149	100.538226	98.66859255	96.84343053	95.06140742	93.32123993
230309A00057	3/9/2023	4.86	3/9/2027	3/9/2023	112.90789	109.7882731	106.7734238	103.8592242	101.0417442	98.31723089	95.68209889	93.13292226	90.66642626
230309A00036	3/9/2023	4.46	3/9/2028	3/9/2023	116.57718	112.3624437	108.3278025	104.4645656	100.7645092	97.21984912	93.82321525	90.5676268	87.44646972
230309A00006	3/9/2023	5.72	3/11/2024	3/9/2023	100.13327	100.1026872	100.0721416	100.041631	100.0111554	99.98071468	99.95030876	99.91993761	99.88960114
230309A00021	3/9/2023	5.41	3/10/2025	3/9/2023	104.31499	103.279203	102.2641201	101.2691189	100.2936062	99.33701204	98.39878855	97.47840884	96.57536603
221221A00038	12/21/2022	4.43	12/20/2024	12/21/2022	102.62944	101.8164774	101.0164291	100.2289931	99.45387245	98.69077923	97.93943457	97.19956814	96.47091786
230118A00020	1/18/2023	3.87	1/16/2026	1/18/2023	105.9499	104.0605802	102.2145619	100.4106003	98.64748996	96.92406806	95.2392122	93.59183894	91.98090208
230118A00053	1/18/2023	3.87	1/16/2026	1/18/2023	105.9499	104.0605802	102.2145619	100.4106003	98.64748996	96.92406806	95.2392122	93.59183893	91.98090208
230118A00056	1/18/2023	3.87	1/16/2026	1/18/2023	105.9499	104.0605802	102.2145619	100.4106003	98.64748996	96.92406806	95.2392122	93.59183894	91.98090208
230310A00034	3/10/2023	5.48	3/11/2024	3/10/2023	100.12575	100.0951719	100.0646322	100.0341275	100.0036577	99.97322287	99.94282281	99.9124575	99.88212687
230310A00035	3/10/2023	5.21	9/10/2024	3/10/2023	102.01759	101.481802	100.9516578	100.4270717	99.90795631	99.39422625	98.88579778	98.38258893	97.88451941
230310A00065	3/10/2023	5	9/16/2024	3/10/2023	102.05218	101.4989343	100.9517078	100.4104062	99.87493327	99.34519502	98.82109937	98.30255623	97.78947742
230313A00115	3/13/2023	5.11	3/13/2024	3/13/2023	100.13368	100.0975626	100.061487	100.0254547	99.98946562	99.95351976	99.917617	99.88175725	99.84594044
230313A00117	3/13/2023	4.59	3/13/2025	3/13/2023	103.49967	102.4603109	101.4419087	100.4438373	99.465491	98.50628819	97.56566985	96.64309856	95.73805751
230313A00119	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
230313A00121	3/13/2023	4.29	3/15/2027	3/13/2023	111.2498	108.1391002	105.1334782	102.2287884	99.4210695	96.70653971	94.08158725	91.54276168	89.08676567
230313A00134	3/13/2023	4.16	4/14/2028	3/13/2023	115.20468	110.9331874	106.8476647	102.9389732	99.19847391	95.6179994	92.18982499	88.90664224	85.76153406
230313A00128	3/13/2023	4.18	12/15/2027	3/13/2023	113.95225	110.0402238	106.2866912	102.684349	99.22626933	95.90588218	92.71695406	89.653569	86.71011041
230313A00123	3/13/2023	4.22	9/15/2027	3/13/2023	113.07936	109.4344326	105.9293115	102.557854	99.31422363	96.1928718	93.18852244	90.29615673	87.5109991
230313A00135	3/13/2023	4.17	6/15/2028	3/13/2023	115.91742	111.4595202	107.2023443	103.1357484	99.25015522	95.53652164	91.98630613	88.59143797	85.34428861
230313A00097	3/13/2023	4.78	9/13/2024	3/13/2023	101.81008	101.266861	100.7294537	100.1977679	99.67171238	99.15119782	98.63613679	98.12644368	97.6220347
230313A00098	3/13/2023	4.41	3/13/2026	3/13/2023	107.37147	105.3154759	103.3098093	101.3529116	99.44328434	97.57948575	95.76012847	93.98387695	92.24944511
230313A00061	3/13/2023	4.06	3/13/2028	3/13/2023	114.45002	110.2823458	106.29322	102.4740169	98.81657085	95.31315343	91.95644765	88.73952366	85.6558161
221222A00027	12/22/2022	4.16	12/15/2027	12/22/2022	113.87641	109.9658115	106.2136702	102.6126778	99.15590835	95.83679316	92.6491002	89.58691487	86.64462187
221222A00024	12/22/2022	4.35	12/15/2025	12/22/2022	106.22564	104.424012	102.6619146	100.9381893	99.25171963	97.60143153	95.98629079	94.40530138	92.85750368
221222A00026	12/22/2022	4.22	12/15/2026	12/22/2022	110.03704	107.1938344	104.4397791	101.7715461	99.18595405	96.67996048	94.25065461	91.89525077	89.61108213

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
221222A00012	12/22/2022	4.35	12/16/2025	12/22/2022	106.25464	104.4497429	102.6845094	100.9577744	99.2684206	97.61537258	95.99759473	94.4140895	92.86389558
221222A00013	12/22/2022	4.34	12/23/2025	12/22/2022	106.31197	104.4878358	102.704143	100.9597307	99.25347786	97.58430384	95.95116653	94.35306068	92.78901627
221222A00014	12/22/2022	4.65	12/23/2024	12/22/2022	102.71098	101.89127	101.0846901	100.2909219	99.50966126	98.74061379	97.98349422	97.23802612	96.50394155
221222A00035	12/30/2022	4.34	12/30/2025	12/30/2022	106.38733	104.5437547	102.7414224	100.9791626	99.25584993	97.57039804	95.92175767	94.30891526	92.73089151
221223A00025	12/23/2022	4.25	12/23/2027	12/23/2022	114.30641	110.3659136	106.5858161	102.9587169	99.47760058	96.13581164	92.927034	89.84527176	86.88483118
230119A00067	1/19/2023	3.84	1/20/2026	1/19/2023	105.93237	104.0325812	102.1765614	100.3630433	98.59080251	96.85865805	95.16547035	93.51013955	91.89160383
221228A00075	12/28/2022	4.09	12/28/2027	12/28/2022	114.27602	110.3084386	106.503216	102.8528506	99.35022445	95.98858385	92.76151918	89.66294543	86.68708406
221228A00094	12/28/2022	4.95	6/28/2024	12/28/2022	101.15543	100.8234208	100.4935885	100.165915	99.84037943	99.51696078	99.19563848	98.8763922	98.55920188
221230A00055	12/30/2022	4.59	12/30/2024	12/30/2022	102.86457	102.0234441	101.1961084	100.3822255	99.58146878	98.79352235	98.01808019	97.25484605	96.50353295
221230A00059	12/30/2022	4.47	6/30/2025	12/30/2022	104.78502	103.4448895	102.1283798	100.8349227	99.56396326	98.31496401	97.08740421	95.88077918	94.69459975
221230A00111	12/30/2022	4.42	12/30/2026	12/30/2022	110.76754	107.8734811	105.0712525	102.3574474	99.72880571	97.18220544	94.71465607	92.32329232	90.00536814
221230A00108	12/30/2022	4.8	12/30/2024	12/30/2022	102.90864	102.0691195	101.2433309	100.4309433	99.63163197	98.84508272	98.07099133	97.30906318	96.5590129
221230A00109	12/30/2022	4.56	12/30/2025	12/30/2022	106.79239	104.9449895	103.1389017	101.3729559	99.6460248	97.95702016	96.30489095	94.68862191	93.10723206
221230A00088	12/30/2022	4.42	12/30/2026	12/30/2022	110.76754	107.8734811	105.0712525	102.3574474	99.72880571	97.18220544	94.71465608	92.32329232	90.00536814
221230A00087	12/30/2022	4.56	1/2/2026	12/30/2022	106.82649	104.9707747	103.1567152	101.3831345	99.64889538	97.95289996	96.29408771	94.67143412	93.08394919
221230A00086	12/30/2022	4.8	1/2/2025	12/30/2022	102.94126	102.093493	101.259729	100.4396253	99.63284786	98.83907328	98.05798867	97.28929108	96.53268716
221230A00072	12/30/2022	4.8	12/31/2024	12/30/2022	102.91926	102.0769785	101.2485226	100.4335515	99.6317376	98.84276388	98.06632337	97.30211885	96.54986241
230403A00031	4/3/2023	4.98	4/3/2024	4/3/2023	100.32683	100.2324959	100.138339	100.0443636	99.95056895	99.8569547	99.76352026	99.67026511	99.57718873
230213A00020	2/15/2023	4.28	1/25/2028	2/15/2023	114.78674	110.7476872	106.8764488	103.1651543	99.60634747	96.19295851	92.91828234	89.77595772	86.75994784
230215A00019	2/15/2023	5.01	2/18/2025	2/15/2023	103.66561	102.6873749	101.7276897	100.7860302	99.86189091	98.95478517	98.06424421	97.18981635	96.3310662
230221A00007	2/21/2023	4.5	10/18/2027	2/21/2023	114.47005	110.7088505	107.0945168	103.6204686	100.2804617	97.06856768	93.97915538	91.0068744	88.14663928
230222A00024	2/22/2023	4.74	3/2/2026	2/22/2023	107.91024	105.8783309	103.8956904	101.9608098	100.0722393	98.22858356	96.42849878	94.67069067	92.9539122
230223A00012	2/23/2023	4.68	10/3/2025	2/23/2023	106.20093	104.5932708	103.0180837	101.4744508	99.96148948	98.47834967	97.02421257	95.59828912	94.19981858
230223A00010	2/23/2023	4.68	10/3/2025	2/23/2023	106.20093	104.5932708	103.0180837	101.4744508	99.96148948	98.47834967	97.02421257	95.59828912	94.19981858
230224A00020	2/24/2023	5.38	8/26/2024	2/24/2023	101.95619	101.4611678	100.97097	100.4855221	100.0047552	99.52860165	99.0569952	98.58987083	98.12716475
230224A00029	2/24/2023	4.87	2/24/2026	2/24/2023	108.09317	106.0766113	104.1085897	102.1876351	100.3123297	98.48130828	96.69325571	94.94690497	93.24103487
221110A00086	11/10/2022	4.34	11/8/2027	11/10/2022	114.13129	110.3183305	106.6562348	103.1381522	99.75758732	96.50837814	93.38467633	90.38092941	87.49186378
221110A00084	11/10/2022	4.56	11/6/2025	11/10/2022	106.15358	104.4588345	102.7995271	101.1746092	99.58307444	98.02395585	96.49632384	94.99928443	93.53197752
221110A00039	11/10/2022	4.34	11/10/2027	11/10/2022	114.15472	110.3357242	106.6680164	103.1447194	99.75931139	96.50560586	93.37773176	90.37011542	87.47746352
230313A00080	3/13/2023	4.59	3/14/2025	3/13/2023	103.51043	102.4683159	101.4472699	100.4466592	99.46587369	98.50432715	97.56145642	96.63672013	95.72959768
230313A00030	3/13/2023	4.57	9/13/2024	3/13/2023	101.69571	101.1528386	100.6157841	100.0844485	99.55874044	99.03857074	98.52385199	98.01449862	97.51042684
230313A00027	3/13/2023	4.81	3/13/2024	3/13/2023	100.12264	100.0865325	100.0504656	100.0144419	99.97846155	99.94252435	99.90663022	99.87077911	99.83497091
230313A00053	3/13/2023	4.57	9/13/2024	3/13/2023	101.69571	101.1528386	100.6157841	100.0844485	99.55874044	99.03857074	98.52385199	98.01449862	97.51042684

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230314A00054	3/14/2023	4.46	3/15/2027	3/14/2023	111.76705	108.6484474	105.635123	102.7229243	99.90788364	97.18621308	94.55429491	92.00867304	89.54604466
230314A00015	3/14/2023	4.55	9/14/2026	3/14/2023	109.85324	107.2648295	104.7518597	102.3116791	99.94174776	97.63963061	95.40299275	93.22959456	91.11728711
230314A00070	3/14/2023	4.25	3/12/2027	3/14/2023	111.50682	108.3907382	105.379894	102.4701313	99.65748494	96.93816907	94.30856799	91.76522736	89.30484605
230315A00055	3/15/2023	4.2	3/11/2026	3/15/2023	106.92135	104.8754187	102.8795094	100.932076	99.03163214	97.17674738	95.36604521	93.59820034	91.87193648
230315A00086	3/15/2023	4.28	3/11/2025	3/15/2023	103.15688	102.1247951	101.1134311	100.1221646	99.15040013	98.1975652	97.26310969	96.34650461	95.44724115
230315A00052	3/15/2023	4.07	3/14/2025	3/15/2023	103.13319	102.0907742	101.0694835	100.0686822	99.08775724	98.12611995	97.1832046	96.25846747	95.35138571
230315A00016	3/15/2023	4.08	3/16/2027	3/15/2023	110.62142	107.5176136	104.5188003	101.6208336	98.81975165	96.11177192	93.49328229	90.96083212	88.51112403
230315A00010	3/15/2023	4.2	3/13/2026	3/15/2023	106.94289	104.8913595	102.8900681	100.9374604	99.03204028	97.1723683	95.35705934	93.58477998	91.85424621
230315A00012	3/15/2023	4.24	9/15/2025	3/15/2023	105.04519	103.5009547	101.9873269	100.5034676	99.04856746	97.62184612	96.22255084	94.84995526	93.50335829
230315A00084	3/15/2023	4.08	3/24/2027	3/15/2023	110.70603	107.5792484	104.5587746	101.6403818	98.82003782	96.09389424	93.45827709	90.90967769	88.44474421
230316A00061	3/16/2023	4.31	9/16/2025	3/16/2023	105.18034	103.631988	102.1143594	100.6266069	99.16791705	97.73750529	96.33461505	94.95851631	93.60850448
230316A00042	3/16/2023	4.42	3/14/2025	3/16/2023	103.33285	102.2917211	101.2716501	100.2720008	99.29216334	98.33155185	97.38960344	96.46577705	95.55955235
230316A00038	3/16/2023	4.42	3/14/2025	3/16/2023	103.33285	102.2917211	101.2716501	100.2720008	99.29216334	98.33155185	97.38960344	96.46577705	95.55955235
230316A00017	3/16/2023	3.81	3/16/2028	3/16/2023	114.02706	109.8443219	105.8415465	102.0100049	98.3414382	94.8280313	91.46238673	88.23749981	85.14673563
230316A00048	3/16/2023	4.05	6/16/2028	3/16/2023	115.41306	110.9630983	106.7137576	102.6548865	98.77690805	95.07077966	91.52795999	88.14037849	84.90040677
230316A00047	3/16/2023	4.07	9/16/2027	3/16/2023	112.55881	108.9203007	105.4215219	102.0563329	98.81889487	95.70365757	92.70534336	89.81893222	87.03964765
230316A00046	3/16/2023	4.18	6/16/2026	3/16/2023	107.93558	105.614366	103.3552082	101.1560515	99.01492561	96.9299392	94.89927586	92.92119066	90.99400678
230317A00024	3/17/2023	4.54	3/17/2025	3/17/2023	103.49006	102.4399788	101.4112904	100.4033479	99.41552719	98.44722887	97.49787722	96.56691901	95.65382235
230317A00010	3/17/2023	4.77	9/17/2024	3/17/2023	101.83149	101.277493	100.729538	100.1875302	99.65137285	99.12097137	98.59623322	98.07706785	97.56338661
230320A00045	3/20/2023	5.03	3/20/2024	3/20/2023	100.19704	100.1415026	100.0860432	100.0306611	99.97535618	99.92012819	99.86497701	99.80990248	99.75490443
230320A00021	3/20/2023	4.91	3/20/2024	3/20/2023	100.19033	100.1348003	100.0793462	100.0239694	99.9686698	99.91344713	99.85830126	99.80323203	99.74823928
230320A00005	3/20/2023	4.37	3/20/2025	3/20/2023	103.34154	102.2842126	101.2485967	100.2340283	99.23986941	98.26550766	97.3103549	96.37384615	95.45543839
230404A00002	4/4/2023	4.1	4/2/2027	4/4/2023	110.86369	107.7099238	104.6639934	101.7215839	98.87858067	96.13105866	93.47527173	90.90764361	88.42475896
230404A00004	4/4/2023	4.45	4/4/2025	4/4/2023	103.58262	102.4835109	101.4078147	100.3547838	99.32370646	98.31390025	97.32471084	96.35551051	95.40569683
230405A00026	4/5/2023	4.75	4/5/2024	4/5/2023	100.32314	100.2232965	100.1236558	100.024221	99.92499139	99.8259663	99.72714511	99.62852715	99.53011179
230405A00021	4/5/2023	3.96	4/6/2026	4/5/2023	106.69782	104.5839241	102.522871	100.5129764	98.5526269	96.64027241	94.77442316	92.95364684	91.17656586
230405A00020	4/5/2023	4.17	4/4/2025	4/5/2023	103.27401	102.1767124	101.1027964	100.0515196	99.0221707	98.014068	97.02655775	96.0590128	95.11083128
230405A00037	4/5/2023	3.71	4/6/2026	4/5/2023	106.44924	104.3326582	102.2690936	100.2568553	98.29432163	96.37993506	94.51219861	92.68967315	90.91097467
230405A00050	4/5/2023	4.38	10/7/2024	4/5/2023	101.7698	101.1620235	100.5615197	99.96815822	99.38181204	98.80235706	98.22967214	97.66363893	97.10414187
230405A00051	4/5/2023	4.17	4/7/2025	4/5/2023	103.3033	102.197777	101.115987	100.057169	99.02059608	98.00557142	97.01142722	96.03752299	95.08324426
230405A00046	4/5/2023	3.82	10/5/2027	4/5/2023	111.86817	108.1892505	104.6533459	101.2540894	97.98543659	94.84164625	91.81726275	88.90710036	86.10622816
230405A00045	4/5/2023	4.15	5/5/2025	4/5/2023	103.55283	102.3705752	101.2153982	100.086375	98.98262354	97.90330098	96.84760168	95.81475508	94.80402385
230406A00052	4/6/2023	4.02	4/6/2026	4/6/2023	106.8242	104.7089527	102.6465702	100.6353724	98.67374537	96.76013821	94.89306048	93.07107918	91.2928161

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230406A00088	4/6/2023	4.23	10/7/2024	4/6/2023	101.80375	101.1942855	100.592131	99.99715892	99.40924099	98.82825205	98.2540699	97.68657519	97.12565133
230406A00091	4/6/2023	3.99	4/7/2025	4/6/2023	103.27995	102.1719622	101.0877972	100.0266963	98.98792816	97.9707924	96.97461749	95.99875952	95.04260072
230406A00006	4/6/2023	4.82	4/8/2024	4/6/2023	100.35771	100.2495658	100.1416625	100.0340029	99.92658618	99.81941147	99.71247792	99.6057847	99.49933094
230410A00023	4/10/2023	4.75	4/10/2024	4/10/2023	100.38241	100.2685784	100.1550176	100.0417285	99.92871006	99.81596128	99.70348114	99.59126862	99.47932272
230411A00030	4/11/2023	4.2	4/11/2025	4/11/2023	103.55455	102.4341465	101.3380643	100.2655146	99.21574423	98.18803204	97.18168699	96.19604668	95.23047587
230411A00028	4/11/2023	4.2	4/11/2025	4/11/2023	103.55455	102.4341465	101.3380643	100.2655146	99.21574423	98.18803204	97.18168699	96.19604668	95.23047587
230411A00054	4/11/2023	3.74	4/11/2028	4/11/2023	114.00927	109.7548334	105.6860095	101.7936641	98.069167	94.50435924	91.09152437	87.82336189	84.69296241
230412A00044	4/12/2023	3.91	4/10/2026	4/12/2023	106.9139	104.7812295	102.7021517	100.6749491	98.69797595	96.7696517	94.88845763	93.05293401	91.26167731
230412A00037	4/12/2023	4.62	10/15/2024	4/12/2023	101.98872	101.3585895	100.7362715	100.1216178	99.51448689	98.91474113	98.32224603	97.73687037	97.15848613
230412A00038	4/12/2023	3.69	4/12/2028	4/12/2023	113.81323	109.5600082	105.4924894	101.6015348	97.878504	94.31522891	90.9039847	87.63746325	84.5087482
230227A00060	2/27/2023	4.86	2/27/2026	2/27/2023	108.11309	106.0874613	104.1107866	102.1815779	100.2983998	98.45986993	96.66465739	94.91147985	93.19910162
230227A00035	2/27/2023	5.41	6/28/2024	2/27/2023	101.30829	100.9759627	100.6458158	100.3178295	99.99198249	99.66825396	99.34662328	99.02707012	98.70957439
230227A00034	2/27/2023	5.42	5/28/2024	2/27/2023	100.96799	100.7213252	100.4758641	100.2316024	99.98853143	99.74664248	99.50592694	99.26637628	99.02798205
230412A00031	4/12/2023	3.91	4/10/2026	4/12/2023	106.9139	104.7812295	102.7021517	100.6749491	98.69797595	96.7696517	94.88845763	93.05293401	91.26167731
230413A00024	4/13/2023	4.41	4/14/2025	4/13/2023	103.64272	102.516373	101.414602	100.3366088	99.28162836	98.24892811	97.23780635	96.24759062	95.27763614
230413A00069	4/13/2023	4.33	4/14/2025	4/13/2023	103.55236	102.4265485	101.3253102	100.2478417	99.19337815	98.16118714	97.15056719	96.16084599	95.19137898
221116A00028	11/16/2022	4.21	11/16/2027	11/16/2022	113.74229	109.914107	106.2382341	102.7077152	99.31595861	96.05671312	92.92404769	89.91233306	87.01622436
221116A00026	11/16/2022	4.78	11/15/2024	11/16/2022	102.39662	101.6811897	100.9757912	100.2802123	99.59424866	98.91770145	98.25037735	97.5920883	96.94265132
221116A00027	11/16/2022	4.46	11/14/2025	11/16/2022	106.07537	104.3592666	102.6793931	101.034668	99.42405117	97.84654368	96.30118583	94.78705517	93.30326461
230120A00099	1/20/2023	3.92	1/20/2026	1/20/2023	106.08447	104.1831929	102.3257199	100.5107758	98.73713566	97.00361765	95.30908151	93.65242671	92.03259078
230120A00082	1/20/2023	4.53	1/16/2025	1/20/2023	102.85541	101.9702966	101.1004739	100.2455427	99.40512226	98.57884471	97.76635454	96.96730808	96.18137301
230120A00049	1/20/2023	4.53	1/16/2025	1/20/2023	102.85541	101.9702966	101.1004739	100.2455427	99.40512226	98.57884471	97.76635454	96.96730808	96.18137301
230123A00016	1/23/2023	4.64	12/2/2024	1/23/2023	102.48134	101.7193867	100.9687838	100.2292833	99.50063984	98.78261538	98.07497876	97.3775055	96.68997757
230124A00014	1/24/2023	4.23	1/26/2026	1/24/2023	106.46734	104.5513065	102.6796517	100.8510801	99.06434354	97.31823821	95.61160286	93.94331689	92.31229873
221122A00011	11/22/2022	5.14	5/22/2024	11/22/2022	100.83791	100.6079715	100.3790918	100.151265	99.92448371	99.69874076	99.47402895	99.25034118	99.02767041
230125A00062	1/25/2023	4.84	7/25/2024	1/25/2023	101.37822	100.9719625	100.5689719	100.1692067	99.77262821	99.37919841	98.9888798	98.60163549	98.21742921
230125A00065	1/25/2023	4.84	7/25/2024	1/25/2023	101.37822	100.9719625	100.5689719	100.1692067	99.77262821	99.37919841	98.9888798	98.60163549	98.21742921
230125A00021	1/25/2023	3.95	1/26/2026	1/25/2023	106.20206	104.2836646	102.4097936	100.5791494	98.79047754	97.04256809	95.33425402	93.66440929	92.03194707
230125A00022	1/25/2023	3.8	1/25/2027	1/25/2023	109.64825	106.6919354	103.8318553	101.0643571	98.38594652	95.79328065	93.28316075	90.85252502	88.49844198
230125A00010	1/25/2023	4.01	1/25/2027	1/25/2023	109.86877	106.9181191	104.0633102	101.300708	98.62683882	96.03837936	93.53214918	91.10510382	88.75432816
221122A00015	11/22/2022	4.97	11/22/2024	11/22/2022	102.61314	101.8778414	101.1531202	100.4387455	99.73449621	99.04015793	98.3555221	97.68038598	97.0145525
221122A00041	11/22/2022	4.97	11/22/2024	11/22/2022	102.61314	101.8778414	101.1531202	100.4387455	99.73449621	99.04015793	98.3555221	97.68038598	97.0145525
230502A00038	5/2/2023	3.86	5/2/2028	5/2/2023	114.15201	109.8519068	105.7411313	101.8102826	98.05047757	94.45332323	91.01088692	87.71566811	84.56057229

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230503A00045	5/3/2023	4.96	5/3/2024	5/3/2023	100.61247	100.4350753	100.2583099	100.0821703	99.90665291	99.73175455	99.55747192	99.38380175	99.2107408
230503A00070	5/3/2023	4.73	5/3/2024	5/3/2023	100.59413	100.4165273	100.2395522	100.0632061	99.88748574	99.71238766	99.53790855	99.3640451	99.19079403
230321A00038	3/21/2023	4.87	7/25/2024	3/21/2023	101.39042	100.9841385	100.5811184	100.1813239	99.78471629	99.39125752	99.0009101	98.61363716	98.2294024
230323A00027	3/23/2023	4.43	3/24/2025	3/23/2023	103.44647	102.3777699	101.3312316	100.3061688	99.30192426	98.31786747	97.35339311	96.40791989	95.48088933
230323A00033	3/23/2023	4.43	3/24/2025	3/23/2023	103.44647	102.3777699	101.3312316	100.3061688	99.30192426	98.31786747	97.35339311	96.40791989	95.48088933
230323A00031	3/23/2023	4.6	9/23/2024	3/23/2023	101.79046	101.2203232	100.6565865	100.0991423	99.54788553	99.00271339	98.46352541	97.9302233	97.40271092
230324A00001	3/24/2023	4.04	6/24/2026	3/24/2023	107.69879	105.3582206	103.0807738	100.8643765	98.70703998	96.60685276	94.56197735	92.57064672	90.63116117
230324A00036	3/24/2023	3.98	3/24/2027	3/24/2023	110.39931	107.2772521	104.2613808	101.3474743	98.53150404	95.80962546	93.17816813	90.63362679	88.1726529
230324A00037	3/24/2023	3.99	3/24/2028	3/24/2023	114.28229	110.0879732	106.0744231	102.2328472	98.55493332	95.03281731	91.65905633	88.4266038	85.32878608
230324A00004	3/24/2023	4.46	9/24/2024	3/24/2023	101.71325	101.1407245	100.5746538	100.01493	99.46144689	98.91410029	98.37278846	97.83741185	97.30787311
230327A00017	3/27/2023	4.98	3/27/2024	3/27/2023	100.25995	100.1850028	100.1101794	100.0354748	99.96088865	99.88642069	99.81207066	99.73783828	99.66372327
230328A00061	3/28/2023	4.68	9/27/2024	3/28/2023	101.867	101.2858366	100.7113109	100.1433117	99.58172824	99.02645219	98.47737765	97.93440105	97.39742115
230329A00019	3/29/2023	4.76	10/1/2024	3/29/2023	101.94523	101.3530345	100.767729	100.1891902	99.61730126	99.05194792	98.49301859	97.94040419	97.39399811
230329A00053	3/29/2023	4.89	3/29/2024	3/29/2023	100.28149	100.200904	100.120448	100.0401253	99.95993552	99.87987832	99.79995337	99.72016036	99.64049896
230330A00080	3/30/2023	4.44	3/31/2025	3/30/2023	103.70338	102.6117694	101.5432118	100.4969815	99.47238325	98.46875034	97.48544333	96.52184854	95.57737678
230330A00083	3/30/2023	4.1	3/30/2027	3/30/2023	111.24905	108.0877522	105.0344949	102.0849543	99.2350108	96.48073403	93.81837281	91.24434586	88.75523292
230330A00055	3/30/2023	5.06	4/1/2024	3/30/2023	100.31465	100.2258361	100.1371758	100.0486731	99.96032749	99.87213862	99.78410605	99.69622938	99.6085082
230330A00052	3/30/2023	4.79	9/30/2024	3/30/2023	101.95353	101.3640059	100.7813053	100.2053086	99.63590078	99.07296912	98.51640362	97.96609674	97.42194333
230331A00013	3/31/2023	4.75	9/30/2024	3/31/2023	101.92987	101.3404302	100.7578082	100.1818896	99.61255907	99.04970412	98.49321471	97.9429833	97.39890476
230331A00014	3/31/2023	4.34	3/31/2026	3/31/2023	107.42933	105.3241959	103.2713487	101.2691416	99.3159885	97.41036534	95.55080666	93.73590307	91.96429864
230331A00048	3/31/2023	4.75	9/30/2024	3/31/2023	101.92987	101.3404302	100.7578082	100.1818896	99.61255907	99.04970412	98.49321471	97.9429833	97.39890476
230331A00033	3/31/2023	4.34	3/31/2026	3/31/2023	107.42933	105.3241959	103.2713487	101.2691416	99.3159885	97.41036534	95.55080666	93.73590307	91.96429864
230418A00028	4/18/2023	5.13	4/18/2024	4/18/2023	100.49171	100.355843	100.2203564	100.0852496	99.95052103	99.8161691	99.6821922	99.5485887	99.41535701
230418A00059	4/18/2023	4.09	4/17/2026	4/18/2023	107.37388	105.2167822	103.1142102	101.0644081	99.06568924	97.11643448	95.21508863	93.36015746	91.55020476
230418A00057	4/18/2023	4.36	4/18/2025	4/18/2023	103.80929	102.6684584	101.5527964	100.4614733	99.39369775	98.34871227	97.32579165	96.32424117	95.34339504
230418A00007	4/18/2023	4.61	4/18/2025	4/18/2023	103.91249	102.7737526	101.6600844	100.570665	99.5047072	98.46145758	97.44019464	96.44022719	95.46089282
230420A00060	4/20/2023	4.72	4/20/2038	4/20/2023	150.35373	134.6056551	120.8136353	108.7175845	98.09358977	88.74869272	80.51645055	73.25315415	66.83460346
230420A00063	4/20/2023	4.65	4/20/2037	4/20/2023	146.77731	132.2191111	119.363835	107.9982894	97.93722814	89.01954976	81.10502785	74.07149938	67.81244487
230420A00056	4/20/2023	4.38	4/20/2033	4/20/2023	133.17953	123.2791041	114.2319951	105.9590999	98.38907131	91.45752017	85.10630217	79.2828813	73.93976106
230420A00059	4/20/2023	4.72	4/20/2038	4/20/2023	150.35373	134.6056551	120.8136353	108.7175845	98.09358977	88.74869272	80.51645055	73.25315415	66.83460346
230424A00036	4/24/2023	5.13	4/24/2024	4/24/2023	100.55194	100.3994337	100.2473997	100.0958345	99.94473598	99.79410197	99.6439303	99.49421883	99.34496544
230424A00003	4/24/2023	4.15	4/26/2027	4/24/2023	111.28446	108.0571925	104.9420599	101.934497	99.03015442	96.22488698	93.51474253	90.89595163	88.36491785
230425A00011	4/25/2023	4.3	9/25/2025	4/25/2023	105.24756	103.674011	102.1319448	100.6204849	99.13878639	97.6860353	96.26144687	94.86426442	93.49375805

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230425A00024	4/25/2023	4.48	4/25/2025	4/25/2023	103.83847	102.681314	101.5500533	100.4438223	99.36179558	98.30318377	97.26723152	96.25321569	95.26044363
230425A00052	4/25/2023	4.01	4/26/2027	4/25/2023	110.84245	107.6221851	104.5138698	101.5129482	98.6150768	95.81611624	93.11211982	90.49932337	87.97413549
230425A00013	4/25/2023	4.67	10/25/2024	4/25/2023	102.1121	101.4545101	100.8054051	100.1646253	99.53201099	98.90740672	98.29066077	97.68162532	97.08015623
230425A00104	4/25/2023	3.86	7/15/2026	4/25/2023	107.80549	105.4007054	103.0623269	100.7881478	98.57605234	96.42400687	94.3300563	92.29232049	90.30899093
230504A00091	5/4/2023	4.66	9/4/2024	5/4/2023	101.67774	101.1591165	100.6457939	100.137689	99.63472229	99.13681612	98.64389428	98.15588209	97.67270639
230504A00006	5/4/2023	3.79	12/6/2027	5/4/2023	112.38475	108.5265996	104.8241777	101.2702976	97.85815277	94.58128999	91.43358912	88.40924349	85.50274186
230504A00007	5/4/2023	3.82	7/6/2027	5/4/2023	110.95387	107.5379489	104.2470255	101.0758718	98.01950575	95.07317855	92.23236272	89.49274055	86.85019326
230504A00039	5/4/2023	4.97	5/6/2024	5/4/2023	100.64341	100.457736	100.2727569	100.0884672	99.90486313	99.72194075	99.53969624	99.3581258	99.17722564
230505A00012	5/5/2023	4.6	11/5/2024	5/5/2023	102.16664	101.4791516	100.8009361	100.1318052	99.47157717	98.82007492	98.17712607	97.54256276	96.91622151
230505A00071	5/5/2023	3.85	5/5/2028	5/5/2023	114.13973	109.8317688	105.7138059	101.7763825	98.01057006	94.40793386	90.96050261	87.66074005	84.5015186
230508A00007	5/8/2023	3.92	5/8/2028	5/8/2023	114.46226	110.1394813	106.0075888	102.0570657	98.27892963	94.66469559	91.2063456	87.8963	84.72739087
230508A00012	5/8/2023	4.43	5/8/2025	5/8/2023	103.91665	102.7240603	101.5589564	100.4203948	99.30747436	98.21933453	97.15515279	96.11414273	95.09555208
230508A00016	5/8/2023	4.14	5/8/2026	5/8/2023	107.42447	105.2148946	103.0621677	100.9644175	98.91985001	96.92674466	94.98345073	93.08838383	91.24002267
230508A00018	5/8/2023	3.92	5/8/2028	5/8/2023	114.46226	110.1394813	106.0075888	102.0570657	98.27892963	94.66469559	91.2063456	87.8963	84.72739087
230508A00017	5/8/2023	4.01	5/10/2027	5/8/2023	110.98923	107.7285762	104.5823677	101.5458944	98.614673	95.78443332	93.0511064	90.41081366	87.85985657
230508A00024	5/8/2023	4.99	5/8/2024	5/8/2023	100.66667	100.4754751	100.2850151	100.0952878	99.90628895	99.71801437	99.53045981	99.34362109	99.15749407
230508A00025	5/8/2023	4.69	11/8/2024	5/8/2023	102.26449	101.5684544	100.8819205	100.2046929	99.53658303	98.87740727	98.22698699	97.5851483	96.95172187
230510A00018	11/10/2023	3.61	11/10/2026	11/10/2023	108.00097	105.2815002	102.645029	100.0884874	97.60894391	95.20359586	92.86976293	90.60488074	88.40649495
230510A00037	5/10/2023	3.84	5/10/2028	5/10/2023	114.14683	109.8252148	105.6947184	101.7458026	97.96946265	94.35719323	90.90095772	87.59315944	84.42661491
230511A00042	5/11/2023	3.72	5/11/2028	5/11/2023	113.65315	109.3391279	105.2161138	101.2745678	97.50548292	93.90035189	90.45113682	87.15024014	83.99047783
230511A00043	5/11/2023	3.72	5/16/2028	5/11/2023	113.70041	109.3719134	105.2355816	101.2817877	97.50144663	93.8859792	90.42728092	87.11769263	83.94997329
230511A00039	5/11/2023	3.86	11/27/2026	5/11/2023	108.85106	106.0730002	103.3808388	100.7713527	98.24146505	95.78823685	93.40885953	91.10064818	88.86103502
230511A00080	5/11/2023	3.49	5/11/2028	5/11/2023	113.26306	108.9408511	104.8105286	100.8624894	97.0876666	93.47749791	90.02389396	86.71920952	83.55621625
230512A00011	5/12/2023	3.78	5/12/2028	5/12/2023	113.91449	109.5923223	105.4615598	101.5126428	97.73654176	94.12472903	90.66914734	87.36218114	84.19662955
230512A00020	5/12/2023	4.6	11/12/2024	5/12/2023	102.23921	101.5324902	100.8355713	100.1482473	99.47032066	98.80159932	98.14189631	97.49102974	96.84882258
230512A00022	5/12/2023	4.33	5/12/2025	5/12/2023	103.83793	102.6351	101.4602453	100.3123976	99.19063169	98.09406446	97.02185215	95.9731884	94.94730213
230512A00023	5/12/2023	4.6	11/13/2024	5/12/2023	102.2486	101.5391551	100.8395789	100.1496708	99.46923093	98.79806496	98.13598388	97.48280376	96.83834565
230515A00031	5/15/2023	4.41	5/15/2025	5/15/2023	103.96569	102.7539903	101.5706509	100.4146871	99.2851553	98.18115459	97.10182479	96.046344	95.01392651
230515A00078	5/15/2023	3.96	5/17/2027	5/15/2023	110.90126	107.6231802	104.4607315	101.4091294	98.46382172	95.6204741	92.87495761	90.22333762	87.66186325
230515A00080	5/15/2023	3.88	5/15/2028	5/15/2023	114.36398	110.0243074	105.8770276	101.9125099	98.12166706	94.49591759	91.02715416	87.70771461	84.53035469
230515A00072	5/15/2023	4.42	5/9/2025	5/15/2023	103.91515	102.7198816	101.5522262	100.411231	99.29598872	98.20563309	97.13933631	96.09630693	95.07578796
230515A00074	5/15/2023	4.11	5/15/2026	5/15/2023	107.43241	105.2040288	103.0333628	100.9184964	98.85759502	96.84889996	94.89072458	92.98145063	91.11952484
230515A00030	5/15/2023	5.06	5/15/2024	5/15/2023	100.74981	100.5392577	100.3296007	100.1208328	99.9129483	99.70594147	99.49980671	99.29453845	99.09013114

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230516A00032	5/16/2023	5.03	5/16/2024	5/16/2023	100.75337	100.5400601	100.3276712	100.1161943	99.90562342	99.69595272	99.48717634	99.2792885	99.07228345
230426A00042	4/26/2023	4.97	4/26/2024	4/26/2023	100.54672	100.3886942	100.2311717	100.0741488	99.91762324	99.76159255	99.60605441	99.45100649	99.29644648
230426A00024	4/26/2023	4.97	4/26/2024	4/26/2023	100.54672	100.3886942	100.2311717	100.0741488	99.91762324	99.76159255	99.60605441	99.45100649	99.29644648
230427A00028	4/27/2023	4.74	10/28/2024	4/27/2023	102.1864	101.5204189	100.8631332	100.214375	99.57397922	98.94178461	98.31763426	97.70137518	97.09285826
230427A00078	4/27/2023	4.74	10/29/2024	4/27/2023	102.19576	101.5270393	100.8670824	100.2157202	99.57278577	98.93811601	98.31155224	97.69293975	97.08212776
230427A00076	4/27/2023	5.09	4/30/2024	4/27/2023	100.60537	100.4362146	100.2676302	100.099609	99.93214834	99.76524537	99.59889734	99.43310151	99.26785517
230428A00010	4/28/2023	4.31	4/28/2025	4/28/2023	103.85817	102.6900116	101.5482107	100.4318852	99.34018824	98.2723104	97.22747727	96.20494775	95.20401222
230428A00032	4/28/2023	5.11	4/29/2024	4/28/2023	100.59877	100.4323954	100.2665672	100.1012862	99.93654963	99.77235487	99.60869926	99.44558017	99.28299497
230428A00022	4/28/2023	4.78	10/28/2024	4/28/2023	102.21314	101.5470548	100.8896703	100.2408144	99.60032167	98.96803104	98.34378553	97.72743215	97.11882178
230501A00012	5/1/2023	3.98	5/1/2028	5/1/2023	114.64237	110.3348012	106.2166701	102.2785738	98.51163162	94.9074525	91.45810525	88.15609037	84.99431401
230501A00033	5/1/2023	5.1	5/1/2024	5/1/2023	100.61714	100.4452317	100.2739086	100.1031694	99.93301123	99.76343106	99.59442598	99.42599308	99.25812947
230531A00085	5/31/2023	5.05	12/2/2024	5/31/2023	102.79486	102.031586	101.2796795	100.538889	99.80896887	99.08968097	98.38079386	97.68208286	96.99332968
230605A00027	6/5/2023	5.51	6/5/2024	6/5/2023	101.08056	100.8117483	100.5443692	100.2784146	100.0138729	99.7507329	99.48898346	99.22861352	98.96961214
230302A00028	3/2/2023	5.02	3/2/2026	3/2/2023	108.47326	106.4355717	104.4472617	102.5068212	100.6127975	98.76379197	96.95845817	95.19549903	93.47366483
230303A00019	3/3/2023	5.26	3/3/2025	3/3/2023	104.07175	103.0562026	102.0605822	101.0843039	100.1268071	99.18755248	98.26602121	97.36171406	96.47415039
230303A00020	3/3/2023	4.96	3/3/2026	3/3/2023	108.36546	106.3261754	104.3363525	102.3944791	100.4990982	98.64880756	96.842257	95.07814599	93.35522159
230516A00037	5/16/2023	3.91	5/16/2028	5/16/2023	114.50014	110.1549126	106.0023961	102.0329392	98.23743548	94.60728584	91.13436657	87.81100023	84.62992837
230516A00036	5/16/2023	4	5/17/2027	5/16/2023	111.02984	107.7496869	104.5852212	101.5316548	98.5844338	95.73922209	92.99188907	90.33849853	87.77529805
230516A00044	5/16/2023	4.72	11/15/2024	5/16/2023	102.35354	101.638287	100.9330575	100.237646	99.55184804	98.87546495	98.20830339	97.55017532	96.90089779
230517A00019	5/17/2023	4.7	1/17/2025	5/17/2023	103.01713	102.1285464	101.25535	100.3971438	99.55354323	98.72417712	97.90868662	97.10672491	96.31795668
230518A00015	5/18/2023	4.64	5/16/2025	5/18/2023	104.25608	103.039821	101.8520875	100.6918781	99.55824219	98.45027244	97.36710249	96.30790463	95.27188767
230519A00030	5/19/2023	4.27	5/19/2027	5/19/2023	111.91994	108.6200424	105.4365552	102.3646627	99.39977825	96.53753495	93.77377309	91.10452902	88.52602437
230519A00002	5/19/2023	4.95	11/19/2024	5/19/2023	102.56008	101.8332034	101.1166633	100.410243	99.71372871	99.02691275	98.34959315	97.68157356	97.02266298
230519A00008	5/19/2023	5.22	5/20/2024	5/19/2023	100.83552	100.6110865	100.3876668	100.1652527	99.94383705	99.72341326	99.50397457	99.28551431	99.0680259
230519A00012	5/19/2023	4.53	12/19/2025	5/19/2023	106.61302	104.7967809	103.0205916	101.283291	99.58375869	97.92091559	96.29372195	94.70117559	93.14231021
230519A00010	5/19/2023	4.91	12/19/2024	5/19/2023	102.87312	102.0636059	101.2668847	100.4826519	99.71061504	98.95049051	98.2020036	97.46488795	96.7388853
230523A00049	5/23/2023	4.31	5/24/2027	5/23/2023	112.10479	108.7883656	105.5893156	102.5027645	99.5240725	96.64882275	93.87280897	91.19202385	88.60264819
230523A00024	5/23/2023	4.06	5/24/2027	5/23/2023	111.73578	108.414697	105.211447	102.121122	99.13905529	96.26080503	93.48214139	90.79903505	88.20764615
230524A00055	5/24/2023	4.7	11/22/2024	5/24/2023	102.55189	101.8150393	101.0888092	100.3729729	99.66730813	98.97159869	98.28563462	97.6092118	96.94213179
230525A00004	5/25/2023	4.87	5/27/2025	5/25/2023	104.66448	103.4159322	102.1973364	101.0076265	99.8457821	98.71083058	97.60184405	96.51793695	95.4582636
230801A00042	8/1/2023	5.53	8/1/2024	8/1/2023	101.73962	101.3133265	100.8906069	100.4714177	100.0557148	99.64345483	99.23459512	98.82909372	98.42690939
230803A00029	8/3/2023	5.24	2/3/2025	8/3/2023	103.85462	102.9138406	101.9901886	101.0831966	100.1924161	99.31741436	98.45777412	97.61309264	96.7829812
230627A00043	6/27/2023	5.12	2/27/2025	6/27/2023	103.8811	102.8773791	101.8931479	100.9278396	99.98091116	99.05184056	98.1401252	97.24528123	96.36684263

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230627A00044	6/27/2023	5.08	3/27/2025	6/27/2023	104.17957	103.0985704	102.0401255	101.0035323	99.98811778	98.9932364	98.01826864	97.06261971	96.1257183
230627A00048	6/27/2023	4.99	5/27/2025	6/27/2023	104.81417	103.5646298	102.3450676	101.1544073	99.99162808	98.85575685	97.74586533	96.66106756	95.6005175
230627A00042	6/27/2023	5.16	1/27/2025	6/27/2023	103.54679	102.628575	101.7267207	100.8407898	99.97036247	99.11503368	98.2744123	97.44812064	96.63579385
230627A00039	6/27/2023	5.2	12/27/2024	6/27/2023	103.21015	102.3773699	101.5580858	100.7519687	99.95870264	99.17798147	98.40950883	97.65299761	96.90816961
230627A00046	6/27/2023	5.03	4/28/2025	6/27/2023	104.51264	103.3432297	102.2001399	101.082483	99.98941543	98.92013065	97.87385698	96.84985588	95.84742013
230627A00086	6/27/2023	5.35	9/30/2024	6/27/2023	102.2847	101.6940654	101.1102639	100.5331754	99.96268476	99.39867913	98.8410484	98.28968489	97.74448334
230627A00029	6/27/2023	5.5	6/27/2024	6/27/2023	101.32689	100.9972711	100.6697989	100.3444538	100.0212152	99.70006257	99.38097579	99.06393497	98.74892046
230627A00038	6/27/2023	5.38	6/27/2024	6/27/2023	101.32928	100.9991875	100.6712481	100.3454444	100.0217556	99.70016115	99.38064061	99.06317398	98.74774145
230629A00034	6/29/2023	5.59	7/1/2024	6/29/2023	101.40291	101.0621613	100.7237015	100.3875088	100.0535606	99.72183441	99.39230812	99.06495993	98.7397683
230629A00068	6/29/2023	5.34	12/30/2024	6/29/2023	103.36311	102.5215014	101.6936543	100.8792317	100.0779085	99.28937006	98.51331178	97.74943861	96.99746476
230607A00037	6/7/2023	4.96	6/6/2025	6/7/2023	104.90486	103.6286073	102.3814484	101.1623893	99.97047919	98.80480986	97.66451354	96.54876063	95.45675755
230607A00038	6/7/2023	4.58	6/5/2026	6/7/2023	108.72226	106.4223987	104.1832539	102.0027887	99.87905399	97.81018149	95.7943798	93.82993038	91.91518399
230821A00085	8/21/2023	5.04	2/23/2026	8/21/2023	108.39803	106.3817055	104.413824	102.4929216	100.6175852	98.78645415	96.99821773	95.25161298	93.5454226
230921A00028	9/21/2023	5.07	9/21/2026	9/21/2023	111.27317	108.6467501	106.0971555	103.6216703	101.2176945	98.88273664	96.61440822	94.41041897	92.26857196
230905A00038	9/5/2023	5.16	3/5/2025	9/5/2023	104.15792	103.1341712	102.1306512	101.1467644	100.1819376	99.23561979	98.30728091	97.39641104	96.50251941
230905A00037	9/5/2023	5.16	3/5/2025	9/5/2023	104.15792	103.1341712	102.1306512	101.1467644	100.1819376	99.23561979	98.30728091	97.39641104	96.50251941
230922A00020	9/22/2023	5.35	3/24/2025	9/22/2023	104.43273	103.3583999	102.3063155	101.2757861	100.2661526	99.27678275	98.30706934	97.35642939	96.42430274
230925A00034	9/25/2023	5.53	9/25/2024	9/25/2023	102.33981	101.7625228	101.1917652	100.6274295	100.0694074	99.51759338	98.97188401	98.43217824	97.89837725
230925A00028	12/22/2023	5.5	12/23/2024	12/22/2023	103.41001	102.5871672	101.7774902	100.9806594	100.1963702	99.4243275	98.66424548	97.9158471	97.17886384
230925A00114	9/25/2023	5.09	3/25/2026	9/25/2023	108.91766	106.8129727	104.7602317	102.7578091	100.8041396	98.89771849	97.0370985	95.22088732	93.44774505
230926A00019	9/26/2023	5.52	9/26/2024	9/26/2023	102.34544	101.7654113	101.191976	100.6250213	100.0644375	99.51011772	98.96195714	98.4198534	97.88370638
230614A00038	6/14/2023	4.3	6/15/2026	6/14/2023	108.50685	106.175586	103.9066541	101.6979879	99.54760369	97.4535974	95.41414099	93.42747866	91.49192344
230816A00025	8/16/2023	4.62	4/16/2027	8/16/2023	113.07267	109.8351083	106.7092441	103.6905618	100.7747558	97.95772095	95.23554211	92.6044838	90.06098077
230615A00039	6/15/2023	4.16	6/15/2027	6/15/2023	112.31084	108.9192296	105.649835	102.4975531	99.45752633	96.52512835	93.69595115	90.96579344	88.33064966
230615A00044	6/15/2023	4.33	6/15/2026	6/15/2023	108.57589	106.2438132	103.9740917	101.7646524	99.61351098	97.51876305	95.47858006	93.49120579	91.55495286
230615A00026	6/15/2023	4.84	6/15/2038	6/15/2023	152.4382	136.4041192	122.3757486	110.0843249	99.29875482	89.82014318	81.47713956	74.12197968	67.627114
230616A00042	6/16/2023	5.3	12/16/2024	6/16/2023	103.15365	102.3510158	101.5609312	100.7831037	100.0172492	99.2630919	98.52036477	97.78880871	97.06817245
230912A00085	9/12/2023	5.56	9/12/2024	9/12/2023	102.22862	101.6867435	101.1506398	100.6202123	100.0953707	99.57602693	99.06209474	98.55348959	98.05012873
230913A00020	9/13/2023	5.37	3/17/2025	9/13/2023	104.36392	103.3089291	102.2754087	101.2627022	100.270184	99.29725311	98.34333235	97.40786701	96.49032383
231010A00135	10/10/2023	5.44	10/10/2024	10/10/2023	102.45099	101.8327589	101.2220161	100.6186279	100.0224616	99.43338797	98.85128056	98.27601606	97.70747401
231010A00026	10/10/2023	4.66	10/10/2028	10/10/2023	120.05499	115.1617642	110.5025833	106.064935	101.8370436	97.80782445	93.96683997	90.30425786	86.81081272
231010A00025	10/10/2023	4.66	10/10/2028	10/10/2023	120.05499	115.1617642	110.5025833	106.064935	101.8370436	97.80782445	93.96683997	90.30425786	86.81081272
231010A00129	10/10/2023	4.93	10/13/2026	10/10/2023	111.20224	108.5160501	105.9097535	103.3804778	100.9254698	98.54209389	96.2278261	93.98024848	91.79704385

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230929A00039	9/29/2023	5.52	9/30/2024	9/29/2023	102.38523	101.794262	101.2101263	100.6327064	100.061887	99.49755539	98.93960128	98.38791701	97.84239728
230914A00076	9/14/2023	5.48	9/16/2024	9/14/2023	102.22551	101.6728423	101.1261789	100.5854179	100.050464	99.52122362	98.99760538	98.47951978	97.96687923
230914A00060	9/14/2023	5.28	3/14/2025	9/14/2023	104.23121	103.1850829	102.1600795	101.1555668	100.1709333	99.20559163	98.25897734	97.33054793	96.41978165
231012A00013	10/12/2023	5.07	3/16/2026	10/12/2023	108.75787	106.6793054	104.6516708	102.6733893	100.7429401	98.85886055	97.01974315	95.22423326	93.4710266
231012A00019	10/12/2023	5.39	2/18/2025	10/12/2023	104.03756	103.0573678	102.0957562	101.1521957	100.2261802	99.31722258	98.42485346	97.54862067	96.68808833
231012A00020	10/12/2023	5.08	2/9/2026	10/12/2023	108.28369	106.3098838	104.382596	102.5004432	100.6620935	98.86626312	97.11171479	95.39725528	93.72173373
231012A00017	10/12/2023	5.24	7/15/2025	10/12/2023	105.79302	104.4092879	103.0505467	101.7161708	100.4055595	99.11813115	97.85332287	96.61058954	95.38940318
231012A00021	10/12/2023	4.85	12/30/2027	10/12/2023	116.68392	112.6789393	108.8372226	105.1512429	101.6138633	98.21831098	94.95815675	91.8272959	88.81993004
231012A00016	10/12/2023	5.14	10/14/2025	10/12/2023	106.83664	105.1982599	103.5932748	102.0207301	100.4797056	98.969316	97.48870886	96.03706328	94.61358834
231012A00015	10/12/2023	5.33	4/11/2025	10/12/2023	104.64311	103.5188799	102.4189692	101.3425904	100.2889921	99.25745499	98.24728954	97.25783481	96.2884569
231012A00039	10/12/2023	5.33	4/11/2025	10/12/2023	104.64311	103.5188799	102.4189692	101.3425904	100.2889921	99.25745499	98.24728954	97.25783481	96.2884569
230706A00014	7/6/2023	4.99	7/6/2038	7/6/2023	154.67446	138.4347413	124.2288098	111.7835897	100.864365	91.26919388	82.82416243	75.37934834	68.80538418
230707A00041	7/7/2023	4.44	7/7/2028	7/7/2023	117.93701	113.3568798	108.9855537	104.8124025	100.8273907	97.02104216	93.38440613	89.90902559	86.5869074
230710A00053	7/10/2023	4.98	7/10/2025	7/10/2023	105.59419	104.2217031	102.8738344	101.5499798	100.2495511	98.9719786	97.71671108	96.48321448	95.27097146
230710A00008	7/10/2023	5.56	8/1/2024	7/10/2023	101.75241	101.326079	100.9033272	100.484106	100.0683712	99.6560796	99.24718843	98.84165577	98.43944036
231003A00064	10/3/2023	5.56	10/3/2024	10/3/2023	102.44381	101.8445332	101.2522877	100.6669492	100.0883973	99.51651426	98.95118515	98.39229761	97.83974185
230825A00005	8/25/2023	5.14	11/21/2025	8/25/2023	107.33452	105.587876	103.8783816	102.2049167	100.5664055	98.96181521	97.39015394	95.85046884	94.34184396
231016A00004	10/16/2023	5.55	10/16/2024	10/16/2023	102.58868	101.9537214	101.3266556	100.7073376	100.0956241	99.49137523	98.8944546	98.30472915	97.72206899
230712A00034	1/12/2024	4.88	1/13/2025	1/12/2024	103.13266	102.2543158	101.3910004	100.5423249	99.70791859	98.8874229	98.08049136	97.2867889	96.5059914
231016A00047	10/16/2023	4.98	2/10/2027	10/16/2023	112.9054	109.8642108	106.922882	104.0775772	101.3246321	98.66054333	96.08196014	93.58567718	91.16862723
231016A00049	10/16/2023	4.95	7/19/2027	10/16/2023	114.90807	111.3904439	108.0021352	104.7376951	101.5919335	98.55990595	95.63690022	92.81842435	90.10019506
230828A00060	8/28/2023	5.53	8/30/2024	8/28/2023	102.14132	101.6340607	101.13185	100.6346135	100.1422774	99.65476945	99.17201882	98.69395604	98.220513
230621A00048	6/21/2023	4.55	6/22/2026	6/21/2023	108.85901	106.5103329	104.2247824	102.0002838	99.83484522	97.72655276	95.67356705	93.67411973	91.72651017
231017A00009	10/17/2023	5.42	4/17/2025	10/17/2023	104.82314	103.6816028	102.5651075	101.4728311	100.4039895	99.35783254	98.33364153	97.33072802	96.34843207
230829A00010	8/29/2023	5.21	8/25/2025	8/29/2023	106.27213	104.7757032	103.3082209	101.8689123	100.4570364	99.07187767	97.71274491	96.37897034	95.06990855
230830A00047	8/30/2023	5.5	8/30/2024	8/30/2023	102.06175	101.5554968	101.054278	100.5580143	100.0666325	99.58006056	99.09822826	98.6210665	98.14850759
230621A00031	6/21/2023	5.19	12/20/2024	6/21/2023	103.11196	102.2986907	101.4983035	100.7104981	99.93497895	99.17145951	98.41966225	97.6793181	96.95016618
230915A00057	9/15/2023	4.75	6/15/2027	9/15/2023	113.80517	110.3998872	107.1168376	103.9509339	100.8973301	97.95141025	95.10877572	92.36523381	89.71678666
230623A00031	6/23/2023	4.87	6/23/2025	6/23/2023	105.01384	103.6933975	102.3981167	101.1273012	99.88027944	98.65640482	97.45505412	96.27562667	95.1175432
230918A00013	9/18/2023	4.74	9/18/2030	9/18/2023	127.02218	119.9715998	113.3762452	107.2040574	101.4254019	96.01287437	90.94112237	86.18668074	81.72782188
230918A00010	9/18/2023	4.72	9/18/2029	9/18/2023	123.4231	117.5009969	111.9104947	106.6311442	101.6438647	96.93084656	92.47545964	88.26216908	84.27645754
230901A00016	9/1/2023	4.6	8/3/2026	9/1/2023	109.80126	107.3211061	104.9106215	102.5674525	100.2893393	98.0741114	95.91968412	93.82405413	91.78529599
230901A00029	9/1/2023	5.04	3/3/2025	9/1/2023	104.01055	102.9930133	101.9954835	101.0173699	100.0581086	99.11715751	98.19399495	97.28811902	96.39904656

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230901A00007	9/1/2023	4.55	9/1/2027	9/1/2023	114.07524	110.4522007	106.9668015	103.6130528	100.3852584	97.27800035	94.28612402	91.40472361	88.62912874
231101A00017	11/1/2023	5.25	5/1/2025	11/1/2023	104.80773	103.6283855	102.4757503	101.3489211	100.2470364	99.16927288	98.11484295	97.08299315	96.07300213
230919A00043	9/19/2023	4.62	9/19/2028	9/19/2023	118.973	114.1828755	109.6193305	105.270386	101.1247615	97.17183056	93.40157936	89.80456809	86.37189483
230919A00044	9/19/2023	4.93	9/21/2026	9/19/2023	110.91404	108.292282	105.7472381	103.2762019	100.8765765	98.54587354	96.28170732	94.08179032	91.94392831
231020A00060	10/20/2023	5.5	10/21/2024	10/20/2023	102.61421	101.9656061	101.3252392	100.692949	100.0685832	99.45199308	98.8430337	98.24156372	97.64744527
230901A00044	9/1/2023	4.55	9/1/2027	9/1/2023	114.07524	110.4522007	106.9668015	103.6130528	100.3852584	97.27800035	94.28612402	91.40472361	88.62912874
231207A00027	12/7/2023	4.15	12/7/2028	12/7/2023	118.31189	113.2959355	108.5275025	103.9929831	99.67959095	95.57531087	91.66884759	87.94957847	84.40750956
231102A00030	11/2/2023	4.87	5/11/2027	11/2/2023	113.74999	110.4423797	107.2505542	104.1697506	101.1954373	98.32329802	95.54921993	92.86928252	90.2797473
231102A00029	11/2/2023	4.88	4/13/2027	11/2/2023	113.41915	110.1947409	107.0810806	104.0737081	101.1683712	98.36101505	95.6477714	93.02494882	90.48902341
231102A00026	11/2/2023	4.9	1/12/2027	11/2/2023	112.29385	109.3428614	106.4863879	103.7208949	101.0429969	98.44945279	95.93715945	93.5031447	91.14456115
231102A00025	11/2/2023	4.9	12/8/2026	11/2/2023	111.85008	109.0003436	106.2392377	103.5634477	100.969806	98.45528482	96.01698908	93.6521497	91.358117
231102A00027	11/2/2023	4.89	2/9/2027	11/2/2023	112.62611	109.592049	106.6575518	103.8187989	101.0721395	98.41408274	95.84129027	93.35056817	90.93886003
231102A00028	11/2/2023	4.88	3/9/2027	11/2/2023	112.96841	109.8478788	106.8321327	103.9170588	101.0987263	98.3733814	95.73743812	93.18746987	90.72020127
231103A00007	11/3/2023	5.05	8/4/2025	11/3/2023	105.77512	104.3382937	102.9283107	101.5444782	100.1861302	98.85262336	97.54333518	96.25766371	94.99502648
231103A00005	11/3/2023	5.12	5/5/2025	11/3/2023	104.70431	103.5148349	102.3525526	101.2165364	100.1059012	99.01980127	97.95742829	96.91800905	95.90080367
231227A00014	12/27/2023	4.29	12/26/2025	12/27/2023	106.51222	104.6735186	102.8758153	101.1179336	99.398743	97.71715321	96.0721122	94.46260461	92.88765019
230712A00048	7/12/2023	4.95	7/14/2025	7/12/2023	105.38044	104.0023425	102.6490923	101.3200708	100.0146813	98.73234672	97.47250825	96.23462471	95.01817191
230713A00017	7/13/2023	5.11	1/14/2025	7/13/2023	103.34691	102.4648475	101.5979135	100.7457205	99.90789409	99.08407226	98.27390521	97.4770547	96.69319358
230714A00036	7/14/2023	4.37	7/12/2030	7/14/2023	124.04512	117.2756254	110.9336623	104.9898171	99.41684942	94.18952025	89.2844348	84.67989904	80.3557879
230714A00042	7/14/2023	4.58	7/14/2026	7/14/2023	109.1905	106.7781699	104.4321591	102.1502726	99.93040397	97.77052835	95.66869878	93.62304275	91.63175887
231027A00024	10/27/2023	5.46	10/28/2024	10/27/2023	102.66764	101.999865	101.3408023	100.6902836	100.0481434	99.41422032	98.78835716	98.17040071	97.56020162
231027A00015	10/27/2023	5.08	2/23/2026	10/27/2023	108.47769	106.4605536	104.4918774	102.5701955	100.6940945	98.86221323	97.07324068	95.32591346	93.61901391
231030A00057	10/30/2023	5.52	10/30/2024	10/30/2023	102.73075	102.0573127	101.3927278	100.7368234	100.0894301	99.45038286	98.81952081	98.1966873	97.58172962
231211A00032	12/11/2023	4.5	12/11/2028	12/11/2023	119.35471	114.3235896	109.5403528	104.9913898	100.6639162	96.54591552	92.62608975	88.89381153	85.33908091
231213A00044	12/13/2023	5.07	12/13/2024	12/13/2023	102.92708	102.1336523	101.3525056	100.5833591	99.82593706	99.07997231	98.34520572	97.62138593	96.90826905
231215A00004	12/15/2023	4.07	12/15/2028	12/15/2023	117.33859	112.3442701	107.5971581	103.0836508	98.79097129	94.70711027	90.82077618	87.12134817	83.59883264
231218A00046	12/18/2023	4.76	6/18/2025	12/18/2023	104.80421	103.4979973	102.2180766	100.9636659	99.73401054	98.52838612	97.34609655	96.18647288	95.0488719
231106A00016	11/6/2023	5.39	11/6/2024	11/6/2023	102.72359	102.0312631	101.3483074	100.6745283	100.0097414	99.35376741	98.70643145	98.06756344	97.43699768
231229A00058	12/29/2023	4.9	1/29/2025	12/29/2023	103.33052	102.4079628	101.5019447	100.612019	99.73775901	98.87875321	98.03460425	97.20492856	96.38935565
231229A00059	12/29/2023	4.9	1/29/2025	12/29/2023	103.33052	102.4079628	101.5019447	100.612019	99.73775901	98.87875321	98.03460425	97.20492856	96.38935565
231229A00060	12/29/2023	4.9	1/29/2025	12/29/2023	103.33052	102.4079628	101.5019447	100.612019	99.73775901	98.8787532	98.03460425	97.20492856	96.38935565
231219A00017	12/19/2023	4.26	1/15/2027	12/19/2023	110.48739	107.5544808	104.7159579	101.9682734	99.30803506	96.73199631	94.23704879	91.82021587	89.47864628
231219A00022	12/19/2023	4.13	4/14/2028	12/19/2023	115.08102	110.8120638	106.7289948	102.8226792	99.08448117	95.50623619	92.08022242	88.79913411	85.65605673

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
231219A00023	12/19/2023	4.12	6/15/2028	12/19/2023	115.70288	111.2495534	106.9967986	102.9344792	99.05302373	95.34339474	91.79705609	88.40594218	85.16242935
231219A00021	12/19/2023	4.14	3/15/2028	12/19/2023	114.79448	110.6144178	106.6135476	102.7831997	99.11517311	95.60170631	92.23545133	89.009444942	85.91710819
231219A00018	12/19/2023	4.25	2/16/2027	12/19/2023	110.82081	107.7928172	104.8650584	102.0336623	99.29492674	96.64531307	94.08143811	91.60006627	89.19810224
231219A00020	12/19/2023	4.16	2/1/2028	12/19/2023	114.39401	110.3435137	106.4621453	102.7419393	99.17534714	95.75521373	92.4747546	89.32753486	86.30744934
231220A00034	12/20/2023	4.99	12/20/2024	12/20/2023	102.94914	102.1365902	101.3369176	100.549819	99.77499872	99.01217063	98.26105721	97.52138956	96.79290691
231221A00103	12/21/2023	4.3	12/30/2025	12/21/2023	106.57476	104.724717	102.9161322	101.1478284	99.4186724	97.72757035	96.07346592	94.45533878	92.87220317
231107A00028	11/7/2023	5.4	11/7/2024	11/7/2023	102.74893	102.0537232	101.3679588	100.6914463	100.0239991	99.36543544	98.71557853	98.07425616	97.44130066
231107A00005	11/7/2023	5.39	11/15/2024	11/7/2023	102.83453	102.1173676	101.4102506	100.7129702	100.0253216	99.34710588	98.67812931	98.01820363	97.3671456
231107A00008	11/7/2023	5.17	5/7/2025	11/7/2023	104.78868	103.5932798	102.4253341	101.2838985	100.1680758	99.0770087	98.00987805	96.96590042	95.94432629
231108A00011	11/8/2023	5.06	5/8/2025	11/8/2023	104.86148	103.6600287	102.4862719	101.3392603	100.2180855	99.12187951	98.04981317	97.00109357	95.97496225
240103A00011	1/3/2024	4.84	1/18/2039	1/3/2024	154.28428	137.5559178	122.9906717	110.2888844	99.19428569	89.48749032	80.98049707	73.51203392	66.9436153
240103A00010	1/3/2024	4.84	1/18/2039	1/3/2024	154.28428	137.5559178	122.9906717	110.2888844	99.19428569	89.48749032	80.98049707	73.51203392	66.9436153
231109A00026	11/9/2023	5.19	5/9/2025	11/9/2023	104.83765	103.6365476	102.4631539	101.3165117	100.1957113	99.09988421	98.02820029	96.97986599	95.95412221
231113A00007	11/13/2023	4.86	11/13/2028	11/13/2023	120.73798	115.7530893	111.0099038	106.4953133	102.1969928	98.10335216	94.20348877	90.487142	86.94465188
231114A00025	11/14/2023	5.13	5/14/2025	11/14/2023	104.82773	103.6132056	102.4270108	101.26816	100.1357132	99.02877326	97.94648314	96.88802396	95.85261278
231122A00044	11/22/2023	5.38	11/22/2024	11/22/2023	102.91537	102.1788454	101.4529094	100.737332	100.0318923	99.33637531	98.65057246	97.9742808	97.30730305
231122A00032	11/22/2023	5.2	5/22/2025	11/22/2023	105.01321	103.7758851	102.5679193	101.3882738	100.2359587	99.11002956	98.0095854	96.93376572	95.88174849
231122A00035	11/22/2023	5.2	5/22/2025	11/22/2023	105.01321	103.7758851	102.5679193	101.3882738	100.2359587	99.11002956	98.0095854	96.93376572	95.88174849
231129A00013	11/29/2023	5.25	11/29/2024	11/29/2023	102.9054	102.1498673	101.4054612	100.6719393	99.94906399	99.23660436	98.53433623	97.84204178	97.15950939
231130A00057	11/30/2023	5.27	12/2/2024	11/30/2023	102.96309	102.1991076	101.4465016	100.7050188	99.97441372	99.25444787	98.54488977	97.84551461	97.15610399
240110A00029	1/10/2024	4.5	7/10/2025	1/10/2024	104.9369	103.5691144	102.225873	100.9065677	99.61061232	98.33743938	97.08649948	95.85726053	94.649207
240110A00003	1/10/2024	4.78	1/10/2025	1/10/2024	103.14942	102.2772086	101.4198073	100.5768389	99.74794044	98.93276108	98.13096157	97.34221378	96.56620024
240111A00028	1/11/2024	4.09	1/11/2029	1/11/2024	117.69169	112.6156616	107.7942474	103.2133184	98.85959964	94.72061618	90.78464053	87.04064427	83.47825288
240112A00021	1/12/2024	4.8	1/13/2025	1/12/2024	103.06225	102.1842482	101.3212641	100.472916	99.63883312	98.81865714	98.01204158	97.21865145	96.43816271
231201A00026	12/1/2023	4.51	12/1/2026	12/1/2023	110.68507	107.8705349	105.1431239	102.4995684	99.93674419	97.45166682	95.04148461	92.70347143	90.43502016
231201A00027	12/1/2023	5.19	12/2/2024	12/1/2023	102.90192	102.1381907	101.385839	100.644608	99.91425196	99.19453263	98.48521853	97.78608488	97.09691333
231201A00024	12/1/2023	4.36	12/1/2028	12/1/2023	118.58218	113.5966963	108.8558342	104.3461819	100.0551449	95.97088763	92.08228329	88.37886694	84.8507922
200114A00006	1/15/2020	1.99	1/15/2025	1/15/2020	100.59592	99.72432612	98.86779918	98.02594653	97.19839335	96.3847775	95.58474901	94.79796951	94.02411181
231204A00006	12/4/2023	4.86	8/4/2025	12/4/2023	105.50223	104.0674528	102.6594766	101.2776167	99.92120824	98.58960852	97.28219605	95.99836965	94.73754766
240116A00052	1/16/2024	4.65	1/16/2025	1/16/2024	103.10213	102.2139049	101.3410378	100.4831365	99.63981774	98.81071123	97.99545914	97.1937156	96.40514617
240117A00024	1/17/2024	4.78	1/17/2025	1/17/2024	103.22908	102.3375249	101.461438	100.600414	99.7540659	98.92202012	98.10391555	97.29940315	96.50814551
231205A00026	12/5/2023	5.02	12/16/2024	12/5/2023	103.06348	102.2594311	101.467985	100.6888445	99.9217236	99.16634499	98.42243994	97.68974784	96.96801595
231206A00044	12/8/2023	4.71	12/8/2025	12/8/2023	106.79139	105.0032736	103.2540161	101.542459	99.86748616	98.22802541	96.62304583	95.05155596	93.51260185

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240122A00081	1/22/2024	4.93	1/22/2025	1/22/2024	103.27881	102.3754491	101.4879578	100.615921	99.7589366	98.91661659	98.08858613	97.27448311	96.47395753
240123A00057	1/23/2024	4.48	1/23/2026	1/23/2024	106.91265	105.0002377	103.1319371	101.3064624	99.52257752	97.77909032	96.07485054	94.40874806	92.77971125
240125A00061	1/25/2024	4.64	7/25/2025	1/25/2024	105.07505	103.6699627	102.2906934	100.9365857	99.60700926	98.30135444	97.01903127	95.7594688	94.52211431
240125A00069	1/25/2024	4.11	1/25/2028	1/25/2024	114.66101	110.6098852	106.7274552	103.0058009	99.43741286	96.01517153	92.73232541	89.58246984	86.55952739
240125A00068	1/25/2024	4.11	1/25/2028	1/25/2024	114.66101	110.6098852	106.7274552	103.0058009	99.43741286	96.01517153	92.73232541	89.58246984	86.55952739
240126A00031	1/26/2024	4.31	1/26/2026	1/26/2024	106.8924	104.9672202	103.0866987	101.2495295	99.45445471	97.70026099	95.98577808	94.30987681	92.67146738
240126A00032	1/26/2024	4.31	1/26/2026	1/26/2024	106.8924	104.9672202	103.0866987	101.2495295	99.45445471	97.70026099	95.98577808	94.30987681	92.67146738
240129A00049	1/29/2024	4.48	7/29/2025	1/29/2024	105.12046	103.7007525	102.3073579	100.939605	99.59684597	98.27845478	96.98382573	95.71237283	94.463529
240130A00034	1/30/2024	4.43	10/30/2025	1/30/2024	106.1082	104.4286875	102.7840761	101.1733413	99.59549962	98.04960608	96.53475177	95.0500623	93.59469604
231206A00003	12/6/2023	5.18	12/6/2024	12/6/2023	102.94086	102.1661681	101.4031855	100.6516437	99.9112865	99.18186492	98.46313755	97.75487	97.0568347
240131A00080	1/31/2024	4.16	1/29/2027	1/31/2024	110.34747	107.3791027	104.5074213	101.7287494	99.0395723	96.43652776	93.91639869	91.47610598	89.11270175
240131A00076	1/31/2024	4.35	1/30/2026	1/31/2024	106.74029	104.810935	102.9264815	101.0856129	99.28706034	97.52960033	95.81205271	94.13327894	92.49218027
240131A00026	1/31/2024	4.31	1/30/2026	1/31/2024	106.66325	104.7346588	102.8509502	101.0108124	99.21297707	97.45622091	95.73936421	94.06126874	92.42083611
240131A00059	1/31/2024	4.57	7/31/2025	1/31/2024	105.04181	103.6210484	102.2266473	100.8579395	99.51427529	98.19502637	96.89958509	95.62736349	94.37779262
240131A00054	1/31/2024	4.8	1/31/2025	1/31/2024	103.2601	102.3324836	101.4215917	100.5269703	99.6481859	98.78482019	97.93646946	97.102744	96.2832675
240131A00033	1/31/2024	4.18	1/30/2026	1/31/2024	106.686	104.7521675	102.863425	101.0184519	99.21597178	97.45475379	95.73361096	94.0513982	92.40701052
240131A00034	1/31/2024	4	1/29/2027	1/31/2024	110.27331	107.2970684	104.4179674	101.6323064	98.93654805	96.32730878	93.80135135	91.35557761	88.98702173
240131A00036	1/31/2024	4.51	7/31/2025	1/31/2024	104.9563	103.5361673	102.1423909	100.7742972	99.43123668	98.11258147	96.81772411	95.54607693	94.2970712
240131A00013	1/31/2024	4.13	2/1/2027	1/31/2024	110.29236	107.3165006	104.4378303	101.6526471	98.95740881	96.34872734	93.82336133	91.37820876	89.01030022
240131A00014	1/31/2024	4.04	1/31/2029	1/31/2024	117.63362	112.5049621	107.636207	103.0127844	98.62101518	94.44805267	90.48182793	86.71099869	83.12490195
240131A00039	1/31/2024	4.22	7/31/2026	1/31/2024	108.51837	106.0687432	103.6876898	101.3728998	99.12215798	96.93333665	94.80439145	92.73335761	90.71834631
151209A00024	12/9/2015	2.22	12/9/2025	12/9/2015	101.21116	100.254286	99.31526533	98.39359515	97.48879166	96.60038943	95.72794054	94.87101369	94.02919346
160603A00014	6/3/2016	1.74	6/3/2026	6/3/2016	101.08924	99.88807353	98.71240504	97.56146798	96.43452986	95.33088651	94.24986068	93.1908008	92.15307971
140821A00030	8/21/2014	2.27	8/21/2024	8/21/2014	100.27257	99.98147548	99.69243771	99.40543469	99.12044269	98.83743834	98.55639866	98.27730105	98.00012326
150812A00052	8/14/2015	2.13	8/14/2025	8/14/2015	100.84955	100.0591969	99.28259162	98.51935759	97.76913377	97.03157262	96.30633943	95.59311167	94.89157846
150929A00083	9/29/2015	2.09	9/29/2025	9/29/2015	100.8864	100.0526267	99.23363468	98.42901739	97.63838447	96.86136008	96.09758225	95.34670223	94.60838382
150929A00087	9/29/2015	2.09	9/29/2025	9/29/2015	100.8864	100.0526267	99.23363468	98.42901739	97.63838447	96.86136008	96.09758225	95.34670223	94.60838382
161222A00013	12/22/2016	2.93	12/22/2026	12/22/2016	106.36366	103.7234597	101.1669043	98.69085696	96.29231915	93.96842156	91.71641758	89.53367737	87.41768218
150701A00056	7/1/2015	2.34	7/1/2025	7/1/2015	100.94057	100.1924363	99.45709154	98.73418401	98.02337755	97.32434868	96.63678594	95.96038933	95.29486974
160404A00019	4/4/2016	2.48	4/4/2031	4/4/2016	107.07116	103.3321534	99.78298821	96.41214499	93.20889577	90.16324229	87.26586131	84.50805441	81.88170181
120330A00013	3/30/2012	2.98	4/2/2024	3/30/2012	100.25568	100.082338	99.90959687	99.73745465	99.56590823	99.3949545	99.22459039	99.05481287	98.88561888
150824A00033	8/24/2015	2.22	8/25/2025	8/24/2015	100.79877	100.0088983	99.23276256	98.4699926	97.72022759	96.98312015	96.2583357	95.54555184	94.84445781
160427A00004	4/27/2016	2.09	4/27/2026	4/27/2016	101.22871	100.1074276	99.00897173	97.93267914	96.87791197	95.84405647	94.83052178	93.83673895	92.86215986

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
140618A00019	6/18/2014	3.08	6/18/2024	6/18/2014	100.32345	100.1202047	99.91791628	99.71658068	99.5161906	99.31673878	99.11821802	98.92062122	98.72394135
151118A00037	11/18/2015	2.75	11/18/2025	11/18/2015	102.91478	101.3401701	99.79949515	98.29177031	96.81604849	95.37141773	93.95699962	92.57194768	91.21544595
150224A00010	2/24/2015	2.34	2/24/2025	2/24/2015	101.06674	100.0754687	99.10345432	98.1501406	97.2149928	96.29749641	95.39715617	94.51349519	93.64605408
150219A00016	2/19/2015	2.68	2/19/2025	2/19/2015	101.51787	100.4671721	99.43801142	98.42973223	97.44170466	96.47332394	95.52400918	94.59320218	93.68036633
150814A00029	8/14/2015	2.39	8/14/2025	8/14/2015	100.93286	100.1433778	99.36760432	98.60516248	97.85569291	97.11884966	96.3942995	95.68172133	94.98080562
120517A00021	5/17/2012	1.85	5/17/2024	5/17/2012	100.07376	99.91699696	99.76078423	99.60512134	99.45000515	99.29543253	99.14140039	98.98790566	98.83494529
131018A00006	10/18/2013	3.28	10/20/2025	10/18/2013	104.00851	102.4123625	100.8498268	99.31989526	97.82159892	96.35400748	94.91622747	93.50740036	92.12670077
140318A00003	3/17/2014	3.08	3/18/2024	3/17/2014	100.23126	100.0957035	99.96053197	99.82574143	99.69133017	99.55729656	99.42363895	99.2903557	99.15744519
150311A00003	3/11/2015	2.72	3/31/2025	3/11/2015	101.74008	100.6303179	99.54535268	98.48435653	97.44653575	96.43113147	95.43741771	94.46469964	93.51231195
160328A00038	3/28/2016	2.54	3/30/2026	3/28/2016	103.53153	101.543184	99.60486547	97.71494848	95.8718773	94.07415908	92.32036067	90.60910573	88.93907193
160329A00017	3/29/2016	2.48	3/30/2026	3/29/2016	103.4098	101.4233085	99.4867969	97.59864482	95.75729786	93.96126441	92.20911254	90.49946705	88.83100674
150617A00030	6/17/2015	2.91	6/16/2025	6/17/2015	102.43871	101.1412454	99.86719	98.61596139	97.38699341	96.17973833	94.99366608	93.82826352	92.68303381
161014A00019	10/14/2016	2.39	10/15/2031	10/14/2016	107.16568	103.1734432	99.39614506	95.82002044	92.43229359	89.22110254	86.17542733	83.28502443	80.54036662
160303A00035	3/3/2016	2.14	3/3/2026	3/3/2016	101.22813	100.15312	99.09938676	98.06634284	97.05341718	96.06005915	95.08573758	94.12993993	93.19217147
160212A00047	2/12/2016	1.94	2/12/2026	2/12/2016	100.92173	99.88709524	98.87259614	97.87765975	96.90173791	95.94430282	95.00484613	94.08287798	93.17792617
140908A00080	9/8/2014	2.51	3/8/2024	9/8/2014	100.12182	100.0153855	99.90919433	99.80324418	99.69753415	99.59206338	99.48683101	99.38183618	99.27707805
140917A00030	9/17/2014	3.23	9/17/2029	9/17/2014	113.25799	108.45039	103.9011442	99.5945786	95.51606759	91.65195433	87.98948109	84.51672491	81.22253827
140924A00057	9/24/2014	3.25	9/25/2028	9/24/2014	112.38317	108.0202826	103.863359	99.9014191	96.1241363	92.52179095	89.08523109	85.80583595	82.67548202
160713A00015	7/13/2016	1.57	7/13/2026	7/13/2016	100.93582	99.69467804	98.48048559	97.29243348	96.12974165	94.99165998	93.8774668	92.78646763	91.71799385
150729A00028	7/29/2015	2.25	7/29/2025	7/29/2015	100.88045	100.1284413	99.38936449	98.66286214	97.94859307	97.24622899	96.55545382	95.87596316	95.20746367
151125A00037	11/25/2015	2.41	11/25/2025	11/25/2015	101.18111	100.2652174	99.36609546	98.48327588	97.61630826	96.76475928	95.92821178	95.106264	94.29852887
151228A00013	12/28/2015	2.27	12/29/2025	12/28/2015	101.26469	100.3050335	99.3633336	98.43908876	97.53181455	96.64104476	95.76633047	94.90723929	94.06335454
151229A00026	12/29/2015	2.28	12/29/2025	12/29/2015	101.27472	100.3148499	99.3729419	98.44849581	97.54102709	96.65006943	95.77517384	94.91590783	94.07185462
160412A00029	4/12/2016	2.48	4/14/2031	4/12/2016	107.07153	103.3322719	99.78288346	96.41184783	93.20843355	90.16263926	87.26513897	84.50723181	81.88079581
160421A00016	4/21/2016	2.26	4/21/2026	4/21/2016	103.33078	101.2942155	99.30997307	97.37631584	95.4915798	93.65417016	91.86255772	90.11527555	88.41091589
160523A00086	5/23/2016	2.2	5/26/2026	5/23/2016	103.38698	101.2676073	99.20465413	97.19627847	95.2407131	93.33625922	91.48128335	89.67421433	87.91354056
160603A00029	6/3/2016	2.18	6/3/2031	6/3/2016	106.56598	102.7510545	99.13411719	95.7029128	92.44604007	89.35288808	86.41357597	83.61889762	80.96027086
160906A00027	9/6/2016	2.03	9/8/2031	9/6/2016	106.16995	102.2449599	98.52970954	95.01086101	91.67602947	88.5137101	85.5132094	82.66458232	79.95857474
161014A00026	10/14/2016	2.16	10/14/2031	10/14/2016	106.7613	102.7726688	98.99923245	95.42718376	92.04371	88.83691639	85.795754	82.9099537	80.16996568
161229A00018	12/29/2016	2.46	12/29/2026	12/29/2016	102.54477	101.0752377	99.64121173	98.24154327	96.87512911	95.54091041	94.23787049	92.96503282	91.72145912
161229A00019	12/29/2016	2.46	12/29/2026	12/29/2016	102.54477	101.0752377	99.64121173	98.24154327	96.87512911	95.54091041	94.23787049	92.96503282	91.72145912
150617A00017	6/17/2015	2.27	6/17/2025	6/17/2015	100.8216	100.1125003	99.41570271	98.73085286	98.05761432	97.39566393	96.74469104	96.10439696	95.47449433
150617A00018	6/17/2015	2.45	6/17/2025	6/17/2015	100.83872	100.1308463	99.43522242	98.75150434	98.07935732	97.41845982	96.76850275	96.12918888	95.50023223

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
140219A00005	2/19/2014	3.13	2/20/2029	2/19/2014	106.92823	104.2808437	101.732664	99.27911328	96.91585989	94.63880236	92.44405569	90.32793845	88.28696071
151120A00019	11/20/2015	2.72	11/20/2030	11/20/2015	108.01789	104.4463534	101.0473968	97.81101606	94.72786332	91.78920077	88.98685669	86.31318485	83.76102711
160210A00049	2/10/2016	1.78	2/10/2026	2/10/2016	100.89704	99.86103025	98.84521054	97.84900659	96.87186808	95.91326518	94.97268759	94.04964361	93.14365931
160210A00051	2/10/2016	2.28	2/10/2031	2/10/2016	106.65779	103.0061206	99.53651091	96.23809589	93.10074797	90.11501791	87.27208463	84.56370917	81.98219226
160210A00054	2/10/2016	1.78	2/10/2026	2/10/2016	100.89704	99.86103025	98.84521054	97.84900659	96.87186808	95.91326518	94.97268759	94.04964361	93.14365931
150320A00019	3/20/2015	2.25	3/20/2025	3/20/2015	101.27787	100.2377023	99.21993944	98.22385701	97.24875724	96.29397224	95.35886237	94.44281475	93.54524192
140428A00015	4/28/2014	2.35	4/29/2024	4/28/2014	100.12023	99.99555847	99.87122482	99.74723126	99.62357631	99.50025846	99.37727624	99.25462818	99.13231282
151013A00033	10/13/2015	2.23	10/14/2025	10/13/2015	100.94246	100.0712216	99.21561907	98.37522665	97.54962984	96.7384296	95.94124162	95.15769559	94.38743456
140717A00027	7/17/2014	3.14	7/17/2026	7/17/2014	105.37376	103.1539519	100.9957934	98.89719623	96.85615476	94.87074374	92.93911447	91.05949123	89.23016793
150604A00039	6/4/2015	2.82	6/4/2030	6/4/2015	107.86724	104.5132734	101.3126981	98.25705231	95.33841049	92.54934105	89.88287244	87.33246139	84.89196375
150427A00014	4/27/2015	2.98	4/27/2035	4/27/2015	113.60558	107.5565013	101.9604556	96.77785477	91.97293253	87.51334783	83.3698306	79.51586673	75.92741749
141017A00022	10/17/2014	2.78	10/17/2024	10/17/2014	100.93674	100.2398772	99.55277969	98.87524432	98.20707139	97.54806674	96.89804153	96.25681211	95.6241998
160126A00004	1/26/2016	2.52	1/26/2026	1/26/2016	103.54739	101.6275657	99.75403763	97.92539414	96.14027848	94.3973844	92.69545391	91.03327517	89.40968038
161014A00029	10/14/2016	2.51	10/15/2031	10/14/2016	108.19358	104.1514362	100.3273765	96.7074063	93.27854087	90.02872588	86.94676416	84.02224882	81.24550194
150603A00012	6/3/2015	2.77	6/3/2030	6/3/2015	107.69728	104.3486413	101.1531399	98.10233559	95.18831559	92.40366042	89.74140983	87.19503118	84.75839024
150615A00024	6/15/2015	2.26	6/16/2025	6/15/2015	100.81359	100.1048639	99.40846678	98.72404393	98.05125684	97.38978038	96.73930209	96.09952157	95.47014986
151223A00078	12/23/2015	2.28	12/23/2025	12/23/2015	101.27321	100.3140744	99.37286925	98.44909536	97.54226834	96.6519221	95.7776079	94.91889356	94.07536266
150203A00027	2/3/2015	2.26	2/4/2030	2/3/2015	105.6528	102.5344994	99.55236677	96.69920754	93.96825841	91.35316178	88.84793869	86.44696365	84.14494135
160801A00002	8/1/2016	1.58	8/3/2026	8/1/2016	101.0016	99.7198282	98.46646996	97.2406629	96.04157492	94.86840595	93.72038652	92.5967762	91.49686236
150929A00076	9/29/2015	2.28	9/29/2025	9/29/2015	100.92317	100.0906241	99.27280981	98.46932385	97.67977775	96.90379745	96.14102265	95.3911062	94.65371342
160923A00009	9/23/2016	2.24	9/23/2031	9/23/2016	106.48995	102.5638796	98.84721747	95.32666431	91.9898729	88.82537208	85.82249851	82.97133418	80.26264913
161005A00016	10/5/2016	2.32	10/6/2031	10/5/2016	106.88017	102.8988081	99.13178311	95.56536347	92.18681138	88.98429989	85.94684145	83.06422251	80.32694361
151223A00036	12/23/2015	2.64	12/23/2025	12/23/2015	102.8072	101.1742193	99.57739982	98.0157133	96.48816947	94.9938124	93.53171916	92.10099841	90.70078913
150414A00037	4/14/2015	2.34	4/14/2025	4/14/2015	100.63495	100.010998	99.39685254	98.79225366	98.19695513	97.61071959	97.03331815	96.46453005	95.90414222
150729A00041	7/29/2015	2.44	7/29/2025	7/29/2015	100.90617	100.1554084	99.41753255	98.69218713	97.97903274	97.27774273	96.58800264	95.90950953	95.24197152
160711A00004	7/11/2016	1.51	7/13/2026	7/11/2016	100.85934	99.61931832	98.40621536	97.21922373	96.05756446	94.92048838	93.80727481	92.71723016	91.6496867
140703A00026	7/3/2014	3.11	7/3/2024	7/3/2014	100.70797	100.2848062	99.86522482	99.44918136	99.03663104	98.62752985	98.22183454	97.81950255	97.42049204
151030A00026	10/30/2015	3.29	10/30/2030	10/30/2015	115.14178	109.3198661	103.8651572	98.75184498	93.95608819	89.45585487	85.23077451	81.26200336	77.53210135
150722A00033	7/22/2015	2.47	7/22/2025	7/22/2015	100.92695	100.1771155	99.44012579	98.71563253	98.00329761	97.30279559	96.61381316	95.93604851	95.26921079
150722A00035	7/22/2015	2.92	7/22/2025	7/22/2015	102.66638	101.2798505	99.91988755	98.58578615	97.27686821	95.99247897	94.73198601	93.49477822	92.28026499
160106A00042	1/6/2016	2.43	1/6/2026	1/6/2016	101.35995	100.3626411	99.38429674	98.42438298	97.48238847	96.55782084	95.65020581	94.75908636	93.88402192
141015A00029	10/15/2014	2.32	10/15/2024	10/15/2014	100.72781	100.0537128	99.3889228	98.73324379	98.08648734	97.44847022	96.81901425	96.19794604	95.58509691
160428A00028	4/28/2016	2	4/28/2026	4/28/2016	101.27205	100.1482588	99.04738219	97.9687562	96.91173943	95.87571475	94.86008813	93.8642876	92.88776215

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150410A00021	4/10/2015	2.27	4/10/2025	4/10/2015	100.58932	99.96641264	99.35327296	98.74964393	98.15528091	97.56994807	96.99341802	96.42547135	95.86589632
130206A00009	2/6/2013	2.83	2/7/2028	2/6/2013	107.37681	104.1388807	101.0300395	98.04428653	95.17593532	92.41959626	89.77015953	87.2227789	84.77285655
160119A00072	1/19/2016	2.77	1/21/2031	1/19/2016	108.74987	104.6405136	100.7447678	97.04947541	93.54239049	90.21210884	87.04800476	84.04017265	81.17937349
161116A00006	11/16/2016	2.39	11/16/2026	11/16/2016	102.15882	100.7396757	99.35404226	98.00084719	96.67906532	95.38771229	94.12584264	92.89254785	91.68695463
161207A00014	12/7/2016	2.75	12/8/2031	12/7/2016	109.3718	105.2007738	101.2590185	97.53156278	94.00453548	90.66507544	87.50125091	84.50198588	81.65699266
150803A00033	8/3/2015	3.41	8/2/2030	8/3/2015	115.44502	109.7796954	104.4613423	99.46627723	94.77256861	90.35989972	86.20944116	82.30373401	78.62658284
150803A00036	8/3/2015	3.41	8/2/2030	8/3/2015	115.44502	109.7796954	104.4613423	99.46627723	94.77256861	90.35989972	86.20944116	82.30373401	78.62658284
150803A00037	8/3/2015	3.41	8/2/2030	8/3/2015	115.44502	109.7796954	104.4613423	99.46627723	94.77256861	90.35989972	86.20944116	82.30373401	78.62658284
150803A00038	8/3/2015	3.41	8/2/2030	8/3/2015	115.44502	109.7796954	104.4613423	99.46627723	94.77256861	90.35989972	86.20944116	82.30373401	78.62658284
150803A00039	8/3/2015	3.01	8/2/2030	8/3/2015	108.27831	104.8354443	101.5532583	98.422732	95.43541856	92.58340629	89.85928112	87.25609189	84.76731831
150803A00041	8/3/2015	3.01	8/2/2030	8/3/2015	108.27831	104.8354443	101.5532583	98.422732	95.43541856	92.58340629	89.85928112	87.25609189	84.76731831
150803A00042	8/3/2015	3.01	8/2/2030	8/3/2015	108.27831	104.8354443	101.5532583	98.422732	95.43541856	92.58340629	89.85928112	87.25609189	84.76731831
160413A00014	4/13/2016	2.55	4/14/2031	4/13/2016	107.3388	103.590172	100.0318975	96.65242468	93.44099501	90.38758175	87.48283528	84.71803271	82.08503151
160413A00016	4/13/2016	2.55	4/14/2031	4/13/2016	107.3388	103.590172	100.0318975	96.65242468	93.44099501	90.38758175	87.48283528	84.71803271	82.08503151
160413A00021	4/13/2016	2.48	4/13/2026	4/13/2016	103.59172	101.5187472	99.49891328	97.53046767	95.61173088	93.74109257	91.91700801	90.13799481	88.40262982
160413A00033	4/13/2016	2.32	4/13/2026	4/13/2016	102.90004	101.0216333	99.19019709	97.40420096	95.66217714	93.96271778	92.30447198	90.68614299	89.10648547
160414A00042	4/13/2016	2.48	4/13/2026	4/13/2016	103.59172	101.5187472	99.49891328	97.53046767	95.61173088	93.74109257	91.91700801	90.13799481	88.40262982
160511A00015	5/11/2016	2.42	5/11/2026	5/11/2016	103.62276	101.4803141	99.3943542	97.36300253	95.38446293	93.45701219	91.57899648	89.74882792	87.96498145
160511A00016	5/11/2016	2.48	5/12/2031	5/11/2016	107.14903	103.3654099	99.77584267	96.36844408	93.13215194	90.05666314	87.13237628	84.35033905	81.70219988
160608A00019	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00020	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00023	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00024	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00025	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00027	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00028	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00029	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00030	6/8/2016	2.36	6/8/2026	6/8/2016	103.63639	101.4291471	99.2817271	97.19216856	95.15858765	93.179173	91.25218246	89.37594004	87.54883297
160608A00033	6/8/2016	2.44	6/9/2031	6/8/2016	107.07003	103.2476536	99.62325863	96.18461025	92.92032621	89.81981187	86.87320031	84.0712973	81.40553072
160608A00034	6/8/2016	2.44	6/9/2031	6/8/2016	107.07003	103.2476536	99.62325863	96.18461025	92.92032621	89.81981187	86.87320031	84.0712973	81.40553072
160810A00025	8/10/2016	2.17	8/10/2026	8/10/2016	103.51097	101.1572503	98.87132128	96.65081801	94.49347376	92.39711517	90.35965761	88.37910105	86.45352596
160810A00027	8/10/2016	2.13	8/10/2026	8/10/2016	103.2919	101.0102533	98.79376346	96.64016416	94.54728453	92.51304292	90.53544258	88.61256763	86.74257918
160810A00028	8/10/2016	2.19	8/10/2026	8/10/2016	103.62921	101.2357839	98.91159807	96.65423518	94.4613757	92.33079569	90.26036211	88.24802853	86.29183097

	Parallel-Shift Sensitivity Analysis												
2/29/2024					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	8/10/2016	103.51097	101.1572503	98.87132128	96.65081801	94.49347376	92.39711517	90.35965761	88.37910105	86.45352596
160810A00030	8/10/2016	2.24	8/11/2031	8/10/2016	106.42373	102.5417516	98.8648083	95.38000146	92.07534393	88.93969184	85.96267939	83.13465914	80.44664727
160908A00022	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00023	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00024	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00025	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00026	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00027	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00028	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00030	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00031	9/8/2016	2.21	9/8/2026	9/8/2016	103.7516	101.3271677	98.97399225	96.68953125	94.47134778	92.31710823	90.22457707	88.19161206	86.21615965
160908A00032	9/8/2016	2.17	9/8/2026	9/8/2016	103.51904	101.1705227	98.89043162	96.67633123	94.52589058	92.43687735	90.40715288	88.43466756	86.51745641
160908A00033	9/8/2016	2.17	9/8/2026	9/8/2016	103.51904	101.1705227	98.89043162	96.67633123	94.52589058	92.43687735	90.40715288	88.43466756	86.51745641
160908A00034	9/8/2016	2.17	9/8/2026	9/8/2016	103.51904	101.1705227	98.89043162	96.67633123	94.52589058	92.43687735	90.40715288	88.43466756	86.51745641
160908A00035	9/8/2016	2.3	9/8/2031	9/8/2016	106.73057	102.796056	99.07136376	95.54316836	92.19910118	89.02767095	86.01819541	83.1607387	80.44605407
160908A00036	9/8/2016	2.3	9/8/2031	9/8/2016	106.73057	102.796056	99.07136376	95.54316836	92.19910118	89.02767095	86.01819541	83.1607387	80.44605407
160609A00075	6/9/2016	1.94	6/9/2026	6/9/2016	101.17922	99.97850409	98.80325201	97.65269965	96.5261169	95.42280176	94.342079	93.28329887	92.24583592
160719A00026	7/19/2016	1.87	7/20/2026	7/19/2016	101.15583	99.91364389	98.69840137	97.50929549	96.34554694	95.20640626	94.0911524	92.99909145	91.92955532
160629A00066	6/29/2016	2.61	6/30/2036	6/29/2016	118.10312	108.2223719	99.38079739	91.45847354	84.35015584	77.96340089	72.21693548	67.03924182	62.36732917
170504A00049	5/4/2017	2.63	5/6/2024	5/4/2017	100.30908	100.039657	99.77168889	99.50516394	99.2400704	98.97639671	98.71413143	98.45326323	98.19378092
170511A00011	5/11/2017	2.41	5/11/2027	5/11/2017	102.94003	101.2585197	99.62180288	98.02831765	96.47657219	94.96513777	93.49264561	92.05778382	90.65929465
171109A00016	11/9/2017	2.94	11/9/2032	11/9/2017	118.13519	110.1522375	102.8129899	96.06068623	89.84390612	84.11603863	78.83480689	73.96184193	69.46230067
170105A00010	1/5/2017	2.61	1/5/2027	1/5/2017	102.66922	101.1611088	99.69005258	98.25484029	96.85430962	95.4873451	94.15287591	92.84987361	91.57735022
170106A00030	1/6/2017	2.39	1/6/2027	1/6/2017	102.52857	101.0196263	99.54782231	98.11194364	96.71082341	95.34334189	94.00842418	92.70503805	91.43219194
170524A00027	5/24/2017	2.32	5/24/2027	5/24/2017	102.7878	101.1078972	99.47277848	97.88088218	96.33071533	94.8208482	93.34991103	91.91659114	90.51963004
170112A00015	1/12/2017	2.32	1/12/2027	1/12/2017	102.42186	100.9140397	99.44334607	98.0085673	96.60853619	95.24213275	93.90828187	92.60595114	91.33414883
180305A00030	3/5/2018	3.12	3/5/2025	3/5/2018	102.0909	101.0130029	99.95805687	98.92533142	97.91412787	96.92377658	95.95363547	95.00308863	94.07154498
170602A00019	6/2/2017	2.42	6/3/2024	6/2/2017	100.32773	99.98521841	99.64504631	99.30719294	98.97163463	98.63834802	98.30731005	97.978498	97.65188943
170124A00017	1/24/2017	2.82	1/23/2032	1/24/2017	109.76649	105.5373239	101.5428294	97.76754632	94.19716061	90.81840911	87.6189948	84.58750971	81.71336444
170615A00006	6/15/2017	2.15	6/17/2024	6/15/2017	100.13991	99.92883776	99.71882882	99.50986972	99.30195178	99.09506641	98.88920513	98.68435955	98.4805214
170619A00089	6/16/2017	2.79	6/16/2027	6/16/2017	106.97778	103.8330666	100.8022884	97.88068337	95.0637137	92.34705513	89.72658552	87.19837437	84.75867283
170619A00092	6/16/2017	2.79	6/16/2027	6/16/2017	106.97778	103.8330666	100.8022884	97.88068337	95.0637137	92.34705513	89.72658552	87.19837437	84.75867283
170619A00095	6/16/2017	2.79	6/16/2027	6/16/2017	106.97778	103.8330666	100.8022884	97.88068337	95.0637137	92.34705513	89.72658552	87.19837437	84.75867283

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170619A00096	6/16/2017	2.79	6/16/2027	6/16/2017	106.97778	103.8330666	100.8022884	97.88068337	95.0637137	92.34705513	89.72658552	87.19837437	84.75867283
170619A00101	6/16/2017	2.74	6/16/2027	6/16/2017	106.53612	103.5114042	100.5949915	97.78238013	95.0692799	92.4516019	89.92544783	87.48710007	85.13301231
170207A00055	2/7/2017	2.36	2/8/2027	2/7/2017	102.57457	101.0234131	99.51122411	98.03670935	96.59862688	95.19578546	93.82704202	92.49129931	91.18750373
171204A00024	12/4/2017	2.71	12/4/2024	12/4/2017	101.14472	100.3095966	99.48834215	98.68060955	97.88606608	97.10438993	96.33526967	95.57840389	94.83350075
171207A00024	12/7/2017	2.93	12/7/2027	12/7/2017	108.80192	105.1365519	101.6201673	98.24589574	95.00722026	91.89795714	88.91223699	86.0444871	83.28941491
171207A00025	12/7/2017	2.91	12/7/2027	12/7/2017	108.51193	104.9311596	101.4949029	98.19652213	95.029717	91.98850848	89.06722092	86.26046503	83.56312191
171207A00026	12/7/2017	2.93	12/7/2027	12/7/2017	108.80192	105.1365519	101.6201673	98.24589574	95.00722026	91.89795714	88.91223699	86.0444871	83.28941491
171219A00067	12/19/2017	2.72	12/20/2027	12/19/2017	108.0007	104.5335934	101.2058845	98.01114837	94.94329159	91.99653361	89.16538899	86.44465066	83.8293743
170303A00004	3/3/2017	2.8	3/4/2024	3/3/2017	100.12767	100.0309595	99.93444216	99.83811768	99.74198544	99.64604487	99.55029537	99.45473636	99.35936726
170309A00014	3/9/2017	2.58	3/9/2027	3/9/2017	103.02566	101.4260243	99.86739022	98.34837829	96.86766233	95.4239708	94.01608416	92.64283231	91.30309221
170309A00016	3/9/2017	2.39	3/8/2024	3/9/2017	100.02582	100.0022229	99.97864886	99.95510049	99.93157777	99.90808066	99.88460909	99.86116304	99.83774244
170313A00045	3/13/2017	3.22	3/15/2032	3/13/2017	111.13422	106.7793854	102.6700781	98.78988165	95.12361139	91.65721265	88.37766893	85.27291784	82.33177453
170317A00039	3/17/2017	2.73	3/18/2024	3/17/2017	100.16648	100.0312248	99.89634827	99.76184988	99.62772803	99.4939811	99.36060748	99.22760558	99.0949738
170317A00040	3/17/2017	2.74	3/18/2024	3/17/2017	100.16794	100.0326034	99.89764201	99.76305907	99.62885296	99.49502208	99.36156482	99.22847957	99.09576476
170317A00044	3/17/2017	3.11	3/17/2027	3/17/2017	107.07885	104.237496	101.4917574	98.83781621	96.27203131	93.79092989	91.39119849	89.06967459	86.82333864
170322A00033	3/22/2017	3.61	3/24/2042	3/22/2017	127.35478	116.4172587	106.7704785	98.23979028	90.67623214	83.9525193	77.9596901	72.60429635	67.80604611
170707A00007	7/7/2017	2.65	7/8/2024	7/7/2017	100.53506	100.0952753	99.65935388	99.22724468	98.79889769	98.37426377	97.95329463	97.53594283	97.12216174
170711A00010	7/11/2017	2.38	7/12/2027	7/11/2017	103.0785	101.3116564	99.59366851	97.92278717	96.29734107	94.71573086	93.1764255	91.67795886	90.21892644
170713A00021	7/13/2017	3.25	7/13/2037	7/13/2017	125.73548	114.6135737	104.7361851	95.95032734	88.12295249	81.13823582	74.89524311	69.30592608	64.2933982
190205A00020	2/5/2019	3.32	2/5/2029	2/5/2019	112.97099	108.303147	103.8698919	99.65801575	95.65512768	91.84959838	88.23050934	84.78760558	81.51125175
190205A00017	2/5/2019	3.36	2/5/2029	2/5/2019	113.15834	108.4843331	104.0451901	99.82769122	95.81943144	92.00876835	88.38477108	84.93717297	81.6563277
190205A00021	2/5/2019	3.32	2/5/2029	2/5/2019	112.97099	108.303147	103.8698919	99.65801575	95.65512768	91.84959838	88.23050934	84.78760558	81.51125175
190205A00023	2/5/2019	3.32	2/5/2029	2/5/2019	112.97099	108.303147	103.8698919	99.65801575	95.65512768	91.84959838	88.23050934	84.78760558	81.51125175
190205A00022	2/5/2019	3.32	2/5/2029	2/5/2019	112.97099	108.303147	103.8698919	99.65801575	95.65512768	91.84959838	88.23050934	84.78760558	81.51125175
170727A00003	7/27/2017	1.97	7/29/2024	7/27/2017	100.15603	99.90490899	99.65531349	99.40722417	99.16062594	98.91550393	98.67184345	98.42963006	98.18884948
170802A00013	8/2/2017	2.5	8/2/2024	8/2/2017	100.54938	100.0428043	99.54134352	99.04492052	98.55345956	98.06688643	97.58512841	97.10811421	96.63577393
170406A00024	4/6/2017	2.61	4/8/2024	4/6/2017	100.21092	100.0207865	99.83138105	99.64270388	99.45475075	99.26751744	99.08099975	98.89519353	98.71009467
170406A00026	4/6/2017	2.61	4/8/2024	4/6/2017	100.21092	100.0207865	99.83138105	99.64270388	99.45475075	99.26751744	99.08099975	98.89519353	98.71009467
170406A00027	4/6/2017	2.61	4/8/2024	4/6/2017	100.21092	100.0207865	99.83138105	99.64270388	99.45475075	99.26751744	99.08099975	98.89519353	98.71009467
170406A00029	4/6/2017	3.01	4/6/2027	4/6/2017	107.19843	104.2120746	101.3286308	98.54390804	95.853916	93.25485223	90.74309213	88.3151793	85.96781651
170406A00032	4/6/2017	3.01	4/6/2027	4/6/2017	107.19843	104.2120746	101.3286308	98.54390804	95.853916	93.25485223	90.74309213	88.3151793	85.96781651
170406A00033	4/6/2017	3.01	4/6/2027	4/6/2017	107.19843	104.2120746	101.3286308	98.54390804	95.853916	93.25485223	90.74309213	88.3151793	85.96781651
170406A00034	4/6/2017	3.01	4/6/2027	4/6/2017	107.19843	104.2120746	101.3286308	98.54390804	95.853916	93.25485223	90.74309213	88.3151793	85.96781651

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170406A00036	4/6/2017	3.07	4/6/2032	4/6/2017	110.57888	106.2033419	102.076693	98.18215829	94.50422694	91.02855161	87.74185279	84.63183183	81.68709167
170407A00001	4/6/2017	2.97	4/6/2027	4/6/2017	106.80007	103.9219373	101.1419089	98.45601079	95.86045913	93.35164781	90.92613871	88.58065277	86.31206137
181105A00015	11/5/2018	3.57	11/5/2025	11/5/2018	104.62434	102.9005453	101.2139923	99.56355493	97.94815685	96.36676438	94.81838439	93.3020623	91.81688012
190227A00033	2/27/2019	2.65	2/27/2026	2/27/2019	101.82618	100.7785654	99.751422	98.74416785	97.75624341	96.78711001	95.8362489	94.9031603	93.98736251
180309A00011	3/9/2018	3.19	3/10/2025	3/9/2018	102.20179	101.1101494	100.0420357	98.99668949	97.97338607	96.97143138	95.99016026	95.02893495	94.08714372
180321A00015	3/21/2018	3.02	3/21/2025	3/21/2018	101.38989	100.6067996	99.83829738	99.08395166	98.34334466	97.61607544	96.90175909	96.20002589	95.51052059
180322A00030	3/22/2018	2.79	3/24/2025	3/22/2018	100.94258	100.3538059	99.77375166	99.20220291	98.63895196	98.08379824	97.53654804	96.99701411	96.46501547
180322A00040	3/22/2018	3.16	3/21/2031	3/22/2018	112.25129	107.5546898	103.1315881	98.96344997	95.03313481	91.32478071	87.82370095	84.51628931	81.38993365
180322A00044	3/22/2018	3.18	3/22/2033	3/22/2018	112.91029	107.9497544	103.2996717	98.93715613	94.84120354	90.99252246	87.37338214	83.96747507	80.75979245
190305A00017	3/5/2019	3.12	3/5/2026	3/5/2019	104.6289	102.6481128	100.7162672	98.83181136	96.99325881	95.19918105	93.44820503	91.73901048	90.07032741
190305A00015	3/5/2019	3.32	3/5/2029	3/5/2019	113.15979	108.4169584	103.9155689	99.64185698	95.58291714	91.72664794	88.06169754	84.57741311	81.26379391
190308A00026	3/8/2019	3.18	3/8/2034	3/8/2019	120.62678	112.1433288	104.4102391	97.3544319	90.91042405	85.01949681	79.62895896	74.6914941	70.16458196
190308A00016	3/8/2019	3.18	3/8/2034	3/8/2019	120.62678	112.1433288	104.4102391	97.3544319	90.91042405	85.01949681	79.62895896	74.6914941	70.16458196
170829A00066	8/29/2017	2.11	8/29/2024	8/29/2017	100.48261	99.90391846	99.33191305	98.76647476	98.20749084	97.65485111	97.10844788	96.56817589	96.03393224
190315A00019	3/15/2019	2.88	3/15/2034	3/15/2019	112.59484	107.1318978	102.0437418	97.3002481	92.87397663	88.73991493	84.87524541	81.25913653	77.87255524
190315A00029	3/15/2019	2.88	3/15/2034	3/15/2019	112.59484	107.1318978	102.0437418	97.3002481	92.87397663	88.73991493	84.87524541	81.25913653	77.87255524
190315A00023	3/15/2019	2.88	3/15/2034	3/15/2019	112.59484	107.1318978	102.0437418	97.3002481	92.87397663	88.73991493	84.87524541	81.25913653	77.87255524
190315A00017	3/15/2019	2.88	3/15/2034	3/15/2019	112.59484	107.1318978	102.0437418	97.3002481	92.87397663	88.73991493	84.87524541	81.25913653	77.87255524
180402A00013	4/2/2018	2.99	4/3/2028	4/2/2018	108.66146	105.2753304	102.0282494	98.91355313	95.92494097	93.05645243	90.3024467	87.65758341	85.11680469
180403A00014	4/3/2018	3.11	4/3/2025	4/3/2018	102.26619	101.1146965	99.98936204	98.88930092	97.81366621	96.76164849	95.73247379	94.72540169	93.7397235
180410A00002	4/10/2018	3.14	4/11/2033	4/10/2018	112.82176	107.8220723	103.1377791	98.74545399	94.62361357	90.75253838	87.1141154	83.69169556	80.46996485
190329A00067	3/29/2019	2.61	3/29/2024	3/29/2019	100.1822	100.0169647	99.85227585	99.68812973	99.5245237	99.36145509	99.1989213	99.0369197	98.8754477
150227A00011	2/27/2015	2.33	2/27/2025	2/27/2015	101.25788	100.2722992	99.30678729	98.36073113	97.43353861	96.52464162	95.63349482	94.75957446	93.90237735
150213A00014	2/13/2015	2.41	2/13/2025	2/13/2015	100.6456	100.1027937	99.56737163	99.03916912	98.51802458	98.00378144	97.496288	96.99539725	96.50096665
160209A00008	2/9/2016	2.45	2/10/2031	2/9/2016	106.80381	103.157181	99.69197892	96.39740533	93.26338454	90.28051451	87.44001713	84.73369256	82.15387718
160307A00024	3/7/2016	2.17	3/6/2026	3/7/2016	101.24481	100.1664487	99.10953762	98.07345889	97.05762237	96.06145997	95.08442455	94.12598901	93.18564529
160209A00006	2/9/2016	1.91	2/9/2026	2/9/2016	100.88932	99.85537994	98.84154981	97.84726009	96.87196351	95.91513314	94.9762614	94.0548592	93.15045509
190402A00005	4/2/2019	2.77	4/2/2032	4/2/2019	111.63321	106.3246769	101.3684404	96.73757938	92.40743395	88.35540112	84.56074984	81.00445375	77.66903986
190403A00013	4/3/2019	3.05	4/3/2029	4/3/2019	112.0307	107.2629359	102.7410634	98.45087836	94.37908299	90.51321906	86.84161019	83.35330828	80.03804393
190403A00014	4/3/2019	3.05	4/3/2029	4/3/2019	112.0307	107.2629359	102.7410634	98.45087836	94.37908299	90.51321906	86.84161019	83.35330828	80.03804393
190403A00010	4/3/2019	3.08	4/3/2029	4/3/2019	112.53813	107.6295323	102.9764241	98.56397937	94.37831616	90.40643165	86.63614165	83.05602433	79.65536825
190404A00015	4/4/2019	2.88	4/3/2026	4/4/2019	104.47493	102.3718713	100.322462	98.32494523	96.37763948	94.4789317	92.62727378	90.82117938	89.05922089
170921A00055	9/21/2017	2.82	9/21/2027	9/21/2017	107.69045	104.308134	101.0560771	97.92847562	94.91982393	92.02489364	89.23871809	86.55657747	83.97398499

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
170921A00057	9/21/2017	2.79	9/21/2027	9/21/2017	107.25894	104.0111355	100.8868231	97.88053942	94.9870974	92.20157017	89.51927648	86.93576682	84.44681043
160824A00019	8/24/2016	1.98	8/25/2031	8/24/2016	105.90985	102.035229	98.36572036	94.88839211	91.59122938	88.4630643	85.49351035	82.67290228	79.99224102
180905A00017	9/5/2018	3.43	9/6/2033	9/5/2018	123.47494	114.7456828	106.7716425	99.4814082	92.81075538	86.7018845	81.10274364	75.96642629	71.25063505
180906A00032	9/6/2018	3.24	9/5/2025	9/6/2018	103.58638	102.0305632	100.5061377	99.01221283	97.54793441	96.11248013	94.70505783	93.32490414	91.97128318
180907A00013	9/7/2018	3.27	9/8/2025	9/7/2018	103.60879	102.0572889	100.5371496	99.04747813	97.5874182	96.15614531	94.75286541	93.37681347	92.02725214
180913A00012	9/13/2018	3.31	9/13/2033	9/13/2018	114.27387	108.9909415	104.0545687	99.43804935	95.11696879	91.06898773	87.27365073	83.71221353	80.36748748
180913A00033	9/13/2018	3.31	9/13/2033	9/13/2018	114.27387	108.9909415	104.0545687	99.43804935	95.11696879	91.06898773	87.27365073	83.71221353	80.36748748
180914A00049	9/14/2018	3.37	9/14/2033	9/14/2018	114.59181	109.2941546	104.3440283	99.71464908	95.38153382	91.32228059	87.51637662	83.94502517	80.59098944
180104A00041	1/4/2018	3.08	1/4/2033	1/4/2018	119.57825	111.3654247	103.8248457	96.89645301	90.52590211	84.66398997	79.26614223	74.29195382	69.70477747
180104A00023	1/4/2018	2.91	1/4/2028	1/4/2018	107.70352	104.4331627	101.2921237	98.27447271	95.37458411	92.58712133	89.90702035	87.32947418	84.8499184
180104A00024	1/4/2018	2.98	1/4/2028	1/4/2018	108.94974	105.2945037	101.7893329	98.42720913	95.20148183	92.10584603	89.13432234	86.28123845	83.54121162
151204A00011	12/4/2015	2.28	12/4/2025	12/4/2015	101.26843	100.3116116	99.37263465	98.45099324	97.54620336	96.65779943	95.78533345	94.92837408	94.08650588
161214A00034	12/14/2016	2.65	12/14/2026	12/14/2016	102.634	101.1670874	99.73551255	98.33813591	96.97386092	95.64163515	94.34044813	93.06932931	91.82734619
190702A00068	7/2/2019	2.69	7/1/2039	7/2/2019	121.54354	109.5806527	99.11403369	89.93812964	81.87726743	74.78112578	68.52091709	62.9861646	58.08197949
190702A00071	7/2/2019	2.69	7/1/2039	7/2/2019	121.54354	109.5806527	99.11403369	89.93812964	81.87726743	74.78112578	68.52091709	62.9861646	58.08197949
190708A00025	7/8/2019	2.21	7/1/2024	7/8/2019	100.32307	99.90243232	99.48532116	99.07169446	98.66150869	98.25472103	97.85128939	97.45117236	97.05432922
190708A00032	7/8/2019	2.58	7/2/2029	7/8/2019	110.44138	105.399706	100.6317808	96.12114806	91.85242928	87.81124575	83.98414857	80.35855381	76.92268247
190708A00029	7/8/2019	2.57	7/2/2029	7/8/2019	110.39028	105.350438	100.584251	96.07527237	91.80812842	87.76844485	83.94277691	80.31854455	76.88397244
190708A00026	7/8/2019	2.21	7/1/2024	7/8/2019	100.32307	99.90243232	99.48532116	99.07169446	98.66150869	98.25472103	97.85128939	97.45117236	97.05432922
190708A00028	7/8/2019	2.57	7/2/2029	7/8/2019	110.39028	105.350438	100.584251	96.07527237	91.80812842	87.76844485	83.94277691	80.31854455	76.88397244
190708A00030	7/8/2019	2.57	7/2/2029	7/8/2019	110.39028	105.350438	100.584251	96.07527237	91.80812842	87.76844485	83.94277691	80.31854455	76.88397244
190712A00016	7/12/2019	2.39	7/12/2029	7/12/2019	105.05975	102.2567441	99.56579676	96.98143282	94.49848755	92.11208494	89.81761949	87.61073935	85.48733069
180125A00027	1/25/2018	2.69	1/24/2025	1/25/2018	100.9299	100.2546644	99.590326	98.93660432	98.29322688	97.65993078	97.03646228	96.4225764	95.81803654
180925A00116	9/25/2018	3.28	9/25/2028	9/25/2018	106.64003	104.2123415	101.8693522	99.60738952	97.42296736	95.31277511	93.27366785	91.30265682	89.39690058
180925A00013	9/25/2018	3.41	9/25/2028	9/25/2018	106.63812	104.2158829	101.878005	99.6208303	97.44089233	95.33489903	93.29972273	91.33239082	89.43007698
181214A00030	12/14/2018	3.47	12/14/2033	12/14/2018	124.50257	115.297935	106.9099723	99.25964302	92.27603127	85.89546877	80.06075642	74.7204731	69.82836166
190718A00012	7/18/2019	2.55	7/18/2029	7/18/2019	109.50652	104.8248815	100.3920999	96.1933345	92.21471461	88.44326951	84.86686517	81.47414586	78.25448011
181218A00040	12/18/2018	3.23	6/18/2030	12/18/2018	108.81663	105.4414309	102.2203221	99.1448247	96.20698768	93.39935489	90.71493099	88.14714972	85.68984473
181003A00019	10/3/2018	3.44	10/3/2025	10/3/2018	104.13472	102.4993767	100.8980408	99.32971159	97.793428	96.28826633	94.81333845	93.36779006	91.95079904
181226A00030	12/26/2018	2.91	12/26/2028	12/26/2018	106.09857	103.5560937	101.1062616	98.74490348	96.46806627	94.27200262	92.15315899	90.10816423	88.13381898
190501A00015	5/1/2019	2.78	5/1/2029	5/1/2019	105.96724	103.2244371	100.5884181	98.0540904	95.61664011	93.27151689	91.01441778	88.84127208	86.74822716
190502A00016	5/2/2019	2.87	5/1/2026	5/2/2019	104.64939	102.4721627	100.3519959	98.28696925	96.2752456	94.31506485	92.4047401	90.54265392	88.72725478
190506A00026	5/6/2019	3.03	5/4/2029	5/6/2019	112.45744	107.4787003	102.7627767	98.29420919	94.05853973	90.04223778	86.23263559	82.61786811	79.1868176

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
190510A00049	5/10/2019	2.58	5/8/2026	5/10/2019	101.8818	100.7119317	99.56639764	98.44447886	97.34548539	96.2687536	95.21364499	94.17954499	93.16586182
181010A00025	10/10/2018	3.48	10/10/2030	10/10/2018	110.6604	107.0452917	103.6029823	100.3235568	97.19774291	94.21686778	91.37281516	88.6579859	86.06526144
190515A00035	5/15/2019	2.82	2/15/2029	5/15/2019	111.01936	106.2713018	101.7655283	97.488262	93.42658424	89.5683769	85.90226844	82.4175839	79.10429853
190813A00052	8/13/2019	2.24	8/13/2029	8/13/2019	108.82757	103.7518691	98.95710906	94.42608714	90.1427437	86.09208327	82.26009844	78.63369954	75.20064978
190813A00067	8/13/2019	1.9	8/13/2024	8/13/2019	100.26057	99.72560699	99.19637307	98.67277588	98.15472548	97.64213382	97.13491472	96.63298379	96.13625843
190813A00057	8/13/2019	1.9	8/13/2024	8/13/2019	100.26057	99.72560699	99.19637307	98.67277588	98.15472548	97.64213382	97.13491472	96.63298379	96.13625843
190813A00051	8/13/2019	2.19	8/13/2029	8/13/2019	108.5689	103.5027045	98.71697995	94.19454701	89.91937159	85.87648219	82.0518938	78.43253779	75.00619708
190813A00064	8/13/2019	1.9	8/13/2024	8/13/2019	100.26057	99.72560699	99.19637307	98.67277588	98.15472548	97.64213382	97.13491472	96.63298379	96.13625843
190103A00020	1/3/2019	3.12	1/5/2026	1/3/2019	104.2992	102.4232229	100.5911385	98.80164853	97.05350359	95.34549918	93.67647395	92.04530784	90.45092029
190104A00034	1/4/2019	3.18	1/4/2029	1/4/2019	110.3135	106.3909623	102.6520083	99.0867658	95.68595243	92.44083694	89.34320337	86.38531782	83.55989745
180628A00068	6/28/2018	3.12	6/28/2028	6/28/2018	109.56767	106.0072508	102.5994639	99.33673836	96.21192747	93.21827853	90.349409	87.59928414	84.96219608
190104A00035	1/4/2019	3.1	1/5/2026	1/4/2019	104.21643	102.3584681	100.543893	98.7714198	97.03981405	95.34788573	93.69448746	92.07851266	90.4988938
190104A00038	1/4/2019	3.25	1/4/2029	1/4/2019	112.4526	107.870545	103.5154278	99.37466305	95.43642931	91.6896207	88.12379983	84.7291541	81.49645504
180517A00018	5/17/2018	3.46	5/17/2033	5/17/2018	114.56482	109.4437861	104.6483889	100.1542662	95.93908257	91.98234951	88.26525959	84.77053626	81.48229819
180517A00024	5/17/2018	3.46	5/17/2033	5/17/2018	114.56482	109.4437861	104.6483889	100.1542662	95.93908257	91.98234951	88.26525959	84.77053626	81.48229819
191112A00024	11/12/2019	2.09	11/12/2024	11/12/2019	100.5336	99.76134429	99.00100342	98.25230115	97.51497115	96.78875516	96.07340271	95.3686708	94.67432366
191112A00023	11/12/2019	2.36	11/13/2029	11/12/2019	109.72309	104.4122452	99.4061088	94.68537999	90.23208295	86.02947213	82.06194142	78.31494048	74.77489772
191112A00022	11/12/2019	2.36	11/13/2029	11/12/2019	109.72309	104.4122452	99.4061088	94.68537999	90.23208295	86.02947213	82.06194142	78.31494048	74.77489772
191113A00013	11/13/2019	2.17	11/13/2026	11/13/2019	104.09201	101.4446402	98.87979917	96.39441358	93.9855414	91.65036935	89.38620629	87.19047704	85.06071651
180605A00031	6/5/2018	3.37	6/5/2030	6/5/2018	109.29423	105.9046767	102.6698377	99.58119495	96.63076763	93.81107146	91.11508465	88.53621605	86.06827586
190118A00006	1/18/2019	3.14	1/18/2034	1/18/2019	113.81594	108.3803346	103.3122051	98.58242368	94.16442258	90.03395377	86.16886944	82.54892458	79.15559946
191122A00003	11/22/2019	2.32	11/22/2039	11/22/2019	115.9823	105.3033292	95.90524992	87.61582298	80.28760209	73.79418471	68.02705396	62.89291387	58.31143807
161227A00073	12/27/2016	2.83	12/28/2026	12/27/2016	105.58563	103.1481714	100.7862696	98.49711777	96.27802627	94.12642115	92.03983855	90.01591927	88.0524037
191203A00011	12/3/2019	2.21	12/3/2029	12/3/2019	108.96311	103.6354115	98.61620741	93.88583384	89.42598497	85.2196096	81.25081898	77.50480188	73.96774622
191203A00010	12/3/2019	2.21	12/3/2029	12/3/2019	108.96311	103.6354115	98.61620741	93.88583384	89.42598497	85.2196096	81.25081898	77.50480188	73.96774622
191203A00009	12/3/2019	2.21	12/3/2029	12/3/2019	108.96311	103.6354115	98.61620741	93.88583384	89.42598497	85.2196096	81.25081898	77.50480188	73.96774622
190605A00023	6/5/2019	2.64	6/5/2029	6/5/2019	110.64159	105.6547442	100.9352671	96.46728827	92.23596275	88.22739863	84.42859103	80.82736098	77.41229894
190605A00025	6/5/2019	2.64	6/5/2029	6/5/2019	110.64159	105.6547442	100.9352671	96.46728827	92.23596275	88.22739863	84.42859103	80.82736098	77.41229894
190605A00024	6/5/2019	2.64	6/5/2029	6/5/2019	110.64159	105.6547442	100.9352671	96.46728827	92.23596275	88.22739863	84.42859103	80.82736098	77.41229894
190605A00027	6/5/2019	2.64	6/5/2029	6/5/2019	110.64159	105.6547442	100.9352671	96.46728827	92.23596275	88.22739863	84.42859103	80.82736098	77.41229894
190605A00007	6/5/2019	2.47	6/5/2026	6/5/2019	103.96623	101.7142675	99.52347737	97.39186209	95.3174975	93.29853322	91.33318933	89.41975329	87.55657699
190829A00039	8/29/2019	1.85	8/29/2034	8/29/2019	107.24473	101.8375425	96.81484296	92.14465357	87.79794599	83.74834377	79.97186035	76.44666461	73.15287095
190829A00032	8/29/2019	1.69	8/28/2026	8/29/2019	101.15003	99.86394271	98.60644928	97.37667753	96.17378749	94.99697162	93.84545334	92.71848553	91.61534916

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200406A00027	4/6/2020	1.31	4/5/2030	4/6/2020	104.483	99.47926855	94.77139016	90.33986145	86.16658236	82.2347444	78.52873125	75.03402749	71.73713488
200406A00029	4/6/2020	1.61	4/5/2030	4/6/2020	105.852	100.3832081	95.2474139	90.42233142	85.88728582	81.62309147	77.61193666	73.83727783	70.28374245
200406A00032	4/6/2020	1.09	4/4/2025	4/6/2020	99.916199	98.78003164	97.66980888	96.58464822	95.52370663	94.48617854	93.47129377	92.47831565	91.50653917
200406A00030	4/6/2020	1.61	4/5/2030	4/6/2020	105.852	100.3832081	95.2474139	90.42233142	85.88728582	81.62309147	77.61193666	73.83727783	70.28374245
200406A00033	4/6/2020	1.09	4/4/2025	4/6/2020	99.916199	98.78003164	97.66980888	96.58464822	95.52370663	94.48617854	93.47129377	92.47831566	91.50653917
200406A00035	4/6/2020	1.05	4/4/2025	4/6/2020	99.866647	98.76301305	97.68431023	96.62969507	95.59836181	94.58954038	93.60249445	92.63651959	91.69094154
200406A00036	4/6/2020	1.09	4/4/2025	4/6/2020	99.916199	98.78003164	97.66980888	96.58464822	95.52370663	94.48617854	93.47129377	92.47831565	91.50653917
200406A00014	4/6/2020	1.33	4/6/2035	4/6/2020	104.5519	98.965143	93.79775979	89.01303482	84.57780425	80.46208516	76.63874633	73.08321522	69.77321708
190129A00073	1/29/2019	3.11	1/29/2029	1/29/2019	106.40192	103.8155661	101.3246344	98.92477875	96.61188642	94.38206081	92.2316085	90.1570273	88.154995
190131A00013	1/31/2019	3.48	1/31/2034	1/31/2019	123.60127	114.387414	105.9985722	98.35413325	91.38185392	85.01694616	79.2012684	73.88260844	69.01404714
190131A00023	1/31/2019	3.02	1/30/2034	1/31/2019	113.16235	107.7576813	102.7184356	98.01564089	93.62287489	89.51602269	85.67305838	82.07384872	78.69997648
191206A00005	12/6/2019	2.18	12/7/2026	12/6/2019	104.24077	101.5307384	98.9069791	96.36627638	93.90555499	91.52187059	89.21240331	86.97445182	84.8054277
191209A00005	12/9/2019	2.22	12/10/2029	12/9/2019	108.29075	103.3716267	98.72964177	94.34736517	90.20856236	86.2981034	82.60188214	79.10674162	75.80040533
191224A00002	12/24/2019	2.17	12/24/2029	12/24/2019	104.80979	101.8059974	98.93007775	96.17542106	93.53581069	91.00539555	88.5786661	86.25043201	84.01580157
190905A00025	9/5/2019	2.08	9/5/2029	9/5/2019	108.05851	102.9615811	98.14941763	93.60442291	89.31018461	85.25138798	81.41373646	77.78387859	74.34934048
190905A00024	9/5/2019	2.08	9/5/2029	9/5/2019	108.05851	102.9615811	98.14941763	93.60442291	89.31018461	85.25138798	81.41373646	77.78387859	74.34934048
190905A00021	9/5/2019	2.08	9/5/2029	9/5/2019	108.05851	102.9615811	98.14941763	93.60442291	89.31018461	85.25138798	81.41373646	77.78387859	74.34934048
190905A00019	9/5/2019	2.08	9/5/2029	9/5/2019	108.05851	102.9615811	98.14941763	93.60442291	89.31018461	85.25138798	81.41373646	77.78387859	74.34934048
190905A00023	9/5/2019	2.08	9/5/2029	9/5/2019	108.05851	102.9615811	98.14941763	93.60442291	89.31018461	85.25138798	81.41373646	77.78387859	74.34934048
190910A00044	9/10/2019	2.02	9/10/2026	9/10/2019	103.38527	100.9067392	98.50166549	96.16741179	93.90145457	91.70137757	89.56486656	87.48970417	85.47376517
190911A00016	9/11/2019	1.9	9/11/2029	9/11/2019	104.17258	101.303899	98.5530965	95.91427288	93.38186695	90.95063527	88.61563183	86.37218909	84.21590047
200413A00009	4/13/2020	0.77	4/13/2027	4/13/2020	100.12642	98.53108484	96.97745616	95.46410087	93.98965008	92.55279208	91.15226943	89.78687632	88.45545605
200413A00013	4/13/2020	1.19	4/12/2030	4/13/2020	101.93947	98.85782205	95.91368416	93.09964634	90.40875052	87.83446358	85.3706485	83.01153764	80.751708
200414A00024	4/14/2020	1.37	4/14/2027	4/14/2020	102.39594	99.41682386	96.54214262	93.76759632	91.08909014	88.5027242	86.00478288	83.59172475	81.26017313
200414A00009	4/14/2020	0.82	4/14/2025	4/14/2020	99.675093	99.05709668	98.44880888	97.84997664	97.26035605	96.679712	96.1078178	95.54445477	94.9894119
200421A00026	4/21/2020	1.34	4/19/2030	4/21/2020	103.97129	98.98158327	94.28780168	89.87037109	85.71113183	81.79322482	78.10099097	74.619879	71.33636082
200424A00022	4/24/2020	1.39	4/24/2030	4/24/2020	104.23108	99.22274613	94.51189917	90.0788301	85.90525551	81.9742038	78.26991349	74.77774006	71.48407054
200428A00009	4/28/2020	1.08	4/29/2030	4/28/2020	101.58887	98.51729436	95.58282734	92.77806911	90.0960799	87.530344	85.07474091	82.7235187	80.47126927
200429A00030	4/29/2020	1.41	4/29/2030	4/29/2020	104.58157	99.28281357	94.30599929	89.62951041	85.23330971	81.09881118	77.20876671	73.54716237	70.0991232
200501A00009	5/4/2020	0.67	5/1/2025	5/4/2020	99.570192	98.91405744	98.26887411	97.63433968	97.01016305	96.39606426	95.79177392	95.1970327	94.61159088
200103A00002	1/3/2020	2.07	1/3/2030	1/3/2020	108.24704	103.2677174	98.57222546	94.14251061	89.96176763	86.01434803	82.2856744	78.76216145	75.43114334
200109A00006	1/9/2020	1.95	1/9/2030	1/9/2020	104.60145	101.5553073	98.64062566	95.85052621	93.17854473	90.61860117	88.16497411	85.81227724	83.55543741
200109A00008	1/9/2020	1.95	1/9/2030	1/9/2020	104.60145	101.5553073	98.64062565	95.85052621	93.17854473	90.61860117	88.16497411	85.81227724	83.55543741

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200110A00053	1/10/2020	1.99	1/10/2025	1/10/2020	100.67198	99.74257482	98.8304055	97.93499926	97.05589616	96.19265298	95.34484243	94.51205249	93.6938857
200110A00038	1/10/2020	2.32	1/10/2030	1/10/2020	109.66088	104.2230888	99.10503498	94.28601953	89.7467915	85.46944068	81.43729745	77.63484056	74.04761231
200110A00039	1/10/2020	2.32	1/10/2030	1/10/2020	109.66088	104.2230888	99.10503498	94.28601953	89.7467915	85.46944068	81.43729745	77.63484056	74.04761231
200110A00037	1/10/2020	2.32	1/10/2030	1/10/2020	109.66088	104.2230888	99.10503498	94.28601953	89.7467915	85.46944068	81.43729745	77.63484056	74.04761231
200110A00043	1/10/2020	2.32	1/10/2030	1/10/2020	109.66088	104.2230888	99.10503498	94.28601953	89.7467915	85.46944068	81.43729745	77.63484056	74.04761231
200115A00013	1/15/2020	2.18	1/15/2030	1/15/2020	107.28855	102.8279151	98.61073288	94.62186935	90.84722877	87.27367223	83.88894738	80.68162365	77.64103255
200116A00012	1/16/2020	2.16	1/19/2027	1/16/2020	104.4051	101.5853868	98.85886673	96.22193294	93.67114086	91.20319844	88.81495847	86.50341131	84.26567802
190925A00009	9/25/2019	2	9/25/2026	9/25/2019	103.26423	100.8340601	98.47603618	96.18754591	93.96609178	91.80928395	89.71483472	87.68055332	85.70434112
190926A00002	9/30/2019	2.01	9/29/2034	9/30/2019	108.19088	102.694989	97.59263122	92.850861	88.43978827	84.33227083	80.50364121	76.9314624	73.59530945
191004A00017	10/4/2019	2.02	10/4/2029	10/4/2019	107.81043	102.6576906	97.79631712	93.20808788	88.87602571	84.78430287	80.91815691	77.26381301	73.80841259
191004A00026	10/4/2019	1.74	10/4/2024	10/4/2019	100.1885	99.51742928	98.8553705	98.20214183	97.55756724	96.92147538	96.29369937	95.67407671	95.06244909
191004A00025	10/4/2019	1.74	10/4/2024	10/4/2019	100.1885	99.51742928	98.8553705	98.20214183	97.55756724	96.92147538	96.29369937	95.67407671	95.06244909
191004A00023	10/4/2019	2.02	10/4/2029	10/4/2019	107.81043	102.6576906	97.79631712	93.20808788	88.87602571	84.78430287	80.91815691	77.26381301	73.80841259
191004A00019	10/4/2019	2.02	10/4/2029	10/4/2019	107.81043	102.6576906	97.79631712	93.20808788	88.87602571	84.78430287	80.91815691	77.26381301	73.80841259
191004A00022	10/4/2019	2.02	10/4/2029	10/4/2019	107.81043	102.6576906	97.79631712	93.20808788	88.87602571	84.78430287	80.91815691	77.26381301	73.80841259
191008A00014	10/8/2019	1.85	10/8/2026	10/8/2019	103.07736	100.5344015	98.06851731	95.67687543	93.35676446	91.10559192	88.92087801	86.80024985	84.74143598
191008A00007	10/8/2019	1.67	10/9/2029	10/8/2019	103.55763	100.6649383	97.89260126	95.23452359	92.68496759	90.23852664	87.89010389	85.63489237	83.46835654
191011A00027	10/11/2019	1.84	10/11/2029	10/11/2019	104.06337	101.1564447	98.37046671	95.69931759	93.13723048	90.67877142	88.31881779	86.05253834	83.87537466
200512A00017	5/12/2020	0.85	5/12/2025	5/12/2020	99.679635	98.4662877	97.27888875	96.11660388	94.97863437	93.86421552	92.77261484	91.70313031	90.65508886
200512A00010	5/12/2020	1.48	5/10/2030	5/12/2020	105.13874	99.62522009	94.4521221	89.59637489	85.03659829	80.75296865	76.72709722	72.9419187	69.38158899
200512A00021	5/12/2020	0.86	5/12/2025	5/12/2020	99.691894	98.4609576	97.25643975	96.07748922	94.9232915	93.79306681	92.68606825	91.60158002	90.53891586
200512A00011	5/12/2020	1.48	5/10/2030	5/12/2020	105.13874	99.62522009	94.4521221	89.59637489	85.03659829	80.75296865	76.72709722	72.9419187	69.38158899
200512A00013	5/12/2020	1.17	5/12/2027	5/12/2020	101.85561	98.82084586	95.89470267	93.07266258	90.35041972	87.72387327	85.18911619	82.74242481	80.38024902
200512A00014	5/12/2020	1.17	5/12/2027	5/12/2020	101.85561	98.82084586	95.89470267	93.07266258	90.35041972	87.72387327	85.18911619	82.74242481	80.38024902
200512A00018	5/12/2020	0.85	5/12/2025	5/12/2020	99.679635	98.4662877	97.27888875	96.11660388	94.97863437	93.86421552	92.77261484	91.70313031	90.65508886
190826A00032	8/26/2019	1.72	8/24/2029	8/26/2019	103.58269	100.7707774	98.0729893	95.48367713	92.99751223	90.60946743	88.314798	86.10902379	83.9879127
200709A00019	7/9/2020	0.77	7/9/2025	7/9/2020	99.631185	98.2595959	96.9138579	95.59330201	94.29728215	93.0251739	91.77637361	90.55029756	89.34638107
200512A00020	5/12/2020	0.86	5/12/2025	5/12/2020	99.691894	98.4609576	97.25643975	96.07748922	94.9232915	93.79306681	92.68606825	91.60158002	90.53891586
200512A00001	5/12/2020	1.17	5/12/2027	5/12/2020	101.85561	98.82084586	95.89470267	93.07266258	90.35041972	87.72387327	85.18911619	82.74242481	80.38024902
200514A00008	5/14/2020	1.23	5/14/2030	5/14/2020	103.40676	98.39249137	93.67857351	89.24497848	85.07313337	81.14580274	77.44698497	73.96181725	70.67648838
201029A00004	10/29/2020	1.49	10/29/2038	10/29/2020	107.38544	96.77900188	87.47825196	79.30797509	72.11775621	65.77832597	60.17846241	55.22236261	50.82741092
151001A00023	10/1/2015	2.02	10/1/2025	10/1/2015	100.88333	100.0125646	99.15743705	98.3175152	97.49238482	96.68164715	95.88491813	95.10182769	94.33201911
160616A00029	6/16/2016	1.58	6/16/2026	6/16/2016	100.8948	99.69468846	98.5200889	97.37023637	96.24439871	95.14187192	94.06197883	93.00406784	91.96751166

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200520A00009	5/20/2020	1.63	5/20/2038	5/20/2020	108.75612	98.41662749	89.30935658	81.27377667	74.17145656	67.88288983	62.30479533	57.3478167	52.93455996
200522A00009	5/22/2020	0.96	5/22/2030	5/22/2020	101.25677	98.07035096	95.03174261	92.13265254	89.3653232	86.72249031	84.19734791	81.78351608	79.4750112
201110A00003	11/10/2020	1.12	11/10/2027	11/10/2020	102.13963	98.67981645	95.35928005	92.17161227	89.11073814	86.1708969	83.34662374	80.63273267	78.02430058
200605A00018	6/5/2020	0.91	6/5/2025	6/5/2020	99.799303	98.51216396	97.24787395	96.00587456	94.78562559	93.5866039	92.40830271	91.25023104	90.11191303
200608A00001	6/8/2020	1.34	6/7/2030	6/8/2020	103.98947	98.90805869	94.1335546	89.64536334	85.42438694	81.45290761	77.71448086	74.19383753	70.87679369
200610A00006	6/10/2020	1.11	6/10/2027	6/10/2020	101.73479	98.63730185	95.65299229	92.77712085	90.00517276	87.33284522	84.75603636	82.27083471	79.87350935
200612A00004	6/12/2020	1.42	6/12/2040	6/12/2020	104.84541	96.7373444	89.49720495	83.01809204	77.20745975	71.98506244	67.28121221	63.03529604	59.19451204
200616A00005	6/16/2020	0.74	6/17/2030	6/16/2020	100.94224	97.80320167	94.80775034	91.94797082	89.21644194	86.60620531	84.11073326	81.72389924	79.43995043
200206A00032	2/6/2020	2.15	2/6/2030	2/6/2020	108.78501	103.3261062	98.19168575	93.36052154	88.81288433	84.53043372	80.49611317	76.69405354	73.10948438
200206A00027	2/6/2020	2.15	2/6/2030	2/6/2020	108.78501	103.3261062	98.19168575	93.36052154	88.81288433	84.53043372	80.49611317	76.69405354	73.10948438
200206A00031	2/6/2020	2.15	2/6/2030	2/6/2020	108.78501	103.3261062	98.19168575	93.36052154	88.81288433	84.53043372	80.49611317	76.69405354	73.10948438
200206A00034	2/6/2020	1.84	2/6/2025	2/6/2020	100.60116	99.61030463	98.63906063	97.68684708	96.75310759	95.83730724	94.93893166	94.05748595	93.19249385
200206A00033	2/6/2020	2.15	2/6/2030	2/6/2020	108.78501	103.3261062	98.19168575	93.36052154	88.81288433	84.53043372	80.49611317	76.69405354	73.10948438
200206A00008	2/6/2020	1.64	2/6/2025	2/6/2020	100.54905	99.5676702	98.60566566	97.66246341	96.73751401	95.83028929	94.94028132	94.06700145	93.20997941
200212A00013	2/12/2020	1.98	2/12/2027	2/12/2020	103.98665	101.1233341	98.35618372	95.68141493	93.09541619	90.59473887	88.17608892	85.83631891	83.57242063
200220A00026	2/20/2020	2.22	2/21/2040	2/20/2020	111.97107	103.1791456	95.31385585	88.26292061	81.92889929	76.22710413	71.08381987	66.43478503	62.22389456
200221A00012	2/21/2020	2.14	2/21/2040	2/21/2020	111.25927	102.5230875	94.70770051	87.7015249	81.40773135	75.74216401	70.63157122	66.01209612	61.82798728
191015A00025	10/15/2019	2.01	10/15/2029	10/15/2019	104.18355	101.280258	98.49754707	95.82932147	93.26984097	90.81369613	88.45578699	86.19130319	84.0157056
201207A00021	12/7/2020	1.85	12/7/2050	12/7/2020	112.50915	99.09852451	87.85370922	78.37624177	70.34682795	63.50875633	57.65492821	52.61769091	48.2608477
191031A00025	10/31/2019	1.91	10/31/2024	10/31/2019	100.1515	99.77387205	99.3997971	99.02922094	98.66208895	98.29834772	97.937945	97.58082968	97.22695173
191101A00005	11/1/2019	1.83	11/2/2026	11/1/2019	103.4743	100.8590135	98.32467879	95.86825761	93.4868473	91.17767523	88.93809186	86.7655642	84.65766973
191101A00004	11/1/2019	1.91	11/1/2029	11/1/2019	107.32378	102.5005694	97.94554847	93.64200236	89.57436251	85.72811719	82.08973346	78.64658545	75.38688833
200716A00004	7/16/2020	0.97	7/16/2027	7/16/2020	101.3558	98.18355513	95.13035755	92.19108606	89.36086906	86.63507021	84.00927572	81.47928235	79.04108625
200724A00011	7/24/2020	1.41	7/26/2038	7/24/2020	106.44415	96.04788555	86.91481597	78.8777133	71.792699	65.5358468	60.00029942	55.09381658	50.73668784
180713A00031	7/13/2018	3.06	7/14/2025	7/13/2018	101.37393	100.6221647	99.88325286	99.15684617	98.44260667	97.74020913	97.04934038	96.36969876	95.70099356
200806A00004	8/6/2020	0.3	3/6/2024	8/6/2020	99.98213	99.96549726	99.94888188	99.93228346	99.91570195	99.89913734	99.88258958	99.86605865	99.84954452
210331A00007	3/31/2021	1.25	3/31/2031	3/31/2021	102.42133	98.88381793	95.52417306	92.33170132	89.29643356	86.40907335	83.66094686	81.04395695	78.55054082
180717A00021	7/17/2018	3.34	7/17/2028	7/17/2018	111.16198	107.172277	103.3617417	99.72123103	96.24211571	92.91625274	89.7359553	86.69396475	83.7834244
180717A00026	7/17/2018	3.24	7/16/2025	7/17/2018	103.12655	101.7315663	100.3630898	99.02042823	97.70291111	96.40989066	95.14074101	93.89485718	92.67165426
180718A00008	7/18/2018	3.37	7/18/2028	7/18/2018	112.15349	107.804705	103.6559446	99.69686281	95.91770448	92.30926855	88.86287348	85.5703252	82.42388717
201207A00009	12/7/2020	1.01	12/7/2027	12/7/2020	101.80172	98.28786556	94.91799437	91.68544012	88.58388095	85.60731882	82.75006124	80.00670412	77.37211567
200303A00028	3/3/2020	1.54	3/4/2030	3/3/2020	104.97649	100.0257459	95.36379122	90.97183489	86.83242071	82.92932162	79.24744639	75.77275387	72.4921743
200306A00050	3/6/2020	0.87	3/6/2030	3/6/2020	101.30974	98.27951436	95.38319062	92.6136164	89.96407292	87.42824847	85.00021091	82.6743823	80.44551532

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200306A00057	3/6/2020	0.92	3/8/2027	3/6/2020	101.24794	98.48029862	95.80645313	93.22265887	90.7253407	88.31108831	85.97664747	83.71891185	81.53491527
200306A00048	3/6/2020	1.04	3/6/2035	3/6/2020	102.867	97.40900614	92.3580154	87.67862338	83.33882543	79.30966839	75.56493648	72.08087171	68.83592462
200309A00081	3/9/2020	1.18	3/8/2030	3/9/2020	103.43694	98.12498663	93.1338026	88.44210749	84.03015011	79.8795882	75.9733805	72.29568763	68.8317811
200309A00082	3/9/2020	1.18	3/8/2030	3/9/2020	103.43694	98.12498663	93.1338026	88.44210749	84.03015011	79.8795882	75.9733805	72.29568763	68.8317811
200309A00084	3/9/2020	1.06	3/9/2027	3/9/2020	101.36684	98.4930293	95.717672	93.03681436	90.4466865	87.94369277	85.52440249	83.18554127	80.92398283
200311A00015	3/11/2020	1.26	3/11/2027	3/11/2020	101.96704	99.07537885	96.28287277	93.58553753	90.97957175	88.46135005	86.02741363	83.67446149	81.39934221
200311A00026	3/11/2020	1.34	3/11/2030	3/11/2020	104.18443	98.99470925	94.11495509	89.52471503	85.20500089	81.13817501	77.30784693	73.6987785	70.29679681
200317A00009	3/17/2020	1.61	3/16/2035	3/17/2020	105.40101	99.82841331	94.67039059	89.89094612	85.45753665	81.34071644	77.51381893	73.95267337	70.6353521
210408A00007	4/8/2021	1.05	4/8/2031	4/8/2021	102.18065	98.60240071	95.20621356	91.98102015	88.916514	86.00309095	83.23179646	80.59427716	78.08273639
201221A00022	12/21/2020	0.51	12/19/2025	12/21/2020	99.595759	97.85358948	96.15130781	94.48775955	92.86183122	91.27244873	89.71857568	88.19921176	86.71339127
191105A00012	11/5/2019	2.07	11/3/2034	11/5/2019	108.64052	103.0400985	97.84619505	93.02433522	88.54328237	84.37470662	80.49289255	76.87447816	73.4982217
210412A00007	4/12/2021	0.66	4/12/2024	4/12/2021	99.830007	99.62949683	99.42980552	99.23092838	99.03286037	98.83559649	98.63913178	98.4434613	98.24858019
210412A00008	4/12/2021	0.66	4/12/2024	4/12/2021	99.830007	99.62949683	99.42980552	99.23092838	99.03286037	98.83559649	98.63913178	98.4434613	98.24858019
210423A00001	4/23/2021	1.72	4/23/2036	4/23/2021	107.24035	101.0281627	95.31903374	90.06561514	85.22546829	80.76051519	76.63655641	72.8228455	69.29171308
210423A00003	4/23/2021	1.31	4/23/2031	4/23/2021	103.14801	99.53544513	96.10672121	92.85066506	89.75686634	86.81562437	84.01789484	81.35524087	78.81978801
201228A00013	12/28/2020	0.84	12/30/2030	12/28/2020	100.90463	97.53760744	94.3346992	91.28631489	88.38349851	85.61788278	82.98164635	80.4674745	78.06852276
210512A00011	5/12/2021	1.16	5/12/2026	5/12/2021	100.90726	98.77464716	96.69862428	94.67730951	92.70890124	90.79167086	88.92395923	87.10417323	85.33078265
210512A00012	5/12/2021	1.16	5/12/2026	5/12/2021	100.90726	98.77464716	96.69862428	94.67730951	92.70890124	90.79167086	88.92395923	87.10417323	85.33078265
210512A00009	5/12/2021	0.66	5/10/2024	5/12/2021	99.76784	99.48885469	99.21144023	98.93558375	98.66127205	98.38849211	98.11723102	97.84747604	97.57921458
210512A00008	5/12/2021	0.66	5/10/2024	5/12/2021	99.76784	99.48885469	99.21144023	98.93558375	98.66127205	98.38849211	98.11723102	97.84747604	97.57921458
150714A00003	7/14/2015	3.76	7/12/2030	7/14/2015	111.24134	107.7383084	104.397317	101.2093392	98.16592113	95.25914076	92.48157075	89.82624421	87.28662301
200319A00035	3/19/2020	1.72	3/18/2033	3/19/2020	106.61217	101.1266507	96.03864254	91.31509507	86.92596348	82.84391839	79.04408238	75.50379373	72.20239428
200318A00012	3/18/2020	1.68	3/18/2033	3/18/2020	106.3873	100.9146713	95.83863639	91.12621996	86.74744573	82.67504669	78.88420227	75.35230256	72.05873669
200323A00090	3/23/2020	1.55	3/23/2027	3/23/2020	101.42457	99.63820492	97.90177259	96.21347784	94.5716043	92.97450982	91.42062266	89.90843796	88.43651437
200814A00003	8/14/2020	0.96	8/14/2035	8/14/2020	102.42809	96.8008402	91.60713768	86.80807266	82.36859019	78.25707778	74.44500091	70.9065797	67.61850161
200818A00012	8/18/2020	0.97	8/18/2027	8/18/2020	101.42623	98.17599623	95.05032394	92.04373766	89.1510345	86.36726892	83.68773839	81.10797004	78.62370805
200326A00032	3/26/2020	1.49	3/26/2030	3/26/2020	102.85878	99.78934972	96.85534422	94.04953433	91.36513331	88.79576513	86.33543675	83.97851256	81.71969061
200327A00094	3/27/2020	1.6	3/27/2030	3/27/2020	105.30181	100.2993034	95.59088574	91.15726906	86.98054603	83.04408077	79.33241148	75.83116104	72.52695497
200330A00058	3/30/2020	1.49	3/29/2030	3/30/2020	104.73571	99.75275779	95.06304686	90.64732777	86.48773006	82.56765321	78.87166928	75.38543355	72.09560247
200330A00079	3/30/2020	1.51	3/30/2035	3/30/2020	104.82338	99.28109838	94.15116849	89.39778156	84.98856606	80.89423202	77.08825429	73.5465906	70.24743006
200330A00047	3/30/2020	1.5	3/30/2035	3/30/2020	104.76573	99.22649952	94.0993908	89.34861796	84.94182727	80.84974487	77.04586022	73.50614423	70.20879804
200910A00006	9/10/2020	0.96	9/10/2027	9/10/2020	101.44068	98.13900435	94.96548365	91.91441111	88.9803661	86.15820024	83.44302201	80.83018233	78.31526099
210212A00007	2/12/2021	0.76	2/12/2026	2/12/2021	99.882295	97.98702396	96.13801902	94.33384981	92.57314107	90.85456972	89.17686239	87.53879322	85.93918169

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
210212A00006	2/12/2021	0.77	2/12/2026	2/12/2021	99.905792	97.99413713	96.12924038	94.30965532	92.53399122	90.80091004	89.10912408	87.45739366	85.84452497
210212A00004	2/12/2021	1.1	2/12/2036	2/12/2021	103.29604	97.38944421	91.95534651	86.94979074	82.33333004	78.07052571	74.12950876	70.48159247	67.10092959
210714A00012	7/14/2021	1.12	7/14/2026	7/14/2021	100.95928	98.67702099	96.4593286	94.30400037	92.20892452	90.1720738	88.19150157	86.26533804	84.39178677
210714A00014	7/14/2021	1.12	7/14/2026	7/14/2021	100.95928	98.67702099	96.4593286	94.30400037	92.20892452	90.1720738	88.19150157	86.26533804	84.39178677
210714A00013	7/14/2021	1.12	7/14/2026	7/14/2021	100.95928	98.67702099	96.4593286	94.30400037	92.20892452	90.1720738	88.19150157	86.26533804	84.39178677
210714A00016	7/14/2021	0.75	7/12/2024	7/14/2021	99.688406	99.24209927	98.79980934	98.36148237	97.92706506	97.49650506	97.06975095	96.64675223	96.2274593
210714A00009	7/14/2021	0.75	7/12/2024	7/14/2021	99.687715	99.24034778	98.79701156	98.35765159	97.92221435	97.4906473	97.06289882	96.63891821	96.21865569
210714A00010	7/14/2021	0.75	7/12/2024	7/14/2021	99.687715	99.24034778	98.79701156	98.35765159	97.92221435	97.4906473	97.06289882	96.63891821	96.21865569
210714A00011	7/14/2021	0.75	7/12/2024	7/14/2021	99.687715	99.24034778	98.79701156	98.35765159	97.92221435	97.4906473	97.06289882	96.63891821	96.21865569
210714A00015	7/14/2021	1.11	7/14/2026	7/14/2021	100.91005	98.66451075	96.48222051	94.36102554	92.29886059	90.29374305	88.34376909	86.44711003	84.60200882
210714A00017	7/14/2021	0.73	7/12/2024	7/14/2021	99.683689	99.24382798	98.80790213	98.37585859	97.94764529	97.52321113	97.1025059	96.68548026	96.27208577
210714A00018	7/14/2021	0.75	7/12/2024	7/14/2021	99.688406	99.24209927	98.79980934	98.36148237	97.92706506	97.49650506	97.06975095	96.64675223	96.2274593
210809A00016	8/9/2021	0.66	8/9/2024	8/9/2021	99.612619	99.11220561	98.61695601	98.12679021	97.64162942	97.16139647	96.68601577	96.2154133	95.74951652
210809A00015	8/9/2021	1.06	8/7/2026	8/9/2021	100.86934	98.53210508	96.2624575	94.05804224	91.91659917	89.83596097	87.81404869	85.84886751	83.93850279
210809A00012	8/9/2021	1.06	8/7/2026	8/9/2021	100.86934	98.53210508	96.2624575	94.05804224	91.91659917	89.83596097	87.81404869	85.84886751	83.93850279
210809A00013	8/9/2021	1.05	8/7/2026	8/9/2021	100.82022	98.52135386	96.28866258	94.11984472	92.0126915	89.96508475	87.9749926	86.04046535	84.15963159
210809A00014	8/9/2021	1.06	8/7/2026	8/9/2021	100.86934	98.53210508	96.2624575	94.05804224	91.91659917	89.83596097	87.81404869	85.84886751	83.93850279
200623A00028	6/23/2020	1.23	6/23/2038	6/23/2020	104.20841	97.70920855	91.77430462	86.34692401	81.3765644	76.81825395	72.63190129	68.78172637	65.23576167
210913A00015	9/13/2021	1.08	9/14/2026	9/13/2021	100.92552	98.61191974	96.36612448	94.1857075	92.06834664	90.01181858	88.01399388	86.07283229	84.18637834
210913A00014	9/13/2021	1.15	9/13/2028	9/13/2021	101.2213	98.88239733	96.62612164	94.4488499	92.34714679	90.31775167	88.3575685	86.46365632	84.63322047
210915A00025	9/15/2021	1.09	9/15/2026	9/15/2021	101.00465	98.61492133	96.29591938	94.0450992	91.86002683	89.73837228	87.67790426	85.67648523	83.73206682
210915A00018	9/15/2021	0.74	9/16/2024	9/15/2021	99.561448	98.94382746	98.33389548	97.73150887	97.1365279	96.5488163	95.96824111	95.39467262	94.82798422
210915A00023	9/15/2021	0.74	9/16/2024	9/15/2021	99.561448	98.94382746	98.33389548	97.73150887	97.1365279	96.5488163	95.96824111	95.39467262	94.82798422
210915A00024	9/15/2021	1.1	9/15/2026	9/15/2021	101.05937	98.62825084	96.26942741	93.98029248	91.75835284	89.60122191	87.50661431	85.47234084	83.49630368
210915A00026	9/15/2021	1.1	9/15/2026	9/15/2021	101.05937	98.62825084	96.26942741	93.98029248	91.75835284	89.60122191	87.50661431	85.47234084	83.49630368
210319A00009	3/19/2021	1.1	3/19/2026	3/19/2021	100.6542	98.65523803	96.70666159	94.80685213	92.95425198	91.14736569	89.38475697	87.6650458	85.98690582
210319A00008	3/19/2021	0.63	3/19/2024	3/19/2021	99.878295	99.74060798	99.6033143	99.46641236	99.32990044	99.19377686	99.05803991	98.92268793	98.78771924
220211A00010	2/11/2022	1.99	2/11/2025	2/11/2022	100.63684	99.77314739	98.92571846	98.09408424	97.27779235	96.47640777	95.68951203	94.91670238	94.15759112
211007A00005	10/7/2021	0.86	10/7/2024	10/7/2021	99.587286	98.91255624	98.24699604	97.59041917	96.94264434	96.30349509	95.67279969	95.05039093	94.43610597
220308A00012	3/8/2022	2.51	3/8/2032	3/8/2022	112.13847	105.5290632	99.40594314	93.72953727	88.46373052	83.57554832	79.0348663	74.81414838	70.8882103
220310A00009	3/10/2022	2.31	3/10/2027	3/10/2022	105.06523	102.1316706	99.29818242	96.56075369	93.91555874	91.35894858	88.88744155	86.49771451	84.18659458
220310A00008	3/10/2022	2.22	3/10/2025	3/10/2022	101.12817	100.045989	98.98714043	97.95087771	96.93648173	95.94326368	94.97056349	94.01774827	93.08421098
220310A00010	3/10/2022	2.31	3/10/2027	3/10/2022	105.06523	102.1316706	99.29818242	96.56075369	93.91555874	91.35894858	88.88744155	86.49771451	84.18659458

	Parallel-Shift Sensitivity Analysis												
2/29/2024					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	6/11/2021	100.66002	98.46201895	96.32412484	94.24435516	92.22080791	90.25165453	88.33513653	86.46956246	84.65330489
210611A00007	6/11/2021	0.61	6/11/2024	6/11/2021	99.687908	99.32582359	98.96638242	98.60955532	98.2553137	97.90362941	97.5544747	97.20782221	96.86364499
210611A00008	6/11/2021	0.61	6/11/2024	6/11/2021	99.687561	99.32505704	98.96520061	98.60796257	98.25331431	97.90122759	97.55167463	97.20462801	96.86006073
210611A00010	6/11/2021	1.02	6/11/2026	6/11/2021	100.66002	98.46201895	96.32412484	94.24435516	92.22080791	90.25165453	88.33513653	86.46956246	84.65330489
210611A00011	6/11/2021	1.02	6/11/2026	6/11/2021	100.66002	98.46201895	96.32412484	94.24435516	92.22080791	90.25165453	88.33513653	86.46956246	84.65330489
210611A00009	6/11/2021	0.61	6/11/2024	6/11/2021	99.687908	99.32582359	98.96638242	98.60955532	98.2553137	97.90362941	97.5544747	97.20782221	96.86364499
120808A00006	8/8/2012	2.06	8/9/2027	8/8/2012	102.58374	100.7842779	99.03549293	97.335543	95.68267061	94.0751947	92.51150676	90.99006721	89.5094019
211208A00013	12/8/2021	1.63	12/8/2026	12/8/2021	102.73772	100.0445125	97.43729696	94.9128679	92.46815466	90.1002174	87.80624076	85.58352784	83.42949463
200309A00034	3/9/2020	0.96	3/9/2035	3/9/2020	102.41076	96.97692232	91.94829375	87.28962478	82.96905121	78.957747	75.22961158	71.76099141	68.53043186
220104A00006	1/4/2022	1.76	1/4/2029	1/4/2022	106.15349	101.8303733	97.72150454	93.81499129	90.0996622	86.56502302	83.201212	79.99895844	76.94954417
220801A00066	8/1/2022	2.93	7/30/2027	8/1/2022	108.34422	104.9915107	101.7651253	98.65958245	95.66967398	92.79044582	90.01718405	87.34540187	84.77082731
170524A00037	5/24/2017	2.46	5/24/2024	5/24/2017	100.31391	99.99693824	99.68198315	99.36902424	99.05804251	98.7490192	98.4419358	98.13677399	97.83351574
190930A00026	9/30/2019	1.95	9/30/2024	9/30/2019	100.31917	99.66530826	99.02002053	98.38314245	97.75451006	97.13396365	96.52134761	95.9165103	95.31930393
200327A00084	3/27/2020	1.1	3/27/2025	3/27/2020	99.916798	98.81282918	97.73355164	96.67814094	95.6458087	94.635801	93.64739649	92.67990465	91.73266415
200430A00027	4/30/2020	1.31	4/30/2035	4/30/2020	103.68818	98.16711814	93.05954869	88.32934088	83.94384928	79.87355475	76.09174127	72.57420838	69.29901505
190930A00028	9/30/2019	1.95	9/30/2024	9/30/2019	100.31917	99.66530826	99.02002053	98.38314245	97.75451006	97.13396365	96.52134761	95.9165103	95.31930393
160812A00006	8/12/2016	2.16	8/12/2026	8/12/2016	103.67402	101.3764436	99.14467009	96.976402	94.86944027	92.82167653	90.83108878	88.89573715	87.01376006
220407A00014	4/7/2022	3.14	4/6/2029	4/7/2022	111.2195	106.8923119	102.7804702	98.87177536	95.15479211	91.6187987	88.2537382	85.05017333	81.9992446
220407A00017	4/7/2022	3.16	4/6/2029	4/7/2022	112.10067	107.4809506	103.0966974	98.93438963	94.98136346	91.22575222	87.65643158	84.26296875	81.03557551
221201A00043	12/1/2022	4.37	12/3/2029	12/1/2022	111.88588	108.6361536	105.5263747	102.5492396	99.69787938	96.96583222	94.34701692	91.83570767	89.42651096
221209A00070	12/9/2022	4.42	12/9/2037	12/9/2022	128.60333	120.2058621	112.5699226	105.6156297	99.27228561	93.47724992	88.17495542	83.31605103	78.8566547
221018A00007	10/18/2022	4.68	10/18/2027	10/18/2022	107.61752	105.646558	103.7330474	101.8748466	100.0699082	98.31627615	96.61208047	94.95553327	93.34492439
221012A00053	10/12/2022	4.66	10/11/2024	10/12/2022	101.18273	100.807636	100.4359759	100.0676933	99.70273724	99.34105816	98.98260735	98.62733718	98.27520097
221014A00032	10/14/2022	4.67	10/14/2027	10/14/2022	113.79538	110.3337416	107.00506	103.8033739	100.7230323	97.75867251	94.90520311	92.15778849	89.51183427
170526A00017	5/26/2017	2.16	5/28/2024	5/26/2017	100.11112	99.94261317	99.77476238	99.60756267	99.4410099	99.27509997	99.1098288	98.94519237	98.7811867
210420A00035	4/20/2021	1.92	4/20/2034	4/20/2021	107.60503	101.4964922	95.87064993	90.6837799	85.8964844	81.47323356	77.38195885	73.59369187	70.08224299
171013A00024	10/13/2017	2.47	10/15/2024	10/13/2017	100.71625	100.0211053	99.33566296	98.65971633	97.99306826	97.33552701	96.6869061	96.04702409	95.41570448
200501A00002	5/1/2020	1.3	5/1/2035	5/1/2020	103.6438	98.08685556	92.94875731	88.19268498	83.78539164	79.6968323	75.89983111	72.36978552	69.08440276
230307A00004	3/7/2023	4.67	3/7/2028	3/7/2023	116.35365	112.2697385	108.3599456	104.6158188	101.0293664	97.5930285	94.29965117	91.14246237	88.11504917
221228A00129	12/28/2022	4.11	12/28/2027	12/28/2022	113.92075	110.0652715	106.3682404	102.8222566	99.42030427	96.15573146	93.0222291	90.01381147	87.12479794
230314A00014	3/14/2023	4.18	3/14/2028	3/14/2023	114.634	110.6525447	106.8407293	103.1903047	99.69346822	96.34284048	93.13144008	90.05265954	87.10024306
230406A00016	4/6/2023	3.89	4/6/2028	4/6/2023	112.57528	108.7611784	105.1090649	101.6110293	98.25959978	95.0477127	91.96868798	89.0162057	86.18428445
230323A00028	3/23/2023	4.1	3/23/2028	3/23/2023	113.87369	109.9026992	106.1014744	102.461731	98.97563582	95.63578231	92.4351648	89.36715424	86.42547571

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
230328A00028	3/28/2023	4.34	3/27/2026	3/28/2023	107.5325	105.4038201	103.3290163	101.3063383	99.33410952	97.41072083	95.53462754	93.70434599	91.91845071
230421A00062	4/21/2023	4.33	4/21/2028	4/21/2023	108.00395	105.7663425	103.6008714	101.5046116	99.47477892	97.5087221	95.60391497	93.75794989	91.96853131
230301A00047	3/1/2023	4.61	3/1/2028	3/1/2023	116.04609	111.9851429	108.0968245	104.3727788	100.8051058	97.38633099	94.10937991	90.96755432	87.95450999
230727A00033	7/27/2023	4.82	7/27/2026	7/27/2023	110.1001	107.6046802	105.1805558	102.82527	100.5364645	98.31187654	96.14933458	94.04675387	92.00213247
230727A00037	7/27/2023	4.82	7/27/2026	7/27/2023	110.1001	107.6046802	105.1805558	102.82527	100.5364645	98.31187654	96.14933458	94.04675387	92.00213247
230530A00045	5/30/2023	4.56	5/29/2026	5/30/2023	108.78736	106.4626149	104.200517	101.9990283	99.85618774	97.77010905	95.73897772	93.76104777	91.83463871
230530A00054	5/30/2023	4.56	5/29/2026	5/30/2023	108.78736	106.4626149	104.200517	101.9990283	99.85618774	97.77010905	95.73897772	93.76104777	91.83463871
230530A00055	5/30/2023	4.56	5/29/2026	5/30/2023	108.78736	106.4626149	104.200517	101.9990283	99.85618774	97.77010905	95.73897772	93.76104777	91.83463871
230908A00009	9/8/2023	4.55	9/8/2028	9/8/2023	117.82269	113.244225	108.880776	104.7209684	100.7540931	96.97006533	93.35938406	89.91309515	86.62275669
230908A00010	9/8/2023	4.73	9/9/2030	9/8/2023	114.57589	110.8869379	107.3721345	104.0215946	100.8260715	97.77691032	94.86600574	92.08576375	89.42906566
230928A00051	9/28/2023	5.04	9/28/2026	9/28/2023	111.35075	108.6928827	106.1143567	103.6122918	101.1839307	98.82663555	96.53788142	94.31525089	92.15642854
230928A00058	9/28/2023	5.04	9/28/2026	9/28/2023	111.35075	108.6928827	106.1143567	103.6122918	101.1839307	98.82663555	96.53788142	94.31525089	92.15642854
230928A00059	9/28/2023	4.84	9/28/2028	9/28/2023	119.34419	114.6730013	110.2229844	105.9823323	101.9399396	98.08535434	94.40873577	90.90081472	87.55285724
230928A00060	9/28/2023	4.84	9/28/2028	9/28/2023	119.34419	114.6730013	110.2229844	105.9823323	101.9399396	98.08535434	94.40873577	90.90081472	87.55285724
230928A00061	9/28/2023	4.84	9/28/2028	9/28/2023	119.34419	114.6730013	110.2229844	105.9823323	101.9399396	98.08535434	94.40873577	90.90081472	87.55285724
230824A00008	8/24/2023	4.69	8/24/2028	8/24/2023	115.28194	111.4577792	107.8014877	104.3045317	100.9588628	97.75688818	94.69144265	91.75576178	88.94345719
231017A00041	10/17/2023	5.12	10/16/2026	10/17/2023	111.80921	109.093885	106.4608384	103.9070306	101.4295567	99.02564005	96.69262571	94.4279737	92.22925337
230830A00055	8/30/2023	4.47	8/30/2028	8/30/2023	116.9285	112.4977996	108.2728048	104.2427137	100.3973569	96.72715384	93.22307488	89.87660681	86.67972027
201103A00005	11/3/2020	0.89	11/4/2030	11/3/2020	101.07044	97.73810713	94.56642515	91.54610416	88.66845992	85.92537366	83.30925145	80.81298662	78.42992522
110909A00006	9/9/2011	2.26	9/9/2026	9/9/2011	101.8083	100.4767859	99.17541717	97.90326439	96.65943264	95.44306178	94.2533248	93.08942621	91.9506006
210217A00005	2/17/2021	0.83	2/14/2031	2/17/2021	101.34395	97.87399425	94.57705257	91.44280468	88.46162437	85.62453027	82.92313821	80.34961742	77.89665017
110701A00011	7/1/2011	3.87	7/1/2026	7/1/2011	103.71375	102.4417968	101.197387	99.97969024	98.78791181	97.62128718	96.47908081	95.36058476	94.26511741
120806A00015	8/6/2012	2.38	8/6/2027	8/6/2012	102.93541	101.1335164	99.38226854	97.67983454	96.02446071	94.41446953	92.84825576	91.32428281	89.84107924
160115A00011	1/15/2016	2.18	1/15/2026	1/15/2016	101.10756	100.1117197	99.13483665	98.17638147	97.23584221	96.31272598	95.40655801	94.51688084	93.64325349
180813A00045	8/13/2018	2.89	8/13/2025	8/13/2018	101.46127	100.6662724	99.88509733	99.11736933	98.36272545	97.62081622	96.89130509	96.17386774	95.46819156
181116A00006	11/16/2018	3.18	11/17/2025	11/16/2018	101.8986	100.9773867	100.0730165	99.18502226	98.31295218	97.45637167	96.61486227	95.78802099	94.9754595
191009A00009	10/9/2019	1.8	10/9/2026	10/9/2019	101.24351	99.87852987	98.54510556	97.24224588	95.96900059	94.72445674	93.50773692	92.31799756	91.15442732
200227A00046	2/27/2020	1.52	3/1/2027	2/27/2020	101.05217	99.52533514	98.03685823	96.58546404	95.16992962	93.7890819	92.44179526	91.12698926	89.84362641
110719A00017	7/19/2011	3.68	7/20/2026	7/19/2011	103.4746	102.2039394	100.9608402	99.74447673	98.55405187	97.38879894	96.24798041	95.13088641	94.03683357
151029A00008	10/29/2015	2.28	10/29/2025	10/29/2015	100.991	100.1172381	99.25919207	98.41643217	97.58854073	96.77511571	95.9757699	95.1901303	94.41783737
170309A00042	3/9/2017	2.18	3/11/2024	3/9/2017	100.02166	99.99667553	99.97172073	99.94679347	99.92189368	99.89702132	99.87217633	99.84735866	99.82256826
190322A00008	3/22/2019	2.64	3/20/2026	3/22/2019	101.76756	100.682044	99.61814952	98.57525591	97.55276713	96.55010942	95.56673026	94.60209738	93.65569783
190913A00018	9/13/2019	2.11	9/11/2026	9/13/2019	101.60493	100.2757251	98.97662221	97.70669338	96.4650447	95.25081694	94.06318396	92.90135115	91.76455394

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200130A00046	1/30/2020	1.81	1/29/2027	1/30/2020	101.44514	99.95315982	98.49791298	97.07819381	95.69284763	94.34076638	93.02088643	91.73218637	90.47368507
200317A00043	3/17/2020	1.29	3/15/2030	3/17/2020	102.63406	99.56383625	96.62931446	93.82323934	91.13880037	88.56959976	86.10962462	83.75322116	81.49507083
150824A00050	8/24/2015	2.03	8/25/2025	8/24/2015	100.77166	99.98046377	99.20306076	98.43907073	97.68813099	96.94989238	96.22401863	95.51018574	94.80808141
150925A00034	9/25/2015	2.36	9/25/2025	9/25/2015	100.98158	100.149233	99.33160054	98.52828414	97.73889594	96.9630625	96.20042413	95.45063418	94.71335852
160211A00038	2/11/2016	1.83	2/11/2026	2/11/2016	100.80512	99.77180276	98.75859014	97.76491228	96.7902219	95.83399204	94.89571514	93.97490211	93.0710815
120807A00026	8/7/2012	2.42	8/9/2027	8/7/2012	103.00924	101.2059936	99.45343204	97.74972367	96.09311332	94.481922	92.91454308	91.3894386	89.90513589
170804A00005	8/4/2017	1.94	8/5/2024	8/4/2017	100.17006	99.88694564	99.60575122	99.32645214	99.04902747	98.7734566	98.49971925	98.22779544	97.9576655
200306A00058	3/6/2020	1.06	3/6/2030	3/6/2020	101.50298	98.4746941	95.57996309	92.81166602	90.16311263	87.62801727	85.20047168	82.87491971	80.64613404
171204A00009	12/4/2017	2.23	12/4/2024	12/4/2017	100.43497	99.97967061	99.52951189	99.08440093	98.6442441	98.20895021	97.77843044	97.3525982	96.93136914
181003A00032	10/3/2018	3.23	10/3/2025	10/3/2018	101.82974	100.9521655	100.0903246	99.24378508	98.41213055	97.59496024	96.79188812	96.00254217	95.22656379
190104A00006	1/4/2019	2.83	1/5/2026	1/4/2019	101.76705	100.7659679	99.78391222	98.82035159	97.87477299	96.94668248	96.03560424	95.14107974	94.262667
190802A00011	8/2/2019	2.01	8/2/2029	8/2/2019	104.42048	101.5867659	98.86799278	96.25847596	93.7528527	91.34606341	89.03333246	86.81015027	84.67225674
160201A00016	2/1/2016	2.1	2/2/2026	2/1/2016	101.08854	100.0535222	99.03860751	98.04322934	97.06684119	96.10891685	95.16894945	94.24645054	93.34094926
160606A00018	6/6/2016	1.74	6/5/2026	6/6/2016	101.08975	99.88828834	98.71233808	97.56113392	96.43394312	95.33006123	94.24881073	93.18953974	92.15162081
180716A00062	7/16/2018	2.91	7/16/2025	7/16/2018	101.3802	100.6264808	99.88568689	99.15746151	98.4414643	97.73736771	97.04485639	96.3636266	95.69338564
150603A00032	6/3/2015	2.21	6/3/2025	6/3/2015	100.77286	100.0663103	99.37226556	98.69035608	98.02023108	97.36155394	96.71400148	96.07726323	95.45104085
171219A00009	12/19/2017	2.3	12/19/2024	12/19/2017	100.47347	100.0139655	99.5597295	99.11066437	98.66667227	98.22765796	97.79352871	97.36419421	96.93956651
180126A00011	1/26/2018	2.72	1/26/2028	1/26/2018	104.36417	102.3226563	100.3439158	98.4255058	96.56509307	94.7604521	93.00945919	91.31008704	89.66039974
190529A00061	5/29/2019	2.46	5/29/2026	5/29/2019	101.73838	100.5702551	99.42642623	98.30617505	97.20881272	96.13367675	95.08012974	94.04755816	93.03537125
190620A00033	6/20/2019	2.1	6/20/2029	6/20/2019	104.52142	101.767236	99.1219656	96.58033513	94.13736927	91.78836868	89.5288928	87.3547438	85.26195163
231221A00022	12/21/2023	4.01	12/21/2028	12/21/2023	115.09182	110.6513768	106.4253137	102.4019368	98.57025673	94.91994064	91.44126947	88.12509828	84.96281925
231109A00025	11/9/2023	4.75	11/9/2028	11/9/2023	118.88198	114.2263143	109.7938817	105.572597	101.551102	97.7187158	94.06539029	90.58166903	87.25864893
231226A00016	12/26/2023	3.92	12/26/2028	12/26/2023	116.55732	111.7380433	107.158268	102.804702	98.66486588	94.72703473	90.98018868	87.41396686	84.01862459
110824A00006	8/24/2011	2.69	8/24/2026	8/24/2011	102.93215	101.4192068	99.94199765	98.49939338	97.09031341	95.71371899	94.36861125	93.05402937	91.76904882
140414A00009	4/14/2014	2.32	4/30/2024	4/14/2014	100.14216	100.0148852	99.88794796	99.76134298	99.63506886	99.50912424	99.38350777	99.25821813	99.13325397
121120A00010	11/20/2012	1.93	11/22/2027	11/20/2012	103.07218	100.8237153	98.64676202	96.5384133	94.49590544	92.51660881	90.59802018	88.73775565	86.93354396
121120A00011	11/20/2012	2.22	11/22/2027	11/20/2012	105.58381	102.4352353	99.40692484	96.49347396	93.68975553	90.99090346	88.39229775	85.88955057	83.47849304
120410A00005	4/10/2012	2.35	4/12/2027	4/10/2012	102.86366	101.1972279	99.57891437	98.00692433	96.4795474	94.99514961	93.55216946	92.14911408	90.78455569
050812A00050	8/12/2005	4.97	8/12/2025	8/12/2005	103.77272	102.7897714	101.8231586	100.8724874	99.93737421	99.01744769	98.11234845	97.22172857	96.34525104
070518A00023	5/18/2007	5.46	5/18/2027	5/18/2007	108.22182	106.4250077	104.6807512	102.9870449	101.3419789	99.74373152	98.19056444	96.68081813	95.21290762
160930A00032	9/30/2016	2.15	9/30/2031	9/30/2016	105.95783	102.1488369	98.54063577	95.12056433	91.87686116	88.79859555	85.87560289	83.09842564	80.45825917
160930A00033	9/30/2016	1.8	9/30/2026	9/30/2016	101.17407	99.85882492	98.57333465	97.31667855	96.08797249	94.88636676	93.71104442	92.56121975	91.4361368
140311A00039	3/11/2014	3.06	3/11/2024	3/11/2014	100.20035	100.0974655	99.99482345	99.89242403	99.79026629	99.68834932	99.58667222	99.48523411	99.38403409

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
120827A00048	8/27/2012	2.01	8/27/2027	8/27/2012	102.83957	100.8555157	98.93132064	97.0646909	95.25343435	93.49545811	91.78876334	90.13144037	88.52166409
120827A00052	8/27/2012	2.01	8/27/2027	8/27/2012	102.83957	100.8555157	98.93132064	97.0646909	95.25343435	93.49545811	91.78876334	90.13144037	88.52166409
150601A00739	6/1/2015	2.35	5/6/2025	6/1/2015	100.67	100.0092577	99.3595264	98.72050252	98.09189339	97.47341757	96.86480426	96.26579279	95.67613215
150601A00261	6/1/2015	3.19	2/11/2033	6/1/2015	112.04743	107.368228	102.9736845	98.84322865	94.95795646	91.30048137	87.85480134	84.60617845	81.54102978
150601A00832	6/1/2015	7.17	8/28/2025	6/1/2015	104.65768	103.850041	103.0563815	102.2763201	101.5094906	100.7555402	100.014129	99.28492967	98.56762657
150601A00899	6/1/2015	7.07	6/14/2029	6/1/2015	117.26119	114.3379199	111.5272831	108.8239145	106.2227467	103.7189903	101.3081167	98.98584206	96.74811229
110414A00007	4/14/2011	3.95	1/21/2025	4/14/2011	101.56317	100.9765885	100.3998673	99.83273035	99.27491271	98.72615941	98.18622488	97.65487256	97.13187445
050823A00085	8/23/2005	4.78	8/25/2025	8/23/2005	103.8211	102.8180198	101.8319976	100.8626104	99.90944873	98.97211654	98.05023089	97.14342125	96.25132908
050823A00088	8/23/2005	4.78	8/25/2025	8/23/2005	103.8211	102.8180198	101.8319976	100.8626104	99.90944873	98.97211654	98.05023089	97.14342125	96.25132908
970806A00017	8/1/1997	7.02	7/23/2026	8/1/1997	107.65274	106.3611048	105.0973192	103.8605429	102.6499716	101.4648321	100.3043803	99.16790007	98.05470216
970806A00018	8/1/1997	6.7	10/23/2026	8/1/1997	108.05006	106.6277915	105.2381902	103.8802322	102.5529349	101.2553544	99.98658352	98.74575008	97.53201535
970806A00059	8/1/1997	8.25	9/22/2025	8/1/1997	105.81386	104.958831	104.1188132	103.2934011	102.4822002	101.6848307	100.9009268	100.1301358	99.37211776
150601A00684	6/1/2015	2.25	2/7/2025	6/1/2015	100.44856	99.91096396	99.38062016	98.85736892	98.34105284	97.83151943	97.32862087	96.83221389	96.34215953
130913A00018	9/13/2013	3.72	9/13/2028	9/13/2013	107.98656	105.316721	102.7444438	100.26529	97.87506018	95.56977569	93.34566531	91.19915308	89.12684689
150601A00396	6/1/2015	3.61	1/3/2029	6/1/2015	107.34064	104.8017805	102.3554251	99.99739567	97.72373479	95.53069173	93.41471028	91.37241729	89.40061201
150601A00411	6/1/2015	3.38	1/24/2029	6/1/2015	106.77587	104.245383	101.8072202	99.45720569	97.1913851	95.00601082	92.89752988	90.86257242	88.89794103
150601A00426	6/1/2015	3.37	2/21/2029	6/1/2015	106.87731	104.3039319	101.825742	99.43838464	97.13773551	94.91988829	92.78114163	90.71798695	88.72709712
150601A00439	6/1/2015	2.57	3/18/2024	6/1/2015	100.05079	100.0009345	99.95114915	99.90143045	99.85177828	99.8021925	99.75267297	99.70321956	99.65383213
150601A00448	6/1/2015	2.61	4/26/2024	6/1/2015	100.12869	100.0069642	99.88556456	99.76448689	99.64372986	99.52329211	99.40317229	99.28336906	99.16388109
150601A00459	6/1/2015	2.42	5/16/2024	6/1/2015	100.13644	99.98079955	99.82570155	99.67114239	99.51711905	99.36362852	99.21066784	99.05823404	98.9063242
150601A00509	6/1/2015	2.52	7/8/2024	6/1/2015	100.24054	100.0002263	99.7612724	99.52366276	99.28738504	99.05242705	98.81877678	98.58642234	98.35535204
150601A00527	6/1/2015	2.5	7/26/2024	6/1/2015	100.24672	99.99660961	99.74800059	99.5008812	99.25523665	99.01105235	98.76831393	98.52700719	98.28711815
150601A00558	6/1/2015	2.51	8/30/2024	6/1/2015	100.29814	100.0038148	99.71160818	99.42149846	99.13346056	98.84746983	98.56350201	98.28153325	98.00154012
150601A00948	6/1/2015	6.04	10/22/2031	6/1/2015	120.71958	116.4981673	112.4972299	108.7029028	105.102308	101.6834772	98.43528067	95.34736306	92.41008358
150601A01041	6/1/2015	5.99	10/2/2036	6/1/2015	133.64582	126.329512	119.5979657	113.3959535	107.6740386	102.3879194	97.49785329	92.96814832	88.76671636
160928A00029	9/28/2016	2.52	9/29/2036	9/28/2016	111.61527	104.9732844	98.88737897	93.30301405	88.17155339	83.44957781	79.09828277	75.08294976	71.37248194
160928A00030	9/28/2016	2.52	9/29/2036	9/28/2016	111.61527	104.9732844	98.88737897	93.30301405	88.17155339	83.44957781	79.09828277	75.08294976	71.37248194
160928A00032	9/28/2016	2.52	9/29/2036	9/28/2016	111.61527	104.9732844	98.88737897	93.30301405	88.17155339	83.44957781	79.09828277	75.08294976	71.37248194
160928A00033	9/28/2016	2.46	9/29/2036	9/28/2016	111.22692	104.6028768	98.53369786	92.96494186	87.84806528	83.13973286	78.80121609	74.79786541	71.09864662
160928A00041	9/28/2016	3.26	9/29/2036	9/30/2019	116.40497	109.5416442	103.249446	97.47257113	92.16124005	87.2709988	82.76210519	78.5989901	74.74978425
160928A00042	9/28/2016	3.05	9/29/2036	9/28/2021	115.04573	108.2452178	102.0115621	96.28931845	91.02903167	86.18654149	81.7223718	77.60119487	73.79136062
160928A00044	9/28/2016	2.89	9/29/2036	9/28/2023	114.01012	107.2574643	101.0684125	95.38779259	90.16639672	85.36028831	80.93019398	76.84096993	73.0611331
150601A00473	6/1/2015	2.22	5/31/2024	6/1/2015	100.13707	99.967491	99.798577	99.63032531	99.46273167	99.29579183	99.12950159	98.9638568	98.79885332

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
150601A00475	6/1/2015	3.04	6/1/2029	6/1/2015	106.4929	103.7626205	101.1388797	98.616562	96.19084019	93.85715331	91.61118997	89.448873	87.36634511
150601A00477	6/1/2015	3.21	6/1/2029	6/1/2015	107.3116	104.557235	101.9104834	99.36617816	96.91943662	94.56564579	92.3004455	90.11971279	88.01954738
150601A00496	6/1/2015	2.27	6/27/2024	6/1/2015	100.18205	99.97286155	99.76471235	99.55759128	99.35148992	99.14639999	98.94231326	98.73922161	98.53711703
150601A00678	6/1/2015	2.12	1/30/2025	6/1/2015	100.34373	99.84267608	99.34795915	98.8594432	98.37699849	97.90049908	97.42982276	96.96485081	96.50546795
150601A00690	6/1/2015	2.34	2/28/2025	6/1/2015	100.50421	99.96172355	99.42666928	98.89887857	98.37818693	97.86443512	97.35746892	96.85713894	96.3633004
150601A00736	6/1/2015	2.87	5/1/2030	6/1/2015	107.12123	103.9293518	100.8797366	97.96469222	95.17700215	92.50989267	89.95700248	87.51235473	85.17033121
150601A00270	6/1/2015	3.12	3/21/2031	6/1/2015	109.39735	105.731735	102.2479607	98.93517792	95.78326812	92.7827923	89.92494061	87.20148607	84.60474189
150601A00851	6/1/2015	7.12	4/30/2027	6/1/2015	110.33067	108.6287733	106.9708603	105.3554269	103.7810363	102.2463118	100.7499333	99.29063503	97.86720248
150601A00864	6/1/2015	7.37	3/31/2028	6/1/2015	114.00176	111.7781951	109.6240504	107.5365728	105.5131381	103.5512449	101.6485084	99.80265382	98.01151067
150601A00868	6/1/2015	7.08	6/5/2028	6/1/2015	114.25428	111.8976104	109.6179658	107.4121698	105.2772002	103.2101812	101.2083756	99.26917658	97.39010122
150601A00871	6/1/2015	6.74	7/31/2028	6/1/2015	113.79277	111.3978662	109.0825678	106.8435435	104.6776283	102.5818122	100.5532314	98.5891607	96.68700504
150601A00872	6/1/2015	7.42	7/31/2028	6/1/2015	115.30702	112.8894343	110.5520742	108.2915843	106.1047779	103.9886243	101.9402402	99.95688119	98.03593432
150601A00875	6/1/2015	7.14	9/29/2028	6/1/2015	115.26079	112.7562072	110.3372609	108.0002827	105.7417863	103.5584596	101.4471551	99.40488059	97.42879011
150601A00883	6/1/2015	6.21	11/30/2028	6/1/2015	113.61414	111.0482565	108.5728633	106.183973	103.8778079	101.6507835	99.49949795	97.42072062	95.41138287
150601A00888	6/1/2015	5.92	3/1/2029	6/1/2015	113.86178	111.1199637	108.4802706	105.9379914	103.4886662	101.1280728	98.85221224	96.65729571	94.53973194
150601A00889	6/1/2015	6.55	3/2/2029	6/1/2015	115.47125	112.7018525	110.0354188	107.4672036	104.9927151	102.6077004	100.3081317	98.09019263	95.95026547
150601A00893	6/1/2015	6.49	4/6/2029	6/1/2015	115.57848	112.7632663	110.0541353	107.4461377	104.9345928	102.5150718	100.1833825	97.93555533	95.76782957
150601A00897	6/1/2015	6.15	5/28/2029	6/1/2015	114.94566	112.096844	109.3569486	106.7208266	104.1836122	101.740705	99.38775327	97.120639	94.93546353
150601A00900	6/1/2015	6.06	6/28/2024	6/1/2015	100.96789	100.7567051	100.5465726	100.3374819	100.1294246	99.92239215	99.71637621	99.5113685	99.30736087
150601A00905	6/1/2015	6.14	10/29/2029	6/1/2015	116.12814	113.0397028	110.0769587	107.2336265	104.5037863	101.8818568	99.36257435	96.94097177	94.61236018
150601A00906	6/1/2015	6.2	11/1/2029	6/1/2015	116.53486	113.3961793	110.386672	107.4998152	104.7294678	102.0698431	99.51548642	97.06125338	94.70229025
150601A00912	6/1/2015	5.96	11/30/2029	6/1/2015	115.84863	112.7218589	109.7239594	106.8484148	104.0890904	101.4402063	98.89631463	96.4522777	94.10324859
150601A00918	6/1/2015	5.62	4/28/2025	6/1/2015	102.75195	102.1172489	101.4925601	100.8776203	100.2721757	99.67598202	99.08880361	98.51041339	97.94059227
150601A00927	6/1/2015	6.08	8/7/2030	6/1/2015	118.28187	114.7134323	111.3076253	108.0554379	104.9484316	101.9786978	99.1388211	96.42184495	93.82124016
150601A00928	6/1/2015	5.94	8/21/2030	6/1/2015	117.82887	114.2696991	110.87286	107.6293561	104.5307587	101.5691692	98.73718143	96.02784812	93.43464886
150601A00929	6/1/2015	5.91	8/30/2030	6/1/2015	117.73275	114.1753078	110.7801687	107.5383301	104.4413629	101.4813679	98.65093903	95.94312885	93.35141713
150601A00935	6/1/2015	6.46	11/21/2030	6/1/2015	120.25038	116.5060577	112.9376123	109.5350174	106.2889003	103.190493	100.2315889	97.40450305	94.702035
150601A00939	6/1/2015	5.79	1/17/2031	6/1/2015	118.41745	114.6271355	111.0189873	107.5824074	104.3075018	101.1850262	98.20633922	95.36335852	92.64852082
150601A00943	6/1/2015	6.44	5/9/2031	6/1/2015	121.62167	117.5806486	113.7410819	110.0908318	106.6185953	103.3138363	100.1667285	97.16810259	94.30939737
170130A00036	1/30/2017	3.11	1/31/2033	1/30/2017	111.55279	106.7618449	102.2651295	98.0412103	94.07040272	90.33461259	86.81719608	83.50283301	80.37741199
170130A00039	1/30/2017	2.74	1/31/2028	1/30/2017	104.43511	102.2574821	100.1486525	98.10589586	96.12661717	94.20834154	92.3487076	90.54546159	88.79645179
170130A00043	1/30/2017	2.64	1/29/2027	1/30/2017	103.02815	101.3607079	99.73572806	98.1518068	96.60759894	95.10181274	93.63320745	92.2005909	90.80281729
170130A00046	1/30/2017	2.52	1/30/2026	1/30/2017	101.73985	100.5754384	99.43373355	98.31412095	97.21600663	96.13881709	95.08199847	94.0450157	93.02735176

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
171206A00020	12/6/2017	2.62	12/6/2027	12/6/2017	103.71077	101.7601225	99.8679212	98.03192686	96.25000686	94.52012567	92.84033966	91.20879231	89.62370963
170313A00041	3/13/2017	3.21	3/15/2032	3/13/2017	110.72342	106.5102317	102.5322967	98.77393298	95.22063298	91.85896918	88.67650583	85.66171861	82.80392134
140911A00033	9/11/2014	3.02	9/13/2027	9/11/2014	106.22789	103.5803467	101.0243833	98.55613922	96.17194683	93.86831692	91.64192881	89.48962108	87.40838287
150601A00988	6/1/2015	4.57	3/22/2024	6/1/2015	100.18191	100.1209067	100.0599909	99.99916326	99.93842374	99.87777211	99.81720817	99.75673173	99.69634261
190327A00030	3/27/2019	2.9	3/27/2036	3/27/2019	113.28587	107.1122051	101.421851	96.17036854	91.3178438	86.82839041	82.6697109	78.81270872	75.23114501
190628A00007	6/28/2019	2.28	6/28/2034	6/28/2019	109.16891	103.9369491	99.06552406	94.52535965	90.28982469	86.33467313	82.63781235	79.17909547	75.94013523
181211A00042	12/11/2018	3.7	12/11/2028	12/11/2023	113.43586	109.0478469	104.8691269	100.8883992	97.09503494	93.47903457	90.03098719	86.74203291	83.60382771
190520A00020	5/20/2019	2.39	5/20/2026	5/20/2019	101.78637	100.626478	99.49066347	98.37821413	97.28844793	96.22070888	95.1743658	94.14881119	93.14346003
190102A00020	1/2/2019	2.97	1/3/2034	1/2/2019	112.29322	107.1587303	102.3640649	97.88263471	93.69016855	89.76449536	86.08534674	82.63417932	79.39401497
190102A00022	1/2/2019	2.97	1/3/2034	1/2/2019	112.29322	107.1587303	102.3640649	97.88263471	93.69016855	89.76449536	86.08534674	82.63417932	79.39401497
190102A00024	1/2/2019	2.97	1/3/2034	1/2/2019	112.29322	107.1587303	102.3640649	97.88263471	93.69016855	89.76449536	86.08534674	82.63417932	79.39401497
190102A00015	1/2/2019	2.97	1/3/2034	1/2/2019	112.29322	107.1587303	102.3640649	97.88263471	93.69016855	89.76449536	86.08534674	82.63417932	79.39401497
191115A00029	11/15/2019	2.07	11/15/2029	11/15/2019	104.3322	101.4383492	98.66515863	96.00649519	93.45658111	91.00997391	88.66154459	86.40645743	84.24015122
180529A00057	5/29/2018	3.09	5/30/2028	5/29/2018	107.58999	104.6834708	101.8902818	99.20513324	96.62301749	94.13919149	91.74916108	89.44866649	87.23366872
111007A00007	10/7/2011	3.92	10/7/2031	10/7/2011	119.88247	113.3406673	107.2491074	101.5730473	96.28064977	91.34272148	86.73247865	82.42533421	78.39870516
120621A00009	6/21/2012	3.18	6/21/2032	6/21/2012	114.53901	108.6060888	103.0921932	97.9636773	93.18983494	88.74262258	84.59641252	80.72777055	77.1152552
181029A00097	10/29/2018	3.53	10/27/2028	10/29/2018	112.14389	108.049704	104.1461042	100.4229345	96.87064632	93.48025602	90.24330791	87.15183989	84.19835157
190823A00009	8/23/2019	1.8	8/23/2029	8/23/2019	103.73923	100.9670543	98.30660792	95.75238	93.2991745	90.94208859	88.67649409	86.49802018	84.40253737
200402A00050	4/6/2020	0.73	4/5/2024	4/6/2020	99.925974	99.83198244	99.73817336	99.64454576	99.5510991	99.45783285	99.36474648	99.27183944	99.17911122
200428A00018	4/28/2020	1.33	4/27/2035	4/28/2020	103.72088	98.32523636	93.32916128	88.69797748	84.40033864	80.40788622	76.69494162	73.23823223	70.01664728
200130A00027	1/31/2020	1.79	1/31/2025	1/31/2020	100.19421	99.69345335	99.19903931	98.71082918	98.22869297	97.75250456	97.2821415	96.8174849	96.35841928
200203A00046	2/3/2020	1.98	2/3/2040	2/3/2020	110.1816	102.3284938	95.2659704	88.9015502	83.15462223	77.95481251	73.24059244	68.95808673	65.06005096
200521A00005	5/21/2020	0.75	5/21/2030	5/21/2020	100.94907	97.87295166	94.93549859	92.1291562	89.44683962	86.88190113	84.42810021	82.07957577	79.83082049
200210A00007	2/10/2020	1.78	2/10/2025	2/10/2023	100.65469	99.71561605	98.79487543	97.89192558	97.00624707	96.13734063	95.28472622	94.44794207	93.62654382
200225A00049	2/25/2020	1.79	2/24/2040	2/25/2020	108.65262	100.9129903	93.95069232	87.67507268	82.00706883	76.87762669	72.22634456	68.0003108	64.15310647
200310A00067	3/10/2020	0.94	3/10/2025	3/10/2020	99.751837	99.17605454	98.60866942	98.04947876	97.49828626	96.9549022	96.41914316	95.89083176	95.3697964
200311A00028	3/11/2020	1.04	3/12/2024	3/11/2020	99.989296	99.9587751	99.92828969	99.89783923	99.86742364	99.83704288	99.80669686	99.77638553	99.74610882
200316A00008	3/16/2020	1.31	3/15/2030	3/16/2020	102.2175	99.24539214	96.40212938	93.68093274	91.07543111	88.57963428	86.18790754	83.89494817	81.69576359
200317A00024	3/17/2020	1.09	3/17/2025	3/17/2020	99.840399	99.26282691	98.69371405	98.13285489	97.58005055	97.03510889	96.49784421	95.96807694	95.44563341
210409A00010	4/9/2021	1.05	4/9/2031	4/9/2021	102.14796	98.6138176	95.25849489	92.07116167	89.04172616	86.16078276	83.41956065	80.80987652	78.32409118
210514A00007	5/14/2021	0.95	5/15/2028	5/14/2021	100.85973	98.73955177	96.68872694	94.70440765	92.78388268	90.92457155	89.12401724	87.3798794	85.68992799
210514A00010	5/14/2021	1.34	5/14/2031	5/14/2021	103.2333	99.63378967	96.21796564	92.97460257	89.89325327	86.96418669	84.17833381	81.52723802	79.00300943
121217A00009	12/17/2012	2.02	12/17/2027	12/17/2012	103.41435	101.0806725	98.82282014	96.6377471	94.52255048	92.47446347	90.49084802	88.56918797	86.7070826

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
130206A00004	2/6/2013	2.14	2/7/2028	2/6/2013	103.55166	101.3100709	99.14081626	97.04098576	95.00780481	93.03862929	91.13093851	89.28232862	87.49050643
200326A00037	3/26/2020	1.78	3/26/2035	3/26/2020	106.19621	100.749147	95.70140882	91.01863078	86.66972428	82.62654186	78.86357627	75.35769233	72.08788795
200331A00056	3/31/2020	0.96	3/29/2030	3/31/2020	101.5464	98.57609331	95.7350357	93.01640333	90.41378707	87.92116198	85.53286171	83.24355467	81.04822195
170929A00046	9/29/2017	2.49	9/30/2027	9/29/2017	103.18056	101.3574551	99.58630921	97.86521327	96.19234522	94.56596304	92.98440065	91.44606406	89.9494277
220610A00068	6/10/2022	3.09	6/10/2025	6/10/2022	101.39856	100.691082	99.99595502	99.31282445	98.64134851	97.98119907	97.33206091	96.69363105	96.06561818
221206A00040	12/6/2022	5	11/29/2024	12/6/2022	101.62369	101.1662435	100.7139406	100.2666887	99.82439447	99.38696674	98.95431682	98.52635827	98.10300683
220629A00034	6/29/2022	3.51	6/29/2027	6/29/2022	104.65499	102.9371725	101.2656216	99.63871613	98.0548999	96.51268315	95.01063897	93.54740021	92.12165653
230412A00059	4/12/2023	4.2	4/12/2028	4/10/2026	112.39873	109.015153	105.7691207	102.6540574	99.66374948	96.79231931	94.0342044	91.38413855	88.83713414
230412A00053	4/12/2023	4.2	4/12/2028	4/10/2026	112.39873	109.015153	105.7691207	102.6540574	99.66374948	96.79231931	94.0342044	91.38413855	88.83713414
230504A00059	5/4/2023	4.34	5/4/2026	5/4/2023	103.91698	102.744317	101.5958579	100.4708966	99.36875021	98.28876173	97.23029895	96.19275321	95.17553834
230324A00050	3/24/2023	4.13	3/24/2026	3/24/2023	103.51645	102.4249109	101.3550669	100.3062914	99.27798638	98.26957612	97.28050625	96.31024277	95.35827107
230324A00021	3/24/2023	3.72	3/24/2028	3/24/2023	112.46171	108.63431	104.9694275	101.4591483	98.09599116	94.87288237	91.78313062	88.82040419	85.97870933
230328A00027	3/28/2023	4.22	3/28/2028	3/28/2023	114.20968	110.2624976	106.4839163	102.8656958	99.40004992	96.07961726	92.89743562	89.84691778	86.92182904
230417A00085	4/17/2023	4.68	4/17/2026	4/17/2023	104.14593	103.0114064	101.8998362	100.8105593	99.74293621	98.69635148	97.67021254	96.66394875	95.67701034
230418A00035	4/18/2023	4.13	4/18/2028	4/18/2023	107.61152	105.4356523	103.329277	101.2895913	99.31392516	97.39973516	95.54459793	93.74620348	92.00234909
230426A00142	4/26/2023	4.51	4/27/2026	4/26/2023	103.95769	102.8236333	101.7125474	100.6237704	99.55666138	98.51060371	97.48500379	96.47928994	95.49291146
230428A00050	4/28/2023	4.31	4/28/2028	4/28/2023	107.71059	105.5391787	103.4369926	101.4012394	99.42926312	97.51853356	95.66663982	93.87128362	92.13027331
230602A00051	6/2/2023	4.33	6/2/2038	6/2/2023	126.25116	118.4001331	111.2534319	104.7368906	98.78496709	93.33966604	88.34960414	83.7691976	79.55795575
230804A00030	8/4/2023	4.88	8/4/2027	8/4/2023	107.37877	105.5477769	103.7677186	102.0367598	100.3531463	98.71519981	97.12131402	95.56995115	94.05963843
230613A00015	6/13/2023	4.73	6/13/2033	6/13/2028	119.23792	114.2005332	109.4756595	105.0402169	100.8730349	96.95468048	93.26730253	89.79449114	86.52115057
130925A00035	9/25/2013	1.53	6/25/2025	9/25/2013	100.61254	99.59518221	98.59487169	97.61119397	96.64375252	95.69216335	94.7560545	93.83506556	92.92884723
130207A00012	2/7/2013	2.9	2/7/2033	2/7/2013	111.26969	106.1422083	101.3402855	96.83955851	92.61770044	88.65423324	84.93036101	81.42881974	78.13374122
230929A00049	9/29/2023	4.87	9/30/2030	9/29/2023	114.29757	110.7855924	107.435835	104.2392112	101.1872138	98.27187549	95.48573039	92.82177931	90.27345718
230621A00047	6/21/2023	4.44	6/21/2028	6/21/2023	108.63555	106.3606234	104.1605781	102.0323135	99.97287987	97.97947067	96.04941482	94.18016903	92.36931085
230830A00101	8/30/2023	5.06	8/31/2026	8/30/2023	105.35145	104.0400915	102.7576562	101.5032634	100.2760666	99.07525245	97.90003827	96.74967117	95.62342647
230918A00030	9/18/2023	5.01	9/17/2027	9/18/2023	107.81378	105.9346487	104.1087544	102.3341537	100.6089857	98.93147137	97.29990866	95.71266917	94.16819419
230718A00065	7/18/2023	4.3	7/18/2033	7/18/2023	118.04289	112.9747999	108.2250442	103.7698565	99.58745865	95.65787706	91.96277989	88.48532969	85.21005046
240131A00015	1/31/2024	4.02	1/31/2029	1/31/2024	110.38412	107.3167849	104.3700462	101.5381439	98.81563736	96.19738254	93.67851385	91.25442729	88.92076473
240201A00061	2/1/2024	4.5	8/1/2025	2/1/2024	104.95283	103.5300868	102.1337896	100.7632658	99.41786256	98.09694874	96.79991383	95.52616721	94.27513733
240201A00040	2/1/2024	4.08	2/1/2030	2/1/2024	120.95346	114.7259648	108.8687681	103.3577998	98.17067973	93.286588	88.68614793	84.35131918	80.26529897
240201A00051	2/1/2024	4.83	2/3/2025	2/1/2024	103.32156	102.3855645	101.4665856	100.5641659	99.67786026	98.80723913	97.95188821	97.11140768	96.28541159
240201A00009	2/1/2024	3.96	2/1/2029	2/1/2024	117.2502	112.1279029	107.2654575	102.6482884	98.26270839	94.09586386	90.13567991	86.37080919	82.79058443
240222A00007	2/22/2024	5.26	12/23/2024	2/22/2024	103.21263	102.3906786	101.581876	100.78591	100.0024759	99.23127892	98.47203336	97.72446235	96.98829754

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240202A00017	2/2/2024	4.23	8/3/2026	2/2/2024	108.90019	106.4311495	104.0315401	101.6990114	99.43131033	97.22627352	95.08182259	92.99596051	90.96676788
240201A00065	2/1/2024	4.33	2/2/2026	2/1/2024	106.73612	104.7982876	102.9057379	101.05714	99.25120907	97.48670644	95.76243756	94.07725016	92.43003242
240202A00022	2/2/2024	4.96	2/3/2025	2/2/2024	103.44346	102.5068437	101.5872568	100.6842369	99.79733848	98.92613197	98.07020291	97.22915132	96.40259111
240215A00026	2/15/2024	4.48	2/10/2027	2/15/2024	111.42908	108.4098084	105.4898477	102.6653858	99.93277535	97.2885294	94.7293131	92.25193627	89.85334622
240214A00012	2/14/2024	5.1	2/14/2025	2/14/2024	103.70599	102.7383484	101.7888557	100.8570032	99.94230136	99.04427892	98.16248166	97.29647174	96.44582698
240220A00031	2/20/2024	4.68	2/20/2026	2/20/2024	107.66305	105.6626674	103.7101897	101.8041726	99.94322365	98.12600209	96.35121603	94.61762047	92.92401531
240202A00014	2/2/2024	4.51	8/1/2025	2/2/2024	105.19673	103.7684691	102.3668133	100.9910804	99.6406124	98.31477349	97.01294861	95.73454281	94.47898041
240222A00037	2/22/2024	5.17	2/24/2025	2/22/2024	103.89493	102.8992528	101.9227597	100.9648949	100.0251281	99.10294889	98.19786601	97.30940625	96.43711378
240214A00007	2/14/2024	4.7	2/17/2026	2/14/2024	107.66417	105.6726153	103.7285601	101.8305745	99.97728354	98.16736277	96.39953601	94.67257316	92.98528828
240228A00021	2/28/2024	4.77	2/27/2026	2/28/2024	107.93286	105.9090713	103.9342047	102.0067692	100.1253302	98.28850662	96.49496829	94.74343377	93.03266824
240226A00010	2/26/2024	4.53	7/15/2027	2/26/2024	113.4388	109.9568855	106.6028298	103.3712599	100.2570542	97.25533272	94.36144435	91.57095465	88.87963474
240201A00038	2/1/2024	4.3	2/2/2026	2/1/2024	106.6781	104.7408392	102.8488528	101.0008076	99.19541887	97.4314484	95.70770187	94.02302727	92.37631304
240205A00020	2/5/2024	4.99	2/5/2025	2/5/2024	103.49486	102.5525879	101.6275515	100.7192761	99.82730824	98.95121088	98.0905624	97.24495603	96.41399919
240213A00022	2/13/2024	4.6	8/13/2026	2/13/2024	109.59326	107.0956097	104.6687223	102.3101898	100.0176976	97.78902363	95.62203414	93.51467958	91.46499072
240226A00025	2/26/2024	4.43	2/26/2027	2/26/2024	111.8856	108.8025469	105.8225742	102.9416561	100.1559471	97.4617735	94.85562488	92.33414555	89.89412693
240223A00008	2/23/2024	5.44	9/23/2024	2/23/2024	102.27107	101.6993718	101.1340868	100.5751066	100.022326	99.47564206	98.93495417	98.40016387	97.87117486
240209A00020	2/9/2024	4.58	2/9/2026	2/9/2024	107.30708	105.3430314	103.4253101	101.5525417	99.72339946	97.93660454	96.19092426	94.48516996	92.81819517
240201A00063	2/1/2024	4.81	2/3/2025	2/1/2024	103.30281	102.3669061	101.4480207	100.5456935	99.659479	98.78894792	97.93368595	97.09329327	96.26738397
240208A00053	2/8/2024	4.58	2/9/2026	2/8/2024	107.30708	105.3430314	103.4253101	101.5525417	99.72339946	97.93660454	96.19092426	94.48516996	92.81819517
240201A00030	2/1/2024	4.35	2/2/2026	2/1/2024	106.7748	104.8365865	102.9436613	101.094695	99.28840254	97.52354513	95.79892803	94.11339876	92.46584534
240208A00055	2/8/2024	4.37	2/8/2027	2/8/2024	111.08003	108.0718552	105.1624865	102.3481332	99.62517275	96.99014123	94.4397258	91.97075696	89.5802016
240223A00004	2/23/2024	5	2/24/2025	2/23/2024	103.88439	102.8865186	101.9079006	100.9479857	100.0062406	99.08215203	98.17522585	97.28498633	96.41097515
240222A00022	2/22/2024	4.94	9/5/2025	2/22/2024	106.01951	104.4949525	103.000319	101.5347987	100.0976126	98.68800886	97.30526196	95.94867122	94.6175599
240212A00029	2/12/2024	4.58	2/12/2026	2/12/2024	107.34456	105.3713107	103.4448067	101.5636491	99.72649413	97.93204655	96.17905816	94.46632551	92.79268801
240222A00030	2/22/2024	4.99	2/21/2025	2/22/2024	103.8381	102.8486114	101.8780693	100.9259318	99.99167789	99.07480625	98.17483408	97.29129635	96.42374498
240201A00021	2/1/2024	4.81	2/3/2025	2/1/2024	103.30281	102.3669061	101.4480207	100.5456935	99.659479	98.78894792	97.93368595	97.09329327	96.26738397
240226A00037	2/26/2024	5.17	2/26/2025	2/26/2024	103.91916	102.917941	101.9361122	100.9731104	100.0283967	99.10145296	98.19178024	97.29889824	96.42234429
240222A00036	2/22/2024	5.17	2/24/2025	2/22/2024	103.89493	102.8992528	101.9227597	100.9648949	100.0251281	99.10294889	98.19786601	97.30940625	96.43711378
240202A00029	2/2/2024	4.15	2/2/2029	2/2/2024	118.19521	113.0469313	108.1596581	103.5187452	99.11044575	94.9218503	90.94083172	87.15599369	83.556623
240201A00052	2/1/2024	4.5	8/1/2025	2/1/2024	104.95283	103.5300868	102.1337896	100.7632658	99.41786256	98.09694874	96.79991383	95.52616721	94.27513733
240227A00020	2/27/2024	5.18	2/27/2025	2/27/2024	103.94131	102.9372643	101.9527139	100.9870906	100.0398516	99.11047441	98.19845652	97.30331395	96.42458062
240202A00023	2/2/2024	4.96	2/3/2025	2/2/2024	103.44346	102.5068437	101.5872568	100.6842369	99.79733848	98.92613197	98.07020291	97.22915132	96.40259111
240229A00026	2/29/2024	4.74	2/27/2026	2/29/2024	107.87278	105.849608	103.875344	101.9484996	100.0676403	98.23138551	96.43840525	94.68741842	92.97719044

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240207A00002	2/7/2024	4.81	2/7/2025	2/7/2024	103.4976	102.5478127	101.6155264	100.7002609	99.80155254	98.91895411	98.05203447	97.20037778	96.36358276
240215A00033	2/15/2024	4.35	2/16/2027	2/15/2024	111.52034	108.4726412	105.5259455	102.6763415	99.92009399	97.25363296	94.67354543	92.1765676	89.75957738
240209A00019	2/9/2024	4.39	2/9/2027	2/9/2024	111.15116	108.1389709	105.2258038	102.4078568	99.68149618	97.04324779	94.48978884	92.01794057	89.62466111
240223A00007	2/23/2024	4.81	8/22/2025	2/23/2024	105.87935	104.3900358	102.9294458	101.4968244	100.091438	98.71257817	97.3595606	96.0317241	94.72842956
240201A00029	2/1/2024	4.52	8/1/2025	2/1/2024	104.98139	103.5584344	102.1619283	100.791199	99.44559386	98.12448143	96.82725118	95.5533124	94.30209347
240202A00016	2/2/2024	4.25	2/2/2027	2/2/2024	110.65554	107.6713745	104.7847244	101.991867	99.28924579	96.67345928	94.14125323	91.68951351	89.31525922
240215A00013	2/15/2024	4.82	8/15/2025	2/15/2024	105.57304	104.1085712	102.671974	101.2625195	99.87950471	98.52225034	97.19009993	95.8824189	94.59859357
240221A00022	2/21/2024	4.97	2/21/2025	2/21/2024	103.81834	102.8289591	101.8585203	100.9064847	99.97233136	99.05555898	98.1556848	97.2722438	96.40478792
240214A00019	2/15/2024	4.41	1/26/2029	2/15/2024	119.40137	114.2433464	109.3454669	104.6931986	100.2728968	96.07174442	92.07769803	88.27943686	84.666316
240201A00003	2/1/2024	4.17	2/2/2026	2/1/2024	106.70104	104.7585011	102.8614457	101.0085321	99.19846747	97.43000586	95.70194562	94.01312777	92.36243408
240227A00015	2/27/2024	5.18	2/27/2025	2/27/2024	103.94131	102.9372643	101.9527139	100.9870906	100.0398516	99.11047441	98.19845652	97.30331395	96.42458062
240205A00004	2/5/2024	5.19	11/6/2024	2/5/2024	102.58496	101.8931705	101.2107427	100.5374866	99.87321776	99.21775685	98.57092921	97.93256478	97.30249796
240221A00015	2/21/2024	4.48	2/22/2028	2/21/2024	115.90614	111.7652338	107.799386	104.0002358	100.359871	96.87079768	93.5259156	90.31849553	87.24215781
240227A00025	2/27/2024	5.02	2/27/2025	2/27/2024	103.94089	102.934569	101.9478164	100.9800676	100.0307766	99.09941819	98.1854869	97.28849612	96.40797722
240214A00001	2/14/2024	4.79	11/10/2025	2/14/2024	106.59225	104.8826261	103.2089154	101.5700464	99.96499378	98.39277273	96.85243679	95.34307599	93.86381505
240201A00056	2/1/2024	4.3	2/2/2026	2/1/2024	106.6781	104.7408392	102.8488528	101.0008076	99.19541887	97.4314484	95.70770187	94.02302727	92.37631304
240227A00021	2/27/2024	4.97	8/27/2025	2/27/2024	105.93777	104.4386238	102.9685694	101.5268346	100.1126725	98.72536158	97.36420539	96.02853083	94.7176875
240206A00026	2/6/2024	4.59	8/6/2025	2/6/2024	105.36851	103.9256837	102.5099641	101.1206494	99.75706417	98.41855539	97.10449188	95.81426323	94.54727889
240201A00043	2/1/2024	4.27	2/1/2034	2/1/2024	134.51856	123.7795155	114.0347111	105.1854346	97.14330169	89.8291238	83.17190688	77.10796399	71.58012794
240201A00057	2/1/2024	4.83	2/3/2025	2/1/2024	103.32156	102.3855645	101.4665856	100.5641659	99.67786026	98.80723913	97.95188821	97.11140768	96.28541159
240207A00039	2/7/2024	4.55	8/7/2025	2/7/2024	105.32214	103.8770088	102.4590715	101.0676257	99.70199267	98.3615164	97.04556265	95.75351811	94.48478951
240229A00027	2/29/2024	4.54	2/26/2027	2/29/2024	111.80779	108.7353352	105.7654117	102.8940248	100.1173555	97.43175532	94.83373763	92.31996914	89.88726246
240221A00012	2/21/2024	5.23	12/20/2024	2/21/2024	103.14453	102.3311108	101.5305807	100.742634	99.96697499	99.20331729	98.45138326	97.71090381	96.98161803
240201A00027	2/1/2024	3.83	2/1/2029	2/1/2024	117.29686	112.1519622	107.2686622	102.6322535	98.22893257	94.04573805	90.0704953	86.29176455	82.69879284
240201A00023	2/1/2024	4.5	8/1/2025	2/1/2024	104.95283	103.5300868	102.1337896	100.7632658	99.41786256	98.09694874	96.79991383	95.52616721	94.27513733
240207A00006	2/7/2024	4.06	2/7/2029	2/7/2024	118.49548	113.3033096	108.3756238	103.6975195	99.2550069	95.03495221	91.02502115	87.21362612	83.58987722
240228A00007	2/28/2024	5.17	2/27/2025	2/28/2024	103.93127	102.9272834	101.9427862	100.9772155	100.0300282	99.1007021	98.18873464	97.29364183	96.41495762
240209A00007	2/9/2024	4.5	12/9/2025	2/9/2024	106.69982	104.9050523	103.1494244	101.431767	99.7509571	98.10591548	96.49560453	94.91902615	93.37521992
240216A00012	2/16/2024	4.53	8/16/2027	2/16/2024	113.81579	110.2408101	106.8001423	103.4880106	100.2989155	97.22762317	94.2691512	91.41875487	88.67191463
240207A00022	2/7/2024	4.25	2/7/2028	2/7/2024	114.81668	110.740635	106.8353912	103.0928746	99.50543401	96.06581878	92.76715538	89.60292586	86.56694755
240223A00020	2/23/2024	5.16	2/24/2025	2/23/2024	103.88497	102.8893533	101.9129125	100.9550994	100.0153835	99.09325467	98.18822143	97.29981067	96.42756657
240227A00009	2/27/2024	5.24	1/27/2025	2/27/2024	103.62026	102.7016869	101.7994729	100.9131867	100.0424086	99.1867333	98.34576958	97.5191397	96.70647872
240201A00042	2/1/2024	4.24	2/1/2033	2/1/2024	131.23435	121.6374771	112.8521406	104.8045651	97.42806945	90.662348	84.45283017	78.75010751	73.5094207

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
240202A00030	2/2/2024	4.32	2/3/2031	2/2/2024	125.44184	118.0631004	111.1859507	104.7733907	98.79133701	93.20838071	87.99556394	83.12617699	78.57557285
240223A00022	2/23/2024	5.22	1/23/2025	2/23/2024	103.55333	102.6459161	101.7544862	100.8786173	100.0179036	99.17195335	98.34038829	97.52284294	96.71896412
240221A00014	2/21/2024	4.53	2/22/2027	2/21/2024	111.72755	108.6681937	105.710567	102.8507181	100.0848711	97.40941836	94.82091123	92.31605246	89.8916885
240202A00025	2/2/2024	4.82	2/3/2025	2/2/2024	103.46049	102.5217072	101.6000246	100.6949769	99.8061162	98.93301035	98.07524252	97.23241049	96.40412598
240207A00040	2/7/2024	4.55	8/7/2025	2/7/2024	105.32214	103.8770088	102.4590715	101.0676257	99.70199267	98.3615164	97.04556265	95.75351811	94.48478951
240201A00064	2/1/2024	4.51	8/1/2025	2/1/2024	104.96711	103.5442606	102.1478589	100.7772324	99.43172821	98.11071509	96.81358251	95.5397398	94.2886154
240213A00017	2/13/2024	4.26	2/13/2029	2/13/2024	119.55262	114.3164438	109.3475403	104.630803	100.1520597	95.89800785	91.85615731	88.01477616	84.36284093
240201A00054	2/1/2024	4.83	2/3/2025	2/1/2024	103.32156	102.3855645	101.4665856	100.5641659	99.67786026	98.80723913	97.95188821	97.11140768	96.28541159
240205A00044	2/5/2024	4.99	2/5/2025	2/5/2024	103.49486	102.5525879	101.6275515	100.7192761	99.82730824	98.95121088	98.0905624	97.24495603	96.41399919
240206A00017	2/6/2024	4.33	8/6/2027	2/6/2024	113.01074	109.4766888	106.0745843	102.7987868	99.64392869	96.60490004	93.67683435	90.85509572	88.13526666
240221A00013	2/21/2024	5.23	12/23/2024	2/21/2024	103.18796	102.3661175	101.5574243	100.7615663	99.9782391	99.20714785	98.44800685	97.70053926	96.96447676
240220A00073	2/20/2024	5.08	2/20/2025	2/20/2024	103.75787	102.7737446	101.8083788	100.86124	99.9318145	99.01960771	98.12414337	97.24496264	96.38162334
240222A00035	2/22/2024	5.17	2/24/2025	2/22/2024	103.89493	102.8992528	101.9227597	100.9648949	100.0251281	99.10294889	98.19786601	97.30940625	96.43711378
240207A00025	2/8/2024	4.2	1/8/2029	2/8/2024	118.19744	113.1173585	108.2915454	103.7059108	99.34722133	95.20303946	91.26167163	87.51212014	83.94403825
240229A00015	2/29/2024	5.25	12/30/2024	2/29/2024	103.28736	102.4461044	101.6186004	100.8045169	100.0035291	99.21532217	98.43959171	97.67604271	96.92438945
141119A00005	11/19/2014	2.53	11/19/2024	11/19/2019	100.07365	99.92217581	99.59801722	99.19948492	98.79563777	98.39561543	97.99962187	97.60759112	97.21945667
161012A00020	10/11/2016	2.96	10/14/2031	10/11/2023	100.0199	99.43409933	97.84166198	94.92089645	90.85238935	86.2088592	81.51839085	77.06384349	72.90810857
090429A00044	4/29/2009	4.1	4/29/2024	4/29/2014	100.22223	100.1362463	100.0496127	99.94763614	99.82416098	99.69938974	99.57496056	99.45087192	99.32712231
130416A00025	4/16/2013	2.27	4/18/2028	4/16/2018	100.01634	99.62254836	98.68822164	97.23498317	95.46542928	93.60836832	91.77858219	90.00266518	88.2811905
171004A00022	10/4/2017	2.74	10/4/2027	10/4/2022	100.07913	99.81742604	98.9980416	97.46070969	95.32410004	92.89121409	90.41989426	88.01691079	85.69882137
171005A00047	10/5/2017	3.29	10/5/2032	10/5/2022	100.11006	99.79851393	98.70056854	96.39442915	92.9319674	88.76312363	84.41978071	80.2378622	76.32687701
170515A00052	5/15/2017	3.78	5/15/2042	5/15/2024	100.36618	99.88384117	98.58015317	95.74256561	91.29067991	85.85218908	80.18282613	74.81724822	69.9456956
170519A00006	5/19/2017	3	5/19/2032	5/19/2022	100.09614	99.81588319	98.87024399	96.97866599	94.24104078	91.04487337	87.77561624	84.62947703	81.64838344
180302A00003	3/2/2018	3.89	3/2/2033	3/2/2023	100.20032	100.0388511	99.35992732	97.54149978	94.36029428	90.10423901	85.32061236	80.52801377	76.01737883
170705A00037	7/5/2017	2.85	7/6/2032	7/6/2027	106.1834	103.1513616	100.0247021	96.73472742	93.26798896	89.71245975	86.21512631	82.88045014	79.73031618
170809A00042	8/9/2017	2.35	8/9/2027	8/9/2022	100.0386	99.71824214	98.92049972	97.67159567	96.15368699	94.56243633	92.99207403	91.46243928	89.973781
190301A00015	3/1/2019	3.86	3/1/2034	3/2/2026	105.27938	102.9812489	100.2712554	96.88333535	92.63406515	87.61652805	82.24081031	76.9775503	72.08792654
180315A00030	3/15/2018	3.76	3/15/2033	3/17/2025	102.61542	101.288729	99.58392819	97.15041408	93.6990495	89.36678751	84.65361032	80.01308266	75.67239089
150202A00006	2/2/2015	1.92	2/3/2025	2/3/2020	100.01598	99.75093386	99.2937357	98.77802235	98.26086042	97.75012679	97.24604405	96.74847168	96.25727039
190409A00017	4/9/2019	3.01	4/9/2029	4/9/2024	100.32198	99.89025769	98.95344615	97.12211569	94.38305049	91.08449757	87.63310469	84.27302848	81.07097758
190409A00016	4/9/2019	2.91	4/9/2029	4/9/2024	100.29678	99.86182098	98.92606129	97.15058257	94.56871557	91.52663842	88.38380889	85.33390294	82.42254982
180105A00005	1/5/2018	3.07	1/5/2028	1/5/2023	100.14201	100.0048406	99.53232514	98.53793098	97.09246164	95.40190077	93.65886055	91.94891084	90.28799333
180105A00006	1/5/2018	3.07	1/5/2028	1/5/2023	100.14201	100.0048406	99.53232514	98.53793098	97.09246164	95.40190077	93.65886055	91.94891084	90.28799333

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
180130A00087	1/30/2018	2.92	1/31/2028	1/30/2023	100.11916	99.95065105	99.4120002	98.33642182	96.83462853	95.12206995	93.37737647	91.67118521	90.01435141
180504A00024	5/4/2018	3.62	5/4/2028	5/4/2023	100.00282	99.97035385	99.65746141	98.55356673	96.59195834	93.93764419	90.93927712	87.90610331	84.97964197
190430A00020	4/30/2019	3.41	4/28/2034	4/28/2026	104.54404	102.0229327	98.98210346	95.20045059	90.53402124	85.24520682	79.81417896	74.6440071	69.88661214
190807A00041	8/7/2019	2.27	8/7/2034	7/7/2024	99.989129	98.81693935	96.6748496	93.45054673	89.56782091	85.56052182	81.71636464	78.11288862	74.74530355
190807A00044	8/7/2019	2.27	8/7/2034	8/7/2024	100.06103	98.8347602	96.67615677	93.45055468	89.56782091	85.56052182	81.71636464	78.11288862	74.74530355
190520A00018	5/20/2019	3.7	5/20/2044	5/20/2024	100.44482	99.62620446	97.75573924	94.17960898	89.03031448	83.07109675	77.08398354	71.53166489	66.54555764
190116A00015	1/16/2019	3.61	1/17/2034	1/16/2024	100.1623	100.0006414	99.27942207	97.58420305	94.82816229	91.34417247	87.61090571	83.96115442	80.5188884
190530A00044	5/30/2019	2.85	5/30/2034	5/30/2024	100.28982	99.60421614	98.17259916	95.65360909	92.21358988	88.35704682	84.5094093	80.86024254	77.44179803
190827A00044	8/27/2019	1.9	8/27/2029	8/27/2024	100.10159	99.19766093	97.76728345	95.75698709	93.43162775	91.06015906	88.75542086	86.53804968	84.40577387
190204A00054	2/4/2019	3.98	2/6/2034	2/2/2024	100.18824	100.0124164	99.19075681	97.14155776	93.66290561	89.09193624	84.03954057	79.0270857	74.34147567
191220A00029	12/20/2019	2.57	12/19/2031	12/20/2024	100.85987	99.70262044	98.07005796	95.71873394	92.76952889	89.60590755	86.50151638	83.54386861	80.73755474
180627A00005	6/27/2018	3.63	6/30/2033	6/30/2023	100.19119	100.0424723	99.50176724	98.06166647	95.59195873	92.35964773	88.80591164	85.28737919	81.95226103
200423A00008	4/23/2020	1.59	4/23/2030	4/23/2025	99.769204	97.7058355	94.74087264	90.93528478	86.77965472	82.68894525	78.810741	75.15882685	71.72014422
200423A00009	4/23/2020	1.59	4/23/2030	4/23/2025	99.769204	97.7058355	94.74087264	90.93528478	86.77965472	82.68894525	78.810741	75.15882685	71.72014422
200423A00010	4/23/2020	1.59	4/23/2030	4/23/2025	99.769204	97.7058355	94.74087264	90.93528478	86.77965472	82.68894525	78.810741	75.15882685	71.72014422
200430A00021	4/30/2020	1.2	4/30/2030	4/30/2025	99.518842	97.86714051	95.66392513	93.08238004	90.43002336	87.85734935	85.39213231	83.03165412	80.77054691
200505A00010	5/5/2020	0.89	5/6/2030	5/5/2025	99.323513	97.48271582	95.12482167	92.45949175	89.77119035	87.1781006	84.69620667	82.32113831	80.04732033
200108A00009	1/8/2020	2.4	1/8/2035	1/8/2025	100.63118	99.0060814	96.53706068	93.01884799	88.77139332	84.3613642	80.1297404	76.17740713	72.50119795
190930A00083	9/30/2019	2.04	10/1/2029	9/30/2024	100.20775	99.34608146	97.98676028	96.02723746	93.70341892	91.30232328	88.96031048	86.7070662	84.54135058
190930A00079	9/30/2019	2.04	10/1/2029	9/30/2024	100.20775	99.34608146	97.98676028	96.02723746	93.70341892	91.30232328	88.96031048	86.7070662	84.54135058
200512A00023	5/12/2020	1.78	5/11/2035	5/12/2025	99.328839	96.58190865	92.6305914	87.68160978	82.38498653	77.27448916	72.54723517	68.21937857	64.25780104
140508A00011	5/8/2014	2.32	5/8/2024	5/8/2019	100.07984	99.98067969	99.84270718	99.69511947	99.54796589	99.40128965	99.25508868	99.10936054	98.96410258
201022A00008	10/22/2020	1.02	10/22/2035	10/22/2025	98.433946	95.30730153	91.299949	86.82837583	82.40197288	78.24382219	74.38510399	70.80648388	67.48410018
201029A00008	10/29/2020	0.92	10/29/2030	10/29/2025	99.293095	97.14523813	94.55242334	91.71228565	88.88168727	86.16332653	83.56843942	81.09125219	78.72529524
201030A00025	10/30/2020	2.02	10/28/2050	10/30/2025	98.40066	94.04182237	87.94579919	80.61616223	73.11463958	66.21183534	60.17265214	54.95766122	50.44396085
140723A00038	7/23/2014	2.3	7/23/2024	7/23/2019	100.07631	99.9545389	99.73892754	99.49404559	99.24933578	99.00606865	98.76423268	98.52381402	98.2847987
200609A00003	6/9/2020	1.66	6/8/2035	6/9/2025	98.680732	95.46164417	90.88678464	85.30145846	79.46352521	73.9019007	68.8010928	64.16467061	59.95011648
200612A00001	6/12/2020	0.75	6/12/2030	6/12/2025	99.108841	97.14747294	94.68252721	91.95850179	89.24362828	86.63328045	84.13682356	81.74903571	79.46417165
201116A00019	11/16/2020	1.32	11/15/2030	11/16/2025	99.328626	96.53083639	92.91973641	88.72830794	84.4263756	80.30437306	76.42752527	72.78855936	69.37150297
201118A00018	11/18/2020	1.85	11/18/2036	11/18/2027	100.46675	95.33878706	89.41605763	82.95472035	76.45181729	70.35181524	64.82858666	59.87199052	55.42266608
201118A00015	11/18/2020	1.66	11/18/2036	11/18/2027	100.1216	94.92024784	88.92069993	82.39716556	75.86851815	69.76778566	64.25329761	59.30754926	54.8698563
201118A00017	11/18/2020	1.66	11/18/2036	11/18/2027	100.1216	94.92024784	88.92069993	82.39716556	75.86851815	69.76778566	64.25329761	59.30754926	54.8698563
201202A00016	12/2/2020	1.32	12/3/2035	12/2/2025	98.990935	95.91177707	91.98290666	87.53489467	83.06378183	78.84146259	74.92170664	71.28882847	67.91842314

	Parallel-Shift Sensitivity Analysis												
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
201202A00017	12/2/2020	1.32	12/3/2035	12/2/2025	98.990935	95.91177707	91.98290666	87.53489467	83.06378183	78.84146259	74.92170664	71.28882847	67.91842314
191028A00015	10/28/2019	2.49	10/27/2034	10/28/2024	100.47393	99.23882372	97.22768503	94.17569636	90.36152298	86.31876	82.39864354	78.71733267	75.27943238
191031A00037	10/31/2019	2.59	10/30/2034	10/31/2024	100.34571	99.16376544	97.16539049	94.10176249	90.28581202	86.25275102	82.34760811	78.68123226	75.25681405
191031A00036	10/31/2019	2.9	10/31/2039	10/31/2024	100.33921	98.90945649	96.34294648	92.34072735	87.31833872	82.02736535	76.96851969	72.3245663	68.09728048
210405A00013	4/5/2021	1.82	4/7/2036	4/5/2026	100.63034	97.65523785	93.96048102	89.63842833	85.08907468	80.68996444	76.5868344	72.78825184	69.2703772
200306A00021	3/6/2020	1.16	3/6/2030	3/6/2025	99.474066	97.81890598	95.61980685	93.05899488	90.43781266	87.89721078	85.46184691	83.12876259	80.89276215
200309A00013	3/9/2020	1.1	3/8/2030	3/9/2025	99.384678	97.69938556	95.46793608	92.89189342	90.27053371	87.73403701	85.30313329	82.97434175	80.74245972
200316A00032	3/16/2020	1.35	3/15/2030	3/16/2025	99.927333	98.40801979	96.38254017	93.91429649	91.29801493	88.7314318	86.2667364	83.90556636	81.64285403
200316A00030	3/16/2020	1.35	3/15/2030	3/16/2025	99.927333	98.40801979	96.38254017	93.91429649	91.29801493	88.7314318	86.2667364	83.90556636	81.64285403
200318A00015	3/18/2020	1.69	3/18/2030	3/18/2023	99.691476	98.80006334	97.1286133	94.83410048	92.27192605	89.70959339	87.24109891	84.87831158	82.61667524
201230A00018	12/30/2020	1.52	12/28/2035	12/28/2027	99.936679	94.75248206	88.8445043	82.47692266	76.13667439	70.21242005	64.8370023	59.99073284	55.61931388
210108A00007	1/8/2021	1.65	1/8/2036	1/8/2026	98.932237	95.21364781	90.27438599	84.46097315	78.45239315	72.76778436	67.57997977	62.88373673	58.6311416
210622A00004	6/22/2021	2.42	6/20/2036	6/22/2026	101.54029	98.05271002	93.59539186	88.17594411	82.21934493	76.3167064	70.83449892	65.86258405	61.36891779
190111A00040	1/11/2019	3.74	1/11/2034	1/11/2024	100.001	99.88659406	99.06700125	96.9143593	93.39826983	88.91054177	84.05076131	79.2902085	74.84594138
180703A00033	7/3/2018	3.4	7/3/2028	7/3/2023	100.16203	100.0358416	99.64487766	98.69374631	97.21167525	95.39310232	93.46781354	91.56619571	89.72256805
190222A00023	2/22/2019	3.66	2/22/2034	2/22/2026	105.19154	102.7307775	99.8265447	96.19049083	91.65780889	86.36928904	80.78540508	75.37672722	70.37098938
200326A00035	3/26/2020	1.68	3/26/2030	3/26/2025	100.20538	98.76663025	96.85795357	94.47581739	91.88390362	89.31285072	86.83816603	84.46690439	82.19434658
210225A00010	2/25/2021	2.02	2/25/2041	2/25/2026	99.985944	96.48311283	91.90511718	86.42582428	80.68665472	75.22285434	70.23822803	65.73649649	61.66884616
210910A00009	9/10/2021	1.77	9/10/2036	9/10/2026	101.24356	97.96762735	94.0615644	89.5927209	84.91327589	80.38527059	76.16655279	72.26995258	68.67008588
220217A00024	2/17/2022	2.43	2/17/2027	2/17/2025	101.19365	99.9847249	98.53160806	96.6790807	94.47652578	92.15652616	89.87023602	87.65321522	85.50579674
211124A00008	11/24/2021	2.62	11/22/2041	11/24/2026	103.42911	99.80970888	95.45563311	90.28252327	84.54660558	78.77760665	73.38064089	68.49080423	64.08779932
211215A00020	12/15/2021	1.85	12/15/2031	12/15/2026	102.25899	99.57215313	96.67544421	93.55184993	90.31928432	87.14359011	84.11187993	81.23591287	78.50757672
211019A00005	10/19/2021	2.49	10/20/2036	10/19/2026	102.65914	98.98651729	94.45404801	89.02686352	83.0183335	76.99543662	71.36527187	66.25910351	61.65374457
211227A00012	12/27/2021	2.39	12/29/2036	12/27/2028	105.43873	99.88706543	93.85546888	87.41679825	80.81881276	74.42916192	68.5346103	63.22515652	58.46346982
170802A00074	8/2/2017	2.92	8/2/2027	8/2/2022	99.972975	99.8180168	99.04717376	97.53441569	95.41875137	93.00118667	90.54189673	88.148279	85.83676987
220617A00069	6/17/2022	4.06	6/17/2027	6/17/2025	103.97669	102.6429069	101.2772852	99.81574793	98.13937684	96.15848348	93.93236734	91.63887211	89.39990853
211110A00017	11/10/2021	2.01	11/10/2036	11/10/2026	102.20328	98.8981283	95.04637763	90.64260349	85.95141089	81.34758647	77.03584145	73.05286208	69.37630866
211116A00012	11/16/2021	2.22	12/18/2034	11/16/2026	102.80182	99.81711139	96.43024716	92.60128269	88.49637699	84.40312442	80.5163281	76.88448195	73.49635113
221212A00004	12/12/2022	4.36	12/10/2032	12/10/2027	112.19798	108.8613055	105.5606277	102.2658123	98.94013069	95.55206796	92.11006585	88.67938304	85.37582402
220831A00108	8/31/2022	4.07	8/31/2027	9/2/2025	104.74556	103.1547398	101.5349934	99.82656108	97.92231304	95.74435925	93.34304605	90.88387336	88.48801362
221214A00057	12/14/2022	4.65	12/14/2027	12/12/2025	107.07434	105.124502	103.1656568	101.1547928	98.99542488	96.57310425	93.83383506	90.87723351	87.93064227
210924A00016	9/24/2021	1.91	9/24/2036	9/24/2026	101.69585	98.48149351	94.67392191	90.28545364	85.62806482	81.07883952	76.82565306	72.89516396	69.26392826
191007A00013	10/7/2019	2	10/5/2029	10/7/2024	100.20662	99.18280675	97.6709396	95.59724156	93.21144182	90.78435826	88.42866547	86.1644542	83.98909162

Parallel-Shift Sensitivity Analysis													
2/29/2024					Price								
REFERENCE	SETTLEMENT	Rate	MATURITY	First/Next	-400	-300	-200	-100	Base	100	200	300	400
200108A00040	1/8/2020	2.52	1/8/2030	1/8/2025	100.8478	99.50136935	97.55610344	94.73515306	91.18502178	87.3641386	83.61157248	80.04497867	76.67233831
200115A00023	1/15/2020	2.16	1/15/2030	1/15/2025	100.62777	99.4601994	97.90197442	95.81863474	93.37849301	90.86072882	88.40905948	86.05477433	83.79619787
151223A00007	12/23/2015	3.76	12/23/2030	12/23/2022	100.17368	100.0108441	99.29915055	97.54150722	94.57544429	90.68877264	86.39097113	82.12209063	78.08462411
191007A00012	10/7/2019	2	10/5/2029	10/7/2024	100.20662	99.18280675	97.6709396	95.59724156	93.21144182	90.78435826	88.42866546	86.16445419	83.98909162
200110A00012	1/10/2020	2.57	1/10/2035	1/10/2025	100.74808	99.26961579	97.0556276	93.87153424	89.96870541	85.86241727	81.89681436	78.17978841	74.71286683
200115A00025	1/15/2020	2.1	1/15/2025	1/15/2023	99.93036	99.56965828	98.84770496	97.97152147	97.07508175	96.19195634	95.32468621	94.47290151	93.63618889
201229A00003	12/29/2020	1.28	12/30/2030	12/30/2025	99.236948	96.32920915	92.61803849	88.35202864	84.00256848	79.84577387	75.94106239	72.27960876	68.84479181
221222A00137	12/22/2022	5.4	12/22/2037	12/22/2027	116.48678	112.583549	108.6337361	104.5906284	100.3813871	95.920099	91.19315463	86.28267811	81.47515301
230804A00039	8/4/2023	5.02	8/4/2028	8/4/2026	109.89798	107.5381639	105.2052565	102.8860046	100.5383171	98.10459138	95.52948593	92.79092806	90.00672141