

**DATAIR Treasury and PBGC Rates**

Month Yr	(1) 30-Year Treasury Rates	(2) Composite Corporate Bond Rate	(3) IRC 404(o) Funding Segment Rates			PYB	(4) IRC 430(h) Funding Segment Rates			(5) IRC 417(E) Segment Rates			(6) PBGC Segment Rates			(7) Weighted Bond Interest Rates		(8) (9) Applicable Federal Rates (AFR)	
			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
<b>2018</b>																			
Dec 18	3.10		2.50	3.92	4.50	2017	4.16	5.72	6.48	3.38	4.32	4.69	3.38	4.32	4.69			5.41	3.69
Dec 18						2018	3.92	5.52	6.29										
Dec 18						2019	3.74	5.35	6.11										
Nov 18	3.36		2.43	3.89	4.49	2017	4.16	5.72	6.48	3.43	4.46	4.88	3.43	4.46	4.88			5.36	3.65
Nov 18						2018	3.92	5.52	6.29										
Nov 18						2019	3.74	5.35	6.11										
Oct 18	3.34		2.35	3.85	4.47	2017	4.16	5.72	6.48	3.33	4.39	4.72	3.33	4.39	4.72			4.98	3.40
Oct 18						2018	3.92	5.52	6.29										
Oct 18						2019	3.74	5.35	6.11										
Sep 18	3.15		2.28	3.81	4.46	2017	4.16	5.72	6.48	3.21	4.26	4.55	3.21	4.26	4.55			5.03	3.44
Sep 18						2018	3.92	5.52	6.29										
Sep 18						2019	3.74	5.35	6.11										
Aug 18	3.04		2.21	3.77	4.45	2017	4.16	5.72	6.48	3.10	4.15	4.46	3.10	4.15	4.46			4.93	3.37
Aug 18						2018	3.92	5.52	6.29										
Jul 18	3.01		2.14	3.73	4.44	2017	4.16	5.72	6.48	3.15	4.20	4.47	3.15	4.20	4.47			5.05	3.45
Jul 18						2018	3.92	5.52	6.29										
Jun 18	3.05		2.07	3.70	4.43	2017	4.16	5.72	6.48	3.12	4.20	4.60	3.12	4.20	4.60			5.03	3.44
Jun 18						2018	3.92	5.52	6.29										
May 18	3.13		2.00	3.68	4.44	2017	4.16	5.72	6.48	3.08	4.19	4.58	3.08	4.19	4.58			4.72	3.23
May 18						2018	3.92	5.52	6.29										
Apr 18	3.07		1.94	3.66	4.44	2017	4.16	5.72	6.48	2.99	4.04	4.43	2.99	4.04	4.43			4.79	3.27
Apr 18						2018	3.92	5.52	6.29										
Mar 18	3.09		1.89	3.66	4.46	2017	4.16	5.72	6.48	2.91	3.99	4.43	2.91	3.99	4.43			4.51	3.08
Mar 18						2018	3.92	5.52	6.29										
Feb 18	3.13		1.84	3.66	4.49	2017	4.16	5.72	6.48	2.72	3.94	4.33	2.72	3.94	4.33			4.07	2.78
Feb 18						2018	3.92	5.52	6.29										
Jan 18	2.88		1.81	3.68	4.53	2016	4.43	5.91	6.65	2.48	3.65	4.15	2.48	3.65	4.15	3.61	4.01	3.84	2.62
Jan 18						2017	4.16	5.72	6.48										
Jan 18						2018	3.92	5.52	6.29										
<b>2017</b>																			
Dec 17	2.77	3.67	1.79	3.70	4.56	2016	4.43	5.91	6.65	2.33	3.55	4.11	2.33	3.55	4.11	3.63	4.03	3.71	2.54
Dec 17						2017	4.16	5.72	6.48										

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Month Yr	(1) 30-Year Treasury Rates	(2) Composite Corporate Bond Rate	(3) IRC 404(o) Funding Segment Rates			PYB	(4) IRC 430(h) Funding Segment Rates			(5) IRC 417(E) Segment Rates			(6) PBGC Segment Rates			(7) Weighted Bond Interest Rates		(8) (9) Applicable Federal Rates (AFR)	
			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Dec 17						2018	3.92	5.52	6.29										
Nov 17	2.80	3.74	1.77	3.73	4.60	2016	4.43	5.91	6.65	2.20	3.57	4.24	2.20	3.57	4.24	3.65	4.05	3.51	2.40
Nov 17						2017	4.16	5.72	6.48										
Nov 17						2018	3.92	5.52	6.29										
Oct 17	2.88	3.77	1.76	3.74	4.63	2016	4.43	5.91	6.65	2.05	3.61	4.27	2.05	3.61	4.27	3.66	4.07	3.25	2.22
Oct 17						2017	4.16	5.72	6.48										
Oct 17						2018	3.92	5.52	6.29										
Sep 17	2.78	3.77	1.75	3.76	4.66	2016	4.43	5.91	6.65	1.96	3.58	4.35	1.96	3.58	4.35	3.68	4.09	3.41	2.33
Sep 17						2017	4.16	5.72	6.48										
Sep 17						2018	3.92	5.52	6.29										
Aug 17	2.80	3.78	1.73	3.78	4.69	2016	4.43	5.91	6.65	1.93	3.57	4.36	1.93	3.57	4.36	3.69	4.10	3.43	2.34
Aug 17						2017	4.16	5.72	6.48										
Jul 17	2.88	3.83	1.72	3.80	4.72	2016	4.43	5.91	6.65	1.97	3.66	4.37	1.97	3.66	4.37	3.71	4.12	3.32	2.27
Jul 17						2017	4.16	5.72	6.48										
Jun 17	2.80	3.82	1.71	3.83	4.75	2016	4.43	5.91	6.65	1.96	3.60	4.39	1.96	3.60	4.39	3.72	4.13	3.44	2.35
Jun 17						2017	4.16	5.72	6.48										
May 17	2.96	3.99	1.68	3.83	4.77	2016	4.43	5.91	6.65	1.96	3.77	4.62	1.96	3.77	4.62	3.73	4.14	3.58	2.45
May 17						2017	4.16	5.72	6.48										
Apr 17	2.94	4.01	1.65	3.82	4.76	2016	4.43	5.91	6.65	1.96	3.78	4.66	1.96	3.78	4.66	3.73	4.14	3.72	2.55
Apr 17						2017	4.16	5.72	6.48										
Mar 17	3.08	4.16	1.62	3.80	4.75	2016	4.43	5.91	6.65	2.06	3.95	4.75	2.06	3.95	4.75	3.73	4.14	3.60	2.47
Mar 17						2017	4.16	5.72	6.48										
Feb 17	3.03	4.11	1.60	3.79	4.74	2016	4.43	5.91	6.65	1.96	3.91	4.69	1.96	3.91	4.69	3.73	4.15	3.69	2.53
Feb 17						2017	4.16	5.72	6.48										
Jan 17	3.02	4.09	1.57	3.77	4.73	2015	4.72	6.11	6.81	2.00	3.91	4.66	2.00	3.91	4.66	3.74	4.15	3.46	2.36
Jan 17						2016	4.43	5.91	6.65										
Jan 17						2017	4.16	5.72	6.48										
<b>2016</b>																			
Dec 16	3.11	4.21	1.55	3.76	4.73	2015	4.72	6.11	6.81	2.04	4.03	4.82	2.04	4.03	4.82	3.74	4.16	2.58	1.76
Dec 16						2016	4.43	5.91	6.65										
Dec 16						2017	4.16	5.72	6.48										
Nov 16	2.86	4.03	1.53	3.76	4.74	2015	4.72	6.11	6.81	1.79	3.80	4.71	1.79	3.80	4.71	3.75	4.17	2.34	1.61
Nov 16						2016	4.43	5.91	6.65										
Nov 16						2017	4.16	5.72	6.48										

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Month Yr	(1) 30-Year Treasury Rates	(2) Composite Corporate Bond Rate	(3) IRC 404(o) Funding Segment Rates			PYB	(4) IRC 430(h) Funding Segment Rates			(5) IRC 417(E) Segment Rates			(6) PBGC Segment Rates			(7) Weighted Bond Interest Rates		(8) (9) Applicable Federal Rates (AFR)	
			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Oct 16	2.50	3.70	1.52	3.78	4.76	2015	4.72	6.11	6.81	1.57	3.45	4.39	1.57	3.45	4.39	3.77	4.19	2.27	1.56
Oct 16						2016	4.43	5.91	6.65										
Oct 16						2017	4.16	5.72	6.48										
Sep 16	2.35	3.62	1.52	3.80	4.79	2015	4.72	6.11	6.81	1.47	3.34	4.30	1.47	3.34	4.30	3.79	4.21	2.15	1.47
Sep 16						2016	4.43	5.91	6.65										
Sep 16						2017	4.16	5.72	6.48										
Aug 16	2.26	3.54	1.51	3.83	4.82	2015	4.72	6.11	6.81	1.39	3.27	4.18	1.39	3.27	4.18	3.82	4.24	2.08	1.43
Aug 16						2016	4.43	5.91	6.65										
Jul 16	2.23	3.52	1.51	3.86	4.86	2015	4.72	6.11	6.81	1.36	3.26	4.16	1.36	3.26	4.16	3.84	4.27	2.51	1.71
Jul 16						2016	4.43	5.91	6.65										
Jun 16	2.45	3.74	1.50	3.88	4.89	2015	4.72	6.11	6.81	1.44	3.46	4.48	1.44	3.46	4.48	3.86	4.29	2.49	1.70
Jun 16						2016	4.43	5.91	6.65										
May 16	2.63	3.88	1.48	3.90	4.90	2015	4.72	6.11	6.81	1.50	3.60	4.62	1.50	3.60	4.62	3.88	4.31	2.51	1.71
May 16						2016	4.43	5.91	6.65										
Apr 16	2.62	3.90	1.47	3.92	4.92	2015	4.72	6.11	6.81	1.47	3.65	4.62	1.47	3.65	4.62	3.89	4.32	2.54	1.74
Apr 16						2016	4.43	5.91	6.65										
Mar 16	2.68	4.11	1.46	3.93	4.94	2015	4.72	6.11	6.81	1.68	3.87	4.84	1.68	3.87	4.84	3.89	4.33	2.59	1.77
Mar 16						2016	4.43	5.91	6.65										
Feb 16	2.62	4.29	1.43	3.94	4.96	2015	4.72	6.11	6.81	1.71	3.98	5.03	1.71	3.98	5.03	3.89	4.33	3.20	2.18
Feb 16						2016	4.43	5.91	6.65										
Jan 16	2.86	4.35	1.41	3.96	4.97	2014	4.99	6.32	6.99	1.78	4.08	5.02	1.78	4.08	5.02	3.89	4.32	3.17	2.17
Jan 16						2015	4.72	6.11	6.81										
Jan 16						2016	4.43	5.91	6.65										
<b>2015</b>																			
Dec 15	2.97	4.37	1.39	3.98	5.00	2014	4.99	6.32	6.99	1.82	4.12	5.01	1.82	4.12	5.01	3.89	4.33	2.94	2.01
Dec 15						2015	4.72	6.11	6.81										
Dec 15						2016	4.43	5.91	6.65										
Nov 15	3.03	4.41	1.36	3.99	5.02	2014	4.99	6.32	6.99	1.76	4.15	5.13	1.76	4.15	5.13	3.89	4.33	2.79	1.91
Nov 15						2015	4.72	6.11	6.81										
Nov 15						2016	4.43	5.91	6.65										
Oct 15	2.89	4.32	1.35	4.01	5.04	2014	4.99	6.32	6.99	1.61	4.02	5.03	1.61	4.02	5.03	3.90	4.33	2.93	2.00
Oct 15						2015	4.72	6.11	6.81										
Oct 15						2016	4.43	5.91	6.65										
Sep 15	2.95	4.40	1.34	4.03	5.06	2014	4.99	6.32	6.99	1.69	4.11	5.07	1.69	4.11	5.07	3.90	4.33	3.10	2.12

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			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Sep 15						2015	4.72	6.11	6.81										
Sep 15						2016	4.43	5.91	6.65										
Aug 15	2.86	4.34	1.32	4.06	5.09	2014	4.99	6.32	6.99	1.68	4.05	4.98	1.68	4.05	4.98	3.91	4.34	3.20	2.18
Aug 15						2015	4.72	6.11	6.81										
Jul 15	3.07	4.44	1.31	4.07	5.10	2014	4.99	6.32	6.99	1.63	4.14	5.13	1.63	4.14	5.13	3.91	4.35	3.10	2.12
Jul 15						2015	4.72	6.11	6.81										
Jun 15	3.11	4.45	1.30	4.07	5.11	2014	4.99	6.32	6.99	1.59	4.13	5.20	1.59	4.13	5.20	3.92	4.35	2.80	1.92
Jun 15						2015	4.72	6.11	6.81										
May 15	2.96	4.23	1.28	4.07	5.11	2014	4.99	6.32	6.99	1.38	3.88	4.98	1.38	3.88	4.98	3.93	4.37	2.68	1.83
May 15						2015	4.72	6.11	6.81										
Apr 15	2.59	3.85	1.26	4.07	5.13	2014	4.99	6.32	6.99	1.27	3.52	4.47	1.27	3.52	4.47	3.95	4.39	2.98	2.04
Apr 15						2015	4.72	6.11	6.81										
Mar 15	2.63	3.92	1.25	4.08	5.15	2014	4.99	6.32	6.99	1.38	3.58	4.50	1.38	3.58	4.50	3.98	4.42	2.58	1.76
Mar 15						2015	4.72	6.11	6.81										
Feb 15	2.57	3.87	1.23	4.10	5.18	2014	4.99	6.32	6.99	1.35	3.52	4.47	1.35	3.52	4.47	4.01	4.45	2.98	2.04
Feb 15						2015	4.72	6.11	6.81										
Jan 15	2.46	3.80	1.22	4.11	5.20	2013-MAP	4.94	6.15	6.76	1.33	3.46	4.40	1.33	3.46	4.40	4.03	4.48	3.07	2.10
Jan 15						2013-HAFTA	5.23	6.51	7.16										
Jan 15						2014-MAP*	4.43	5.62	6.22										
Jan 15						2014-HAFTA	4.99	6.32	6.99										
Jan 15						2015	4.72	6.11	6.81										
<b>2014</b>																			
Dec 14	2.83	4.10	1.20	4.10	5.20	2013-MAP	4.94	6.15	6.76	1.48	3.77	4.79	1.48	3.77	4.79	4.05	4.50	3.01	2.06
Dec 14						2013-HATFA	5.23	6.51	7.16										
Dec 14						2014-MAP *	4.43	5.62	6.22										
Dec 14						2014-HATFA	4.99	6.32	6.99										
Dec 14						2015	4.72	6.11	6.81										
Nov 14	3.04	4.22	1.18	4.08	5.18	2013-MAP	4.94	6.15	6.76	1.40	3.88	4.96	1.40	3.88	4.96	4.07	4.52	3.34	2.28
Nov 14						2013-HATFA	5.23	6.51	7.16										
Nov 14						2014-MAP *	4.43	5.62	6.22										
Nov 14						2014-HATFA	4.99	6.32	6.99										
Nov 14						2015	4.72	6.11	6.81										
Oct 14	3.04	4.16	1.17	4.07	5.17	2013-MAP	4.94	6.15	6.76	1.29	3.81	4.88	1.29	3.81	4.88	4.08	4.54	3.25	2.22
Oct 14						2013-HATFA	5.23	6.51	7.16										

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			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Oct 14						2014-MAP *	4.43	5.62	6.22										
Oct 14						2014-HATFA	4.99	6.32	6.99										
Oct 14						2015	4.72	6.11	6.81										
Sep 14	3.26	4.32	1.15	4.06	5.15	2013-MAP	4.94	6.15	6.76	1.40	3.98	5.04	1.40	3.98	5.04	4.10	4.55	3.27	2.23
Sep 14						2013-HATFA	5.23	6.51	7.16										
Sep 14						2014-MAP *	4.43	5.62	6.22										
Sep 14						2014-HATFA	4.99	6.32	6.99										
Sep 14						2015	4.72	6.11	6.81										
Aug 14	3.20	4.24	1.15	4.06	5.14	2013-MAP	4.94	6.15	6.76	1.24	3.86	4.96	1.24	3.86	4.96	4.11	4.57	3.32	2.27
Aug 14						2013-HATFA	5.23	6.51	7.16										
Aug 14						2014-MAP *	4.43	5.62	6.22										
Aug 14						2014-HATFA	4.99	6.32	6.99										
Jul 14	3.33	4.33	1.14	4.04	5.11	2013-MAP	4.94	6.15	6.76	1.26	3.94	5.02	1.26	3.94	5.02	4.13	4.59	3.20	2.18
Jul 14						2013-HATFA	5.23	6.51	7.16										
Jul 14						2014-MAP *	4.43	5.62	6.22										
Jul 14						2014-HATFA	4.99	6.32	6.99										
Jun 14	3.42	4.40	1.16	4.04	5.11	2013-MAP	4.94	6.15	6.76	1.23	4.01	5.09	1.23	4.01	5.09	4.15	4.61	3.36	2.29
Jun 14						2013-HATFA	5.23	6.51	7.16										
Jun 14						2014-MAP *	4.43	5.62	6.22										
Jun 14						2014-HATFA	4.99	6.32	6.99										
May 14	3.39	4.35	1.18	4.05	5.11	2013-MAP	4.94	6.15	6.76	1.17	3.98	5.01	1.17	3.98	5.01	4.16	4.63	3.39	2.31
May 14						2013-HATFA	5.23	6.51	7.16										
May 14						2014-MAP *	4.43	5.62	6.22										
May 14						2014-HATFA	4.99	6.32	6.99										
Apr 14	3.52	4.46	1.19	4.06	5.11	2013-MAP	4.94	6.15	6.76	1.24	4.13	5.15	1.24	4.13	5.15	4.18	4.64	3.17	2.17
Apr 14						2013-HATFA	5.23	6.51	7.16										
Apr 14						2014-MAP *	4.43	5.62	6.22										
Apr 14						2014-HATFA	4.99	6.32	6.99										
Mar 14	3.62	4.58	1.20	4.06	5.10	2013-MAP	4.94	6.15	6.76	1.23	4.23	5.31	1.23	4.23	5.31	4.20	4.66	3.23	2.21
Mar 14						2013-HATFA	5.23	6.51	7.16										
Mar 14						2014-MAP *	4.43	5.62	6.22										
Mar 14						2014-HATFA	4.99	6.32	6.99										
Feb 14	3.66	4.63	1.22	4.06	5.09	2013-MAP	4.94	6.15	6.76	1.17	4.29	5.36	1.17	4.29	5.36	4.21	4.68	3.46	2.36
Feb 14						2013-HATFA	5.23	6.51	7.16										
Feb 14						2014-MAP *	4.43	5.62	6.22										

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			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Feb 14						2014-HATFA	4.99	6.32	6.99										
Jan 14	3.77	4.72	1.25	4.06	5.08	2012	5.54	6.85	7.52	1.24	4.42	5.40	1.24	4.42	5.40	4.22	4.69	3.07	2.10
Jan 14						2013-MAP	4.94	6.15	6.76										
Jan 14						2013-HATFA	5.23	6.51	7.16										
Jan 14						2014-MAP *	4.43	5.62	6.22										
Jan 14						2014-HATFA	4.99	6.32	6.99										
<b>2013</b>																			
Dec 13	3.89	4.86	1.28	4.05	5.07	2012	5.54	6.85	7.52	1.25	4.57	5.60	1.25	4.57	5.60	4.22	4.70	2.89	1.98
Dec 13						2013-MAP	4.94	6.15	6.76										
Dec 13						2013-HATFA	5.23	6.51	7.16										
Dec 13						2014-MAP *	4.43	5.62	6.22										
Dec 13						2014-HATFA	4.99	6.32	6.99										
Nov 13	3.80	4.86	1.31	4.05	5.05	2012	5.54	6.85	7.52	1.19	4.53	5.66	1.19	4.53	5.66	4.23	4.70	3.03	2.07
Nov 13						2013-MAP	4.94	6.15	6.76										
Nov 13						2013-HATFA	5.23	6.51	7.16										
Nov 13						2014-MAP *	4.43	5.62	6.22										
Nov 13						2014-HATFA	4.99	6.32	6.99										
Oct 13	3.68	4.79	1.35	4.05	5.05	2012	5.54	6.85	7.52	1.24	4.47	5.52	1.24	4.47	5.52	4.23	4.70	3.39	2.31
Oct 13						2013-MAP	4.94	6.15	6.76										
Oct 13						2013-HATFA	5.23	6.51	7.16										
Oct 13						2014-MAP *	4.43	5.62	6.22										
Oct 13						2014-HATFA	4.99	6.32	6.99										
Sep 13	3.79	4.94	1.37	4.05	5.06	2012	5.54	6.85	7.52	1.40	4.66	5.62	1.40	4.66	5.62	4.23	4.70	2.91	1.99
Sep 13						2013-MAP	4.94	6.15	6.76										
Sep 13						2013-HATFA	5.23	6.51	7.16										
Sep 13						2014-MAP *	4.43	5.62	6.22										
Sep 13						2014-HATFA	4.99	6.32	6.99										
Aug 13	3.76	4.91	1.39	4.05	5.08	2012	5.54	6.85	7.52	1.36	4.60	5.58	1.36	4.60	5.58	4.24	4.71	2.86	1.95
Aug 13						2013-MAP	4.94	6.15	6.76										
Aug 13						2013-HATFA	5.23	6.51	7.16										
Jul 13	3.61	4.75	1.41	4.07	5.11	2012	5.54	6.85	7.52	1.34	4.45	5.44	1.34	4.45	5.44	4.25	4.72	2.15	1.47
Jul 13						2013-MAP	4.94	6.15	6.76										
Jul 13						2013-HATFA	5.23	6.51	7.16										
Jun 13	3.40	4.64	1.43	4.10	5.15	2012	5.54	6.85	7.52	1.24	4.25	5.43	1.24	4.25	5.43	4.28	4.75	1.67	1.14

**DATAIR Treasury and PBGC Rates**

Month Yr	(1) 30-Year Treasury Rates	(2) Composite Corporate Bond Rate	(3) IRC 404(o) Funding Segment Rates			PYB	(4) IRC 430(h) Funding Segment Rates			(5) IRC 417(E) Segment Rates			(6) PBGC Segment Rates			(7) Weighted Bond Interest Rates		(8) (9) Applicable Federal Rates (AFR)	
			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Jun 13						2013-MAP	4.94	6.15	6.76										
Jun 13						2013-HATFA	5.23	6.51	7.16										
May 13	3.11	4.20	1.46	4.15	5.20	2012	5.54	6.85	7.52	0.97	3.76	5.01	0.97	3.76	5.01	4.32	4.80	1.76	1.20
May 13						2013-MAP	4.94	6.15	6.76										
May 13						2013-HATFA	5.23	6.51	7.16										
Apr 13	2.93	4.06	1.50	4.22	5.26	2012	5.54	6.85	7.52	0.93	3.61	4.88	0.93	3.61	4.88	4.37	4.86	1.92	1.31
Apr 13						2013-MAP	4.94	6.15	6.76										
Apr 13						2013-HATFA	5.23	6.51	7.16										
Mar 13	3.16	4.25	1.54	4.28	5.32	2012	5.54	6.85	7.52	0.97	3.82	5.11	0.97	3.82	5.11	4.42	4.91	1.92	1.31
Mar 13						2013-MAP	4.94	6.15	6.76										
Mar 13						2013-HATFA	5.23	6.51	7.16										
Feb 13	3.17	4.23	1.58	4.34	5.38	2012	5.54	6.85	7.52	0.99	3.82	5.02	0.99	3.82	5.02	4.46	4.96	1.78	1.21
Feb 13						2013-MAP	4.94	6.15	6.76										
Feb 13						2013-HATFA	5.23	6.51	7.16										
Jan 13	3.08	4.10	1.62	4.40	5.45	2012	5.54	6.85	7.52	1.00	3.73	4.89	1.00	3.73	4.89	4.51	5.01	1.53	1.04
Jan 13						2013-MAP	4.94	6.15	6.76										
Jan 13						2013-HATFA	5.23	6.51	7.16										
<b>2012</b>																			
Dec 12	2.88	3.98	1.66	4.47	5.52	2011				1.38	3.43	4.39	1.00	3.57	4.77	4.56	5.07	1.67	1.14
Dec 12						2012	5.54	6.85	7.52	1.00	3.57	4.77							
Dec 12						2013-MAP	4.94	6.15	6.76										
Dec 12						2013-HATFA	5.23	6.51	7.16										
Nov 12	2.80	3.91	1.69	4.53	5.60	2011				1.34	3.36	4.24	0.97	3.50	4.60	4.62	5.13	1.57	1.07
Nov 12						2012	5.54	6.85	7.52	0.97	3.50	4.60							
Nov 12						2013-MAP	4.94	6.15	6.76										
Nov 12						2013-HATFA	5.23	6.51	7.16										
Oct 12	2.90	3.93	1.72	4.58	5.67	2011				1.35	3.44	4.24	0.96	3.57	4.58	4.68	5.20	1.64	1.12
Oct 12						2012	5.54	6.85	7.52	0.96	3.57	4.58							
Oct 12						2013-MAP	4.94	6.15	6.76										
Oct 12						2013-HATFA	5.23	6.51	7.16										
Sep 12	2.88	4.05	1.75	4.62	5.72	2011				1.39	3.54	4.31	1.02	3.71	4.67	4.73	5.25	1.48	1.01
Sep 12						2012	5.54	6.85	7.52	1.02	3.71	4.67							
Sep 12						2013-MAP	4.94	6.15	6.76	1.02	3.71	4.67							
Sep 12						2013-HATFA	5.23	6.51	7.16										

## DATAIR Treasury and PBGC Rates

Month Yr	(1) 30-Year Treasury Rates	(2) Composite Corporate Bond Rate	(3) IRC 404(o) Funding Segment Rates			PYB	(4) IRC 430(h) Funding Segment Rates			(5) IRC 417(E) Segment Rates			(6) PBGC Segment Rates			(7) Weighted Bond Interest Rates		(8) (9) Applicable Federal Rates (AFR)	
			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Aug 12	2.77	4.01	1.77	4.67	5.78	2011				1.46	3.52	4.17	1.13	3.71	4.52	4.78	5.31	1.55	1.06
Aug 12						2012	5.54	6.85	7.52	1.13	3.71	4.52							
Jul 12	2.59	3.97	1.81	4.73	5.85	2011				1.49	3.45	4.12	1.22	3.66	4.50	4.84	5.38	1.62	1.10
Jul 12						2012	5.54	6.85	7.52	1.22	3.66	4.50							
Jun 12	2.70	4.27	1.84	4.79	5.90	2011				1.82	3.72	4.48	1.60	3.97	4.93	4.90	5.44	1.88	1.28
Jun 12						2012	5.54	6.85	7.52	1.60	3.97	4.93							
May 12	2.93	4.39	1.87	4.84	5.96	2011				1.86	3.88	4.62	1.59	4.12	5.04	4.95	5.50	2.29	1.57
May 12						2012	5.54	6.85	7.52	1.59	4.12	5.04							
Apr 12	3.18	4.54	1.90	4.90	6.01	2011				1.87	4.08	4.75	1.54	4.30	5.14	5.00	5.55	2.02	1.38
Apr 12						2012	5.54	6.85	7.52	1.54	4.30	5.14							
Mar 12	3.28	4.57	1.93	4.95	6.07	2011				1.91	4.14	4.80	1.57	4.36	5.18	5.05	5.61	1.90	1.30
Mar 12						2012	5.54	6.85	7.52	1.57	4.36	5.18							
Feb 12	3.11	4.49	1.96	5.01	6.13	2011				1.87	4.04	4.69	1.56	4.27	5.08	5.10	5.67	1.97	1.34
Feb 12						2012	5.54	6.85	7.52	1.56	4.27	5.08							
Jan 12	3.03	4.56	1.98	5.07	6.19	2011				2.08	4.09	4.76	1.84	4.36	5.19	5.15	5.72	2.06	1.40
Jan 12						2012	5.54	6.85	7.52	1.84	4.36	5.19							
<b>2011</b>																			
Dec 11	2.98	4.71	1.99	5.12	6.24	2011				2.25	4.16	4.79	2.07	4.45	5.24	5.19	5.76	2.23	1.53
Dec 11						2012	5.54	6.85	7.52	2.07	4.45	5.24							
Nov 11	3.02	4.70	2.01	5.16	6.28	2010				2.40	3.89	4.36	1.99	4.47	5.26	5.23	5.82	2.11	1.45
Nov 11						2011				2.20	4.18	4.81							
Nov 11						2012	5.54	6.85	7.52	1.99	4.47	5.26							
Oct 11	3.13	4.79	2.03	5.20	6.30	2010				2.51	3.99	4.55	2.09	4.56	5.50	5.28	5.86	2.09	1.44
Oct 11						2011				2.30	4.27	5.03							
Oct 11						2012	5.54	6.85	7.52	2.09	4.56	5.50							
Sep 11	3.18	4.82	2.06	5.25	6.32	2010				2.46	3.97	4.75	1.98	4.49	5.80	5.32	5.91	2.86	1.95
Sep 11						2011				2.22	4.23	5.28							
Sep 11						2012	5.54	6.85	7.52	1.98	4.49	5.80							
Aug 11	3.65	4.99	2.11	5.31	6.32	2010				2.57	4.23	5.07	1.85	4.62	6.02	5.35	5.94	3.34	2.28
Aug 11						2011				2.21	4.43	5.55							
Aug 11						2012				1.85	4.62	6.02							
Jul 11	4.27	5.36	2.18	5.36	6.33	2010				2.74	4.69	5.48	1.72	4.97	6.28	5.37	5.97	3.51	2.40
Jul 11						2011				2.23	4.83	5.88							
Jun 11	4.23	5.38	2.27	5.43	6.34	2010				2.71	4.69	5.49	1.70	4.99	6.33	5.40	6.00	4.00	2.73

## DATAIR Treasury and PBGC Rates

Month Yr	(1) 30-Year Treasury Rates	(2) Composite Corporate Bond Rate	(3) IRC 404(o) Funding Segment Rates			PYB	(4) IRC 430(h) Funding Segment Rates			(5) IRC 417(E) Segment Rates			(6) PBGC Segment Rates			(7) Weighted Bond Interest Rates		(8) (9) Applicable Federal Rates (AFR)	
			1st	2nd	3rd		1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	90%	100%	175% Annual Mid-Term	120% Annual Mid-Term
Jun 11						2011				2.21	4.84	5.91							
May 11	4.29	5.37	2.38	5.51	6.36	2010				2.75	4.72	5.44	1.72	5.00	6.21	5.43	6.03	4.30	2.94
May 11						2011				2.23	4.86	5.83							
Apr 11	4.50	5.58	2.51	5.59	6.38	2010				2.96	4.94	5.66	1.93	5.23	6.44	5.45	6.06	4.37	2.98
Apr 11						2011				2.44	5.08	6.05							
Mar 11	4.51	5.60	2.67	5.69	6.44	2010				2.95	4.94	5.68	1.91	5.23	6.46	5.47	6.08	4.30	2.94
Mar 11						2011				2.43	5.09	6.07							
Feb 11	4.65	5.70	2.81	5.76	6.46	2010				3.07	5.06	5.78	2.02	5.34	6.54	5.49	6.10	4.10	2.80
Feb 11						2011				2.55	5.20	6.16							
Jan 11	4.52	5.57	2.94	5.82	6.46	2010				2.97	4.96	5.66	1.93	5.25	6.42	5.51	6.12	3.43	2.34
Jan 11						2011				2.45	5.10	6.04							

\*Caution: MAP-21 rates can no longer be used in Plan years beginning in 2014 and later. HATFA rates must be used.