To: Mike Boerner, Chair, Life Actuarial (A) Task Force  
National Association of Insurance Commissioners  

From: NAIC Actuarial Staff  

Date: 11/04/2014  

Re: VM-20 Spreads as of September 30, 2014  

The NAIC has executed agreements with J.P. Morgan and Bank of America to provide the input data used to develop both the current and long-term benchmark spreads as outlined in this memorandum as of September 30, 2014. The source data from both vendors were combined prior to applying the methodology used to develop the spreads as outlined below. This combined data results in a larger volume of data which should reduce the variance of results. Previous spread data published in VM-20 was developed using only J.P. Morgan as the single data source. 

The 09/30/2014 spread tables were developed by using a piece-wise linear approach which satisfies “monotonicity” requirements as specified in VM-20. The process used to determine current and long term benchmark spreads are described below. 

**Current Spreads** 

a. Extract valuation date Investment Grade bond index spread data by ratings category and maturity bucket  

b. Extract valuation date Below Investment Grade bond index spread data by ratings category  
   - Assume that the Below Investment Grade spread curve is flat across maturities.  

c. Transform the data into a matrix that varies by rating notch and maturity using the algorithm (piece-wise linear approach) to ensure that in the new matrix:  
   - The rows are monotonic by rating,  
   - The investment grade columns are monotonic by maturity, and  
   - The columns on the borderline between investment grade and below investment grade (Baa3/BBB-) is interpolated between Baa2/BBB and Ba1/BB+  
   - In developing current benchmark tables, the past quarter data as of 9/30/2014 was used.  


**Long Term Spreads**

Long term spread development used a similar process as current spreads with the following major differences:
- Sorting the raw data based on the “A” rated 7-10 year maturity bucket, and
- “85% conditional mean” based calculations
- In developing long-term tables, a 14.75 year averaging period was used, specifically 1/1/2000 through 9/30/2014

**Swap Spreads**

The process used to determine current/long-term swap spreads used a similar approach as described above, with the following notations:
- Swap spreads are between LIBOR and Treasury rates
- Swap spreads vary only by weighted average life

**Attachments**

Two exhibits A and B are attached. Exhibit A contains the recommended spread tables as of 9/30/2014 and Exhibit B contains the spread tables as of 12/31/2013 which was the last date spread tables were updated.

Exhibit A: NAIC recommended spread tables as of 9/30/2014

a. F (Current Investment Grade Spreads)
b. G (Current Below Investment Grade Spreads)
c. Updated Current Swap Spreads table;
d. H (Long Term Investment Grade Spreads)
e. I (Long Term Below Investment Grade Spreads)
f. J (Long Term Swap Spreads)

Exhibit B: Spread Tables last adopted by LATF as of 12/31/2013

g. F (Current Investment Grade Spreads)
h. G (Current Below Investment Grade Spreads)
i. Current Swap Spreads table
j. H (Long Term Investment Grade Spreads)
k. I (Long Term Below Investment Grade Spreads)
l. J (Long Term Swap Spreads)