

Griffith, Ballard & Company

Valuation Interest Rate Calculations

For use during Valuation Year 2018

Based on Actual Rates through June 30, 2018

MOODY'S CORPORATE AVERAGE YIELDS

Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
4.01%	3.92%	3.92%	3.94%	3.88%	3.83%	3.88%	4.13%	4.20%	4.22%	4.36%	4.35%
12-Month Average: 2017: 4.05%				2016: 4.39%		2015: 4.19%		36-Month Average: 2017: 4.21%			

CURRENT YEAR PROJECTED AVERAGES

	Average	projected if future monthly average changes by					
		-0.50%	+0.50%	-1.00%	+1.00%	-2.00%	+2.40%
12-month average	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%
36-month average	4.16%	4.16%	4.16%	4.16%	4.16%	4.16%	4.16%
Lower	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%

PROJECTED VALUATION RATES, BASED ON ABOVE

	Rate	Change from prior yr.	projected if future monthly average changes by					
			-0.50%	+0.50%	-1.00%	+1.00%	-2.00%	+2.40%
Life Formula	3.25%	0.00%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
Life Reserve*	3.50%	0.00%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Life Nonfor Fctr	4.50%	0.00%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%
Flex Prem DA**	3.50%	0.00%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Single Prem DA**	3.50%	0.00%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%

* Minimum change from prior year rate is 0.50%

** for Type C, 10 years and fewer, issue-year basis

NON-JUMBO* IMMEDIATE ANNUITY (< \$250 M Initial Deposit)

Statutory Maximum Valuation Rates for Premium Determination Dates below:

	1/1/18-3/31/18	4/1/18-6/30/18	7/1/18-9/30/18	10/1/18-12/31/18
A	2.25%	2.75%	3.25%	3.25%
B	2.75%	3.00%	3.50%	3.50%
C	3.00%	3.25%	3.75%	3.75%
D	3.25%	3.50%	4.00%	4.00%

NON LIFE CONTINGENT

RP <= 5	A
5 < RP <= 10	B
10 < RP <= 15	C
RP > 15	D

see VM-22 3.A.2 (Table 1)

LIFE CONTINGENT				
Issue Age:	< 70	70-79	80-89	90+
RP <= 5	D	C	B	A
5 < RP <= 10	D	C	B	B
10 < RP <= 15	D	C	C	C
RP > 15	D	D	D	D

see VM-22 3.A.3 (Table 2)

* For Jumbo Annuities, please consult the NAIC website for rates: http://www.naic.org/pbr_data.htm?tab_1

SINGLE PREMIUM DEFERRED ANNUITY

ISSUE-YEAR BASIS	2018				2017				
	Duration	Ref*	A	B	C	Ref*	A	B	C
5 Years or Less		4.05%	4.00%	3.75%	3.50%	4.05%	4.00%	3.75%	3.50%
5+ to 10 Years		4.05%	3.75%	3.75%	3.50%	4.05%	3.75%	3.75%	3.50%
10+ to 20 Years		4.05%	3.75%	3.50%	3.50%	4.05%	3.75%	3.50%	3.50%
Greater than 20 Years		4.05%	3.50%	3.50%	3.50%	4.05%	3.50%	3.50%	3.50%

FLEXIBLE PREMIUM DEFERRED ANNUITY

ISSUE-YEAR BASIS	2018				2017				
	Duration	Ref*	A	B	C	Ref*	A	B	C
5 Years or Less		4.05%	3.75%	3.75%	3.50%	4.05%	3.75%	3.75%	3.50%
5+ to 10 Years		4.05%	3.75%	3.75%	3.50%	4.05%	3.75%	3.75%	3.50%
10+ to 20 Years		4.05%	3.75%	3.50%	3.50%	4.05%	3.75%	3.50%	3.50%
Greater than 20 Years		4.05%	3.50%	3.25%	3.25%	4.05%	3.50%	3.25%	3.25%

* 12- preceding month average (if greater than 10 years, use 36- preceding month average, if lower)

DYNAMIC MINIMUM ANNUITY NONFORFEITURE RATES

Five-Year Constant Maturity Treasury (Monthly Average) and Related Minimum Guarantee Rates

	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17
5-Yr CMT:	1.60%	1.96%	1.92%	1.90%	2.01%	1.82%	1.84%	1.77%	1.87%	1.78%
Minimum Rate:	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
5-Yr CMT:	1.80%	1.98%	2.05%	2.18%	2.38%	2.60%	2.63%	2.70%	2.82%	2.78%
Minimum Rate:	1.00%	1.00%	1.00%	1.00%	1.15%	1.35%	1.40%	1.45%	1.55%	1.55%