

This example is provided to give guidance on how the RBC charge / NAIC Designation table on page 11 of the RFP relate to the table on page 12 of the RFP.

### **Intrinsic Price Calculation**

In order to calculate the desired output, it will be necessary to calculate a price that reflects only the credit loss expectations for the security. This price is different from any market price and is termed as the Intrinsic Price for each CUSIP. This Intrinsic Price should be included as part of the output to NAIC.

Intrinsic price is defined as difference between Remaining Par Value and Expected Losses discounted at the coupon rate of the security (adjusted in case of original issue discount securities to book yield at original issue, and in case of floating rate securities, discounted using LIBOR curve + Origination DM).

Illustrative example:

For example, consider a sample CMBS tranche. Expected Loss is defined as the present value of credit losses, discounted using the Coupon rate. In this example the Discounted Expected Loss is equal to 24%.

Discounted Expected Loss (% of Remaining Par)	24%
Intrinsic Price	76

### **Breakpoint Price Ranges for NAIC Ratings**

Carrying Price is defined as the insurer's Carrying Value divided by the security's remaining Par Value, multiplied by 100 and will be used to determine the final NAIC designations by insurers. The NAIC will provide Breakpoint Carrying Prices for each designation. To translate the Expected Loss ranges into Breakpoint Carrying Prices, divide the Intrinsic Price by 1 minus the Breakpoint Expected Loss:

$$\text{Breakpoint Carrying Price} = \frac{\text{Intrinsic Price}}{(1 - \text{Breakpoint Expected Loss})}$$

Illustrative Example:

The example below works through the steps and calculation of Breakpoint Carrying Prices for the Intrinsic Price calculated in the previous section.

E.g. calculate Carrying Price break point for each NAIC designation based on expected loss at break point for NAIC Designation 3 Life:

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$$\text{Maximum Carrying Price (NAIC Designation 3 Life)} = \frac{\text{Intrinsic Price}}{(1 - \text{Expected Loss @ Designation 3 Life})} = \frac{76}{(1 - 7.30\%)} = 81.98$$

The following tables expand this calculation to all NAIC designations

Example Carrying Price Range Calculations - Life  
Intrinsic Price = 76

NAIC designation	RBC charge	Breakpoint Expected Loss	Breakpoint Carrying Price
1	0.40%	0.85%	76.65
2	1.30%	2.95%	78.31
3	4.60%	7.30%	81.98
4	10.00%	16.50%	91.02
5	23.00%	26.50%	103.40
6	30.00%		

NAIC designation for a security will be determined using these breakpoints. For example, this security carried by a Life Insurer at a Carrying Price of 81.0 will receive NAIC designation 3, while the same security carried by a Life Insurer at Carrying Price of 82.5 will receive NAIC designation 4. Securities with Carrying Price greater than 103.4 will receive NAIC designation 6.

The table below performs similar calculation for P&C and Health Insurers. Note that the Breakpoint Expected Losses are different from Life Insurers due to the difference in capital requirements for each NAIC designation between Life Insurers and P&C and Health Insurers.

Example Carrying Price Range Calculations – P&C and Health  
Intrinsic Price = 76

NAIC designation	RBC charge	Breakpoint Expected Loss	Break point Carrying Price
1	0.30%	0.65%	76.50
2	1.00%	1.50%	77.16
3	2.00%	3.25%	78.55
4	4.50%	7.25%	81.94
5	10.00%	20.00%	95.00
6	30.00%		