

Griffith, Ballard & Company

Valuation Interest Rate Calculations

For use during Valuation Year 2020

Based on Actual Rates through June 30, 2020

MOODY'S CORPORATE AVERAGE YIELDS

Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20		
3.75%	3.36%	3.42%	3.41%	3.44%	3.40%	3.30%	3.13%	3.53%	3.22%	3.16%	3.02%		
12-Month Average: 2019:				4.31%	2018:		4.05%	2017:		4.05%	36-Month Average: 2019:		4.14%

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	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%
36-month average	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%	3.90%
Lower	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%	3.34%

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	3.00%	-0.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Life Reserve*	3.00% <small>eff. for 2021</small>	-0.50%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Life Nonfor Fctr**	3.75% <small>issues</small>	-0.75%	3.75%	3.75%	3.75%	3.75%	3.75%	3.75%
Flex Prem DA***	3.25%	-0.50%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
Single Prem DA***	3.25%	-0.50%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%

* Minimum change from prior year rate is 0.50%. ** can delay implementation by 1 year. *** 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:

	1/1/20-3/31/20	4/1/20-6/30/20	7/1/20-9/30/20	10/1/20-12/31/20
A	2.00%	2.00%	1.75%	1.00%
B	2.25%	2.25%	2.00%	1.50%
C	2.75%	2.50%	2.50%	1.75%
D	3.00%	3.00%	2.75%	2.25%

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	2020				2019			
	Duration	Ref*	A	B	C	Ref*	A	B
5 Years or Less	3.34%	3.25%	3.25%	3.25%	4.31%	4.00%	3.75%	3.75%
5+ to 10 Years	3.34%	3.25%	3.25%	3.25%	4.31%	4.00%	3.75%	3.75%
10+ to 20 Years	3.34%	3.25%	3.25%	3.25%	4.14%	3.75%	3.75%	3.50%
Greater than 20 Years	3.34%	3.25%	3.25%	3.25%	4.14%	3.50%	3.50%	3.50%

FLEXIBLE PREMIUM DEFERRED ANNUITY

ISSUE-YEAR BASIS	2020				2019			
	Duration	Ref*	A	B	C	Ref*	A	B
5 Years or Less	3.34%	3.25%	3.25%	3.25%	4.31%	4.00%	3.75%	3.75%
5+ to 10 Years	3.34%	3.25%	3.25%	3.25%	4.31%	4.00%	3.75%	3.75%
10+ to 20 Years	3.34%	3.25%	3.25%	3.25%	4.14%	3.75%	3.50%	3.50%
Greater than 20 Years	3.34%	3.25%	3.00%	3.00%	4.14%	3.50%	3.50%	3.50%

* 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-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19
5-Yr CMT:	2.95%	2.68%	2.54%	2.49%	2.37%	2.33%	2.19%	1.83%	1.83%	1.49%
Minimum Rate:	1.70%	1.45%	1.30%	1.25%	1.10%	1.10%	1.00%	1.00%	1.00%	1.00%
	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20
5-Yr CMT:	1.57%	1.53%	1.64%	1.68%	1.56%	1.32%	0.59%	0.39%	0.34%	0.34%
Minimum Rate:	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%