October 2016 Interest Rates

Issue Date	Amount of Debentures ($0)	Debenture Rate (%)	Note Rate (%)	Comparable Treasury Market Rate (%)	Spread Over Treasury Rate (%)	CDC Fee	0.625	1.000	0.625	1.000	0.625	1.000	0.625	1.000	0.625	1.000	0.625	1.000	0.625	1.000	0.625	1.000	0.625	1.000
						Borrower Fee	0.018	0.018	0.021	0.021	0.000	0.000	0.389	0.389	0.749	0.749	0.9375	0.9375	0.914	0.914	1.043	1.043	1.103	1.103	0.958	0.958
						CSA Fee	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
10-Year Debentures																					**Refinance**					
Jan 13	38,106	1.11	1.1546	0.79	0.32		N/A	N/A	N/A	N/A	N/A	N/A	2.81	N/A	3.345	3.902	3.625	4.182	N/A	N/A	N/A	N/A	3.871	4.428	N/A	N/A
Mar 13	49,982	1.20	1.2479	0.84	0.36		N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.46	3.433	N/A	3.712	4.268	N/A	N/A	N/A	N/A	3.958	4.514	N/A	N/A
May 13	40,647	1.10	1.1441	0.74	0.36		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.333	3.891	3.613	4.171	N/A	N/A	N/A	N/A	3.859	4.416	N/A	N/A
July 13	34,982	1.89	1.9639	1.41	0.48		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.142	N/A	4.42	4.975	N/A	N/A	N/A	N/A	N/A	5.219	N/A	N/A
Sept 13	16,316	2.33	2.4194	1.83	0.50		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.582	5.133	4.859	5.409	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nov 13	26,986	1.88	1.9534	1.44	0.44		N/A	N/A	N/A	N/A	N/A	N/A	3.596	N/A	N/A	4.679	4.404	4.957	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jan 14	16,313	2.14	2.2229	1.76	0.38		N/A	N/A	N/A	N/A	3.29	N/A	N/A	N/A	4.394	N/A	4.672	5.224	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mar 14	26,933	1.96	2.0362	1.56	0.40		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.207	4.759	4.484	5.037	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May 14	34,831	1.98	2.0570	1.65	0.33		N/A	N/A	N/A	N/A	N/A	N/A	3.699	N/A	N/A	N/A	4.508	5.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July 14	21,590	1.98	2.0571	1.62	0.36		N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.25	4.23	N/A	4.51	5.064	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sept 14	23,153	2.16	2.2437	1.77	0.39		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.695	5.248	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nov 14	26,728	2.03	2.1088	1.63	0.40		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.28	N/A	4.555	5.107	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jan 15	16,216	1.89	1.9638	1.50	0.30		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.416	4.969	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mar 15	16,574	1.88	1.9532	1.58	0.30		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.401	4.954	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May 15	17,472	1.85	1.92236	1.58	0.56		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.374	4.927	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July 15	16,171	1.80	1.87073	1.54	0.26		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.326	4.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sept 15	12,087	1.71	1.77724	1.54	0.17		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.236	4.790	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nov 15	22,147	1.66	1.72515	1.64	0.02		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.176	4.729	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jan 16	21,441	1.80	1.87054	1.64	0.16		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.323	4.876	4.288	4.842	N/A	N/A	N/A	N/A	N/A	N/A
Mar 16	22,005	1.84	1.91202	1.43	0.41		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.368	4.922	4.333	4.887	N/A	N/A	N/A	N/A	N/A	N/A
May 16	14,308	1.71	1.77701	1.25	0.46		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.229	4.782	4.194	4.747	N/A	N/A	N/A	N/A	N/A	N/A
July 16	18,677	1.63	1.69415	0.99	0.64		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.150	4.704	4.115	4.669	N/A	N/A	N/A	N/A	N/A	N/A
Sept 16	15,168	1.80	1.87052	1.14	0.66		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.325	4.878	4.290	4.844	N/A	N/A	N/A	N/A	4.355	N/A
20-Year Debentures																					**Refinance**					
Jan 13	469,728	2.13	2.16833	1.90	0.23		N/A	N/A	N/A	3.55	3.06	N/A	3.54	4.00	3.98	4.44	4.21	4.67	N/A	N/A	N/A	N/A	4.42	4.876	N/A	N/A
Feb 13	389,994	2.21	2.24949	1.95	0.26		N/A	N/A	3.17	N/A	3.14	N/A	3.62	4.08	4.06	4.52	4.29	4.75	N/A	N/A	N/A	N/A	4.49	4.954	N/A	N/A
Mar 13	451,401	2.22	2.25964	1.99	0.23		N/A	N/A	3.18	N/A	3.15	N/A	3.63	4.09	4.07	4.53	4.30	4.76	N/A	N/A	N/A	N/A	4.50	4.963	N/A	N/A
April 13	375,434	2.08	2.11763	1.79	0.29		N/A	N/A	3.04	N/A	3.01	3.47	3.49	3.95	3.93	4.39	4.16	4.62	N/A	N/A	N/A	N/A	4.37	4.827	N/A	N/A
May 13	429,081	2.07	2.10738	1.80	0.27		N/A	N/A	N/A	3.49	3.00	N/A	3.48	N/A	3.92	4.38	4.15	4.61	N/A	N/A	N/A	N/A	4.36	4.816	N/A	N/A
June 13	335,837	2.45	2.49303	2.10	0.35		N/A	N/A	3.41	3.87	3.38	3.84	3.86	4.32	4.30	4.76	4.53	4.99	N/A	N/A	N/A	N/A	4.73	5.192	N/A	N/A
July 13	398,994	3.15	3.20269	2.59	0.56		N/A	N/A	N/A	N/A	N/A	4.55	4.56	N/A	5.00	5.46	5.23	5.69	N/A	N/A	N/A	N/A	5.43	5.892	N/A	N/A
Aug 13	325,494	3.16	3.21274	2.59	0.57		N/A	N/A	4.12	N/A	4.10	N/A	4.57	5.03	5.01	5.47	5.24	5.70	N/A	N/A	N/A	N/A	5.44	5.900	N/A	N/A
Sept 13	313,427	3.62	3.67831	2.96	0.66		N/A	N/A	N/A	N/A	4.56	5.01	5.03	5.49	5.47	5.92	5.70	6.15	N/A	N/A	N/A	N/A	5.90	6.355	N/A	N/A
Oct 13	359,451	3.37	3.42545	2.71	0.66		N/A	N/A	N/A	N/A	N/A	N/A	4.78	5.24	5.22	5.68	5.45	5.91	N/A	N/A	N/A	N/A	5.65	N/A	N/A	N/A
Nov 13	306,283	3.38	3.43549	2.76	0.62		N/A	N/A	N/A	N/A	4.32	4.77	4.79	5.25	5.23	5.69	5.46	5.92	N/A	N/A	N/A	N/A	5.66	N/A	N/A	N/A
Dec 13	291,423	3.38	3.43541	2.86	0.52		N/A	N/A	N/A	N/A	N/A	N/A	4.79	N/A	5.23	5.69	5.46	5.92	N/A	N/A	N/A	N/A	5.66	N/A	N/A	N/A
Jan 14	283,660	3.46	3.51651	2.98	0.48		N/A	N/A	N/A	N/A	N/A	4.86	4.87	N/A	5.31	5.77	5.54	6.00	N/A	N/A	N/A	N/A	5.74	N/A	N/A	N/A
Feb 14	251,320	3.23	3.28357	2.69	0.54		N/A	N/A	N/A	N/A	4.17	4.62	4.64	5.10	5.08	5.54	5.31	5.77	N/A	N/A	N/A	N/A	5.51	N/A	N/A	N/A
Mar 14	361,134	3.21	3.26331	2.73	0.48		N/A	N/A	N/A	N/A	4.15	N/A	4.62	5.08	5.06	5.52	5.29	5.75	N/A	N/A	N/A	N/A	5.49	N/A	N/A	N/A
April 14	356,704	3.11	3.16225	2.66	0.45		N/A	N/A	N/A	N/A	N/A	4.51	4.52	4.98	4.96	5.42	5.19	5.65	N/A	N/A	N/A	N/A	5.39	5.852	N/A	N/A
May 14	321,645	3.00	3.05065	2.61	0.39		N/A	N/A	N/A	N/A	3.935	N/A	4.411	N/A	4.85	5.308	5.08	5.538	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June 14	224,447	2.99	3.04044	2.60	0.39		N/A	N/A	N/A	N/A	N/A	N/A	4.399	N/A	4.839	5.296	5.069	5.526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July 14	317,997	2.87	2.91897	2.51	0.36		N/A	N/A	N/A	N/A	N/A	N/A	4.281	4.739	4.721	5.18	4.952	5.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aug 14	263,440	2.88	2.92905	2.46	0.42		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.730	5.188	4.96	5.418	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sept 14	355,242	2.92	2.96968	2.52	0.40		N/A	N/A	N/A	N/A	N/A	N/A	4.331	N/A	4.772	5.23	5.002	5.461	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oct 14	224,803	2.74	2.78718	2.32	0.42		N/A	N/A	N/A	N/A	N/A	N/A	4.150	N/A	4.590	5.049	4.821	5.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nov 14	230,111	2.80	2.84791	2.36	0.44		N/A	N/A	N/A	N/A	N/A	N/A	4.667	4.209	4.649	N/A	4.879	5.338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dec 14	329,518	2.70	2.74666	2.20	0.50		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.551	N/A	4.782	5.242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Jan 15	232,709	2.52	2.56408	2.01	0.51		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.370	4.829	4.601	5.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Feb 15	238,962	2.46	2.51049	1.81	0.65		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.315	4.774	4.546	5.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mar 15	280,740	2.72	2.76680	2.12	0.60		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.568	N/A	4.799	5.257	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
April 15	338,693	2.51	2.55396	1.92	0.59		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.360	4.820	4.591	5.051	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
May 15	312,757	2.77	2.81760	2.21	0.56		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.619	N/A	4.850	5.309	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
June 15	301,688	2.98	3.03048	2.44	0.54		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.832	N/A	5.062	5.521	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
July 15	245,659	2.88	2.92906	2.27	0.61		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.731	5.189	4.961	5.419	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aug 15	283,855	2.82	2.87760	2.23	0.59		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.678	5.136	4.909	5.367	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sept 15	301,921	2.82	2.86828	2.21	0.61		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.902	5.360	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oct 15	288,205	2.72	2.76688	2.06	0.66		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.570	N/A	4.801	5.259	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nov 15	282,747	2.70	2.74652	2.24	0.46		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.548	5.006	4.778	5.237	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dec 15	267,518	2.82	2.86835	2.22	0.60		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.902	5.361	4.873	5.332	N/A	N/A	N/A	N/A	N/A	N/A
Jan 16	217,157	2.78	2.82769	2.18	0.60		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.860	5.318	4.831	5.290	N/A	N/A	N/A	N/A	N/A	N/A
Feb 16	318,257	2.27	2.31051	1.61	0.66		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.352	4.813	4.324	4.784	N/A	N/A	N/A	N/A	N/A	N/A
Mar 16	295,011	2.50	2.54381	1.91	0.59		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.582	5.042	4.553	5.013	N/A	N/A	N/A	N/A	N/A	N/A
April 16	266,931	2.26	2.30022	1.71	0.55		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.340	4.800	4.311	4.771	N/A	N/A	N/A	N/A	N/A	N/A
May 16	273,418	2.27	2.31036	1.79	0.48		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.349	4.809	4.320	4.780	N/A	N/A	N/A	N/A	N/A	N/A
June 16	349,640	2.18	2.21908	1.66	0.52		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.261	4.722	4.232	4.693	N/A	N/A	N/A	N/A	N/A	N/A
July 16	260,748	2.04	2.07704	1.42	0.62		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.120	4.581	4.091	4.552	N/A	N/A	N/A	N/A	N/A	N/A
Aug 16	288,027	2.04	2.07699	1.53	0.51		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.122	4.584	4.093	4.555	N/A	N/A	N/A	N/A	N/A	N/A
Sept 16	317,920	2.03	2.06674	1.56	0.47		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.110	4.572	4.082	4.543	N/A	N/A	N/A	N/A	4.136	4.597
Oct 16	298,584	2.21	2.24946	1.74	0.47		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.289	4.750	4.261	4.721	N/A	N/A	N/A	N/A	4.315	N/A