ASP GUIDANCE NOTES (GN2017-1)

Implementation Guidelines of Non-Life Reserve Valuation Standards

In accordance with the IC Circular Letter 2016-67

(12 October 2017)

Non-Life Insurance Committee

Actuarial Society of the Philippines

ASP GUIDANCE NOTES (GN2017-1)

Implementation Guidelines of Non-Life Reserve Valuation Standards

In accordance with IC Circular Letter 2016-67

Introduction

The Actuarial Society of the Philippines (ASP) affirms that the IC Circular Letter 2016-67, Valuation Standards for Non-Life Insurance Policy Reserves, presents a general framework of standards for the valuation of non-life insurance policy reserves (or statutory reserves) for regulatory reporting to the Insurance Commission.

The ASP also recognizes that regulatory reporting is primarily for establishing and monitoring of the solvency of non-life insurance and professional reinsurance companies. The statutory reserves represent the measure of the company's main liability on direct or assumed inforce policies as at the valuation date. Risk based capital (RBC), which is an allocation of surplus or net worth, shall be layered on top of the statutory reserves for adequate provisions for solvency.

The purposes, basis and the amounts of statutory reserves may not be congruent with those for Philippine Financial Reporting Standards (PFRS) and tax regulations. There may be differences in the principles underlying various tax rules, financial reporting standards or regulations.

Guidance Notes

The ASP issues these Guidance Notes (GN2017-1) for compliance of all Fellows accredited by the Insurance Commission as Non-Life Actuary, certifying the basis, calculations and amounts of non-life policy reserves in accordance with IC Circular Letter 2016-67.

The "Actuary" whenever used in this Note refers to a Non-Life Actuary, accredited by the Insurance Commission.

Scope

1. DATA – validation, classification and grouping
2. VALUATION METHODOLOGIES
3. MARGIN FOR ADVERSE DEVIATION
4. DISCOUNTING
5. REPORTING

1. DATA

IC Circular Letter 2016-67, Section 4: Data and Systems

Guidance Note: The Actuary shall use the premiums and claims data which are, to his guided judgment, most appropriate to calculate the applicable policy reserves.

- The Actuary shall be satisfied with the accuracy and completeness of the data, performing checks and tests to ascertain data integrity and completeness. The Actuary shall perform the following: check consistency with financial statement reports, compare with data for prior periods, conduct data trend reasonableness checks and ensure consistency of data definitions (e.g., date of loss, date reported, date paid, claim status, date closed, date reopened).

- Although the company is required to maintain a historical claims database of at least ten (10) years, the Actuary may choose to use data fewer than the 10-year historical claims database. However, it is the responsibility of the Actuary to provide acceptable justification of such choice.

- If the company's systems and resources permit, the Actuary may choose to classify data into groupings that are more granular than the minimum requirement of IC. For example:
    - Fire can be further broken down into Fire/Lightning, Earthquake, Typhoon, Flood, etc.
    - Marine can be further broken down into Hull and Cargo.
    - Motor Car can be further broken down into Compulsory and Voluntary.
    - Other classes like Aviation, Travel, Accident & Health, etc. can be shown separately.
    - For classes with reinsurance acceptances, Direct and Inward Reinsurance business can be shown separately.

  The Actuary's aim should be to divide the data into sufficiently homogeneous groupings, maintaining the credibility of the amount of each grouping.

- Aside from separating the large loss events for the purpose of measuring and monitoring catastrophic risks, the Actuary may choose to further break down the data, if the company's systems and resources permit, into regular/attritional losses and large losses not pertaining to catastrophic events. If the Actuary so chooses, he must maintain the consistent definition of the types of losses.

- The Actuary must be consistent in choosing whether to group data by accident year or by underwriting year. Accident year (AY) is usually used by direct writing non-life companies while reinsurance companies use underwriting year.

- The Actuary may also deem it appropriate to use monthly, quarterly or semi-annual data instead of annual data as may be required by IC's reporting templates. The Actuary should

note that the same framework and valuation principles as contained under IC CL 2016-67 will apply for monthly, quarterly and semi-annual data.

2. VALUATION METHODOLOGY for INCURRED BUT NOT REPORTED (IBNR)

IC Circular Letter 2016-67, Section 8.3 to 8.4: Claims Liabilities

Guidance Note: The Actuary shall use the most appropriate methodology for calculation of the IBNR for each data class.

- The Actuary should be able to balance the two data considerations in non-life reserving which are (1) homogeneity and (2) credibility. Selection of the valuation methodology will then follow.

- Although the IC Circular mentioned three valuation methodologies, namely, chain ladder method, expected loss ratio method and Bornhuetter-Ferguson method, for the estimation of the IBNR, it is highly recommended that the Actuary looks into other methodologies that may be more appropriate.

- The Actuary should be guided by the following table that summarizes the usual appropriate valuation methodologies by level of risk/line of business:

	Standard Risks High Frequency-Low Severity	Severe Risks Medium Frequency-Medium Severity	Catastrophic Risks Low Frequency – High/Medium Severity
Business Lines	Motor – Damage Marine - Cargo Typhoon Flood Travel, Accident & Health	Engineering Casualty Personal Liability Fire Motor Bodily Injury	Earthquake Marine – Hull
Methodology	- Case-by-case reserves - Chain Ladder - Bornhuetter-Ferguson - Average Cost per Claim (Frequency Severity Techniques)	- Case-by-case reserves - Severity Modelling - Expected Loss Ratio approach	- Case-by-case reserves - Exposure-Based approach [using Probable Maximum Loss – (PML)] - Scenario Analysis

- Note that the table above is only a general guideline in the selection of the valuation methodology applied. In certain situations, wherein data trends restrict the Actuary in

using the guideline, it is then the responsibility of the Actuary to select the most appropriate estimate of the unpaid claim.

- No single reserving method can possibly produce the best estimate in all situations. This is inevitable since every reserving method is based on certain underlying assumptions. (Berquist & Sherman) In such cases, actuarial judgement may prevail so that the selected valuation methodology can be responsive to the trends of the data and to more recent experience.

- Below is an example of a trend smoothing technique so that the Actuary can use in ensuring adequacy of the computed ultimate loss. This can be considered as a variation of the Chain Ladder Method (CL method) as a way to manage, and make provisions for, large/ catastrophic losses in the data.

Table 1: Losses by Accident Year (AY) and Development Year (DY)

AY	Development Year			
	1	2	3	4
2012	8,000	11,500	13,750	13,820
2013	9,500	13,500	16,600	
2014	**9,250**	**25,000**		
2015	9,700			
LDF*		1-2	2-3	3-4
2012		1.44	1.20	1.01
2013		1.42	1.23	
2014		**2.70**		

*Loss Development Factor

From the loss development table above, in accident year 2014, there seems to be an unusual data point in development year 2. This caused the age-to-age factor in AY 2014 to be large. As noted above, in situations wherein the data trend restricts the use of a methodology (CL method), the Actuary can then investigate the reason behind the figure and promptly smooth the data.

Suppose that in this particular case, the AY 2014 DY 2 was caused by a large loss of 12,000. Removing the large loss from the triangle will result to Table 2 below:

Table 2: Losses by Accident Year (AY) and Development Year (DY)

AY	Development Year			
	1	2	3	4
2012	8,000	11,500	13,750	13,820
2013	9,500	13,500	16,600	
2014	**9,250**	**13,000**		
2015	9,700			
LDF		1-2	2-3	3-4
2012		1.44	1.20	1.01
2013		1.42	1.23	
2014		**1.41**		
Average		1.42	1.21	1.01
CLDF		1.73	**1.22**	1.01

Developing AY 2014 using the smoothed Cumulative Loss Development Factor (CLDF) will produce an ultimate loss of 15,845. This is still short of the large loss, so adding back the large loss will result to 27,845. Depending on the actuarial judgement, this figure may be a preferred estimate of the ultimate loss.

Following the same steps above, the Actuary can then prevent the accumulation of the large loss in using Chain Ladder Method. Wherever possible, the Actuary should incorporate the concept of credibility and data smoothing into the actuarial methods used.

The Actuary may also refer to the Casualty Actuarial Society Notes: "Estimated Unpaid Claims Using Basic Techniques" by Jacqueline Friedland, FCAS, FCIA, MAAA, FCA, KPMG LLP.

3. MARGIN FOR ADVERSE DEVIATION

IC Circular Letter 2016-67, Section 9: Margin for Adverse Deviation

Guidance Note: It is up to the judgment of the Actuary to determine the basis and provision to achieve the required level of sufficiency for the establishment of the Margin for Adverse Deviation (MfAD), with due consideration for the requirements of the Insurance Commission.

In estimating MfAD by class of business, the Actuary may, if deemed appropriate, refer to published industry research or other suitable benchmarks.

4. DISCOUNTING

IC Circular Letter 2016-67, Section 10: Discounting

Guidance Note: Should the Actuary find the need to discount cash flows due to materially long finalization of claims, the yield curve to be used as basis for the market-consistent discount rate shall be obtained from the following sources:

i. for Philippine Peso policies : PDST-R2 rates
ii. for US Dollar policies: lnternational Yield Curve (IYC) from Bloomberg

unless a different basis for the market-consistent discount rate is prescribed by the Insurance Commission.

Furthermore, pre-tax rates, gross of any final taxes and other taxes, should be used.

The rationale for the use of pre-tax discount rate:

- The discount rate is primarily a market-consistent parameter of a time value measure that is consistent with the market value basis of long term financial instruments.
- Discount rate, for purposes of reserve valuation, does not represent the expected investment income that can be generated from the supporting asset portfolio.
- Provisions for taxes are to be taken up separately in accordance with tax regulations and outside of the scope of regulatory reserve valuation.
- Only the taxes that are fully and directly proportional with the premium or benefit cash flows (such as VAT and DST) are factored in the projected cash flows.
- Final taxes on investment income may apply only on government bonds. Since there are various asset mixes across companies, provisions for final taxes on investment income from government bonds should be taken up in the deferred tax asset/liability and not in reserve valuation.
- In the same manner, provisions for deferred tax assets/liabilities on corporate income taxes, MCIT, municipal taxes and other assets are to be taken up separately and outside the reserve valuation.

5. REPORTING

IC Circular Letter 2016-67 Annex A, Report on the Actuarial Valuation of Non-Life Insurance Policy Reserves

Guidance Note: The Actuary is responsible for the demonstration of:

A. The impact on Policy Reserves due to changes in:
   a. The insurance policy portfolio over the relevant reporting period,
   b. Valuation methodology,

c. Best-estimate assumptions,
d. Margin for Adverse Deviation,
e. Market-consistent parameters,
f. Business models and nature of contractual obligations,

B. Components of Policy Reserves that may be utilized for financial reporting under PFRS and other local regulations

The Actuary should present by class of business the following components of Policy Reserves laid out below:

Premium Liabilities	Unearned Premium Reserves (UPR)
	Unexpired Risk Reserves (URR)
	Margin for Adverse Deviation (MfAD) on URR
Losses and Claims Payable	Outstanding Claims
	Incurred But Not Reported (IBNR) Claims
	Claims Handling Expenses (CHE)
	Margin for Adverse Deviation (MfAD) on Claims and Expenses

URR is calculated as the best estimate of future claims and expenses for all classes of business, with MfAD.

The Actuary may further break down Outstanding Claims into Due and Unpaid, In Course of Settlement and Resisted Claims.