

**Actuarial Guidance Note No. 2**

**Guidance Note for Valuation of  
Policy Liabilities for Life Insurance Business**

Developed by

The Actuarial Standards Committee  
Of  
Actuarial Society of Malaysia

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## **A. Background**

Bank Negara Malaysia (BNM) has issued the final Risk Based Capital (RBC) Framework for insurers on 19 April 2007 and is scheduled for full implementation on 1 January 2009.

This guidance note is meant to provide practical guidance for Appointed Actuaries (AA) of direct insurers in determining the life insurance liabilities in accordance with the principles outlined in the said RBC framework.

The objective of this guidance note is to create a range of acceptable actuarial practice which is sufficiently narrow that another actuary when performing an independent peer review could produce results that are not materially different.

## **B. Data**

1. The AA should describe the source of data including any reliance on any third party in supplying such data. The accuracy and comprehensiveness of data supplied by others are the responsibility of those who supply the data, however, the AA is to review the data as detailed in the following paragraph. In doing so, the AA should disclose such reliance in the valuation report.
2. In performing various analyses to set up the appropriate actuarial assumptions to be used in the valuation of life insurance liabilities, the AA needs to pay special attention as to the selection of appropriate data, reviewing of data and the proper use of data. For purposes of this guidance note, data refer to numerical, census or classification information and not general or qualitative information. Appropriate data shall mean data that are suitable for the intended analysis and relevant to the process being analyzed.
3. In undertaking any analysis, the AA should consider what data to use in relation to the intended use of the analysis. The AA may consider alternative data sets or data sources if the most appropriate data are not available.
4. In selecting the appropriate data for analysis, the AA should:-
  - (i) Consider the data element that are desired and possible alternative data elements, data elements shall mean an item of information;
  - (ii) Select data with due consideration of the following:
    - (a) Appropriateness for the intended purpose of the analysis and whether the data are sufficiently current;
    - (b) Reasonableness and comprehensiveness of the data elements and whether they are internal and externally consistent;

- (c) Any known, material limitations of the data;
  - (d) The cost and feasibility of obtaining alternative data, including the time frame required;
  - (e) Sampling methods if used to collect data.
5. The AA should review the data for reasonableness and consistency whether he prepared the data or received the data from others, unless, in his professional judgment, such review is not necessary or practical. In reviewing the data, the AA should consider the following:
- (i) The AA should make a reasonable effort to determine the definition of each data element used in the analysis.
  - (ii) The AA should identify any data values that are materially questionable or relationships that are materially inconsistent and should consider further steps to improve the data quality when practical.
  - (iii) The AA should consider reviewing the current data for consistency with data used in previous analysis if similar analysis has been performed for the same or recent periods.

If such a review is not possible or not necessary, the AA should disclose this in the valuation report together with the resulting limitation.

6. In using the data for analysis, the AA should form a professional judgment about which of the following is applicable:
- (i) the data are sufficient to perform the analysis;
  - (ii) the data require enhancement before performing the analysis;
  - (iii) judgmental adjustments or assumptions need to be applied to the data such that the AA can perform the analysis;
  - (iv) the data contain material defects and required more extensive review, the AA should perform such a review before completing the analysis;
  - (v) the data are so inadequate, the AA should obtain different data.
7. In performing the actual valuation of life insurance liabilities, the AA needs to be satisfied that the data used are appropriate, accurate and complete. In order to do so, the AA needs to ensure the following:-
- (i) Reconcilability of data ie taking into the account the previous inforce data and the movement of policies during the period from the previous valuation to the current valuation.

- (ii) Reasonable checks on data ie no unusual values or data, reasonableness of averages and aggregates.
  - (iii) Accuracy of data between valuation data and actual policy files. Random checks should be performed between actual policy files and life administration system.
  - (iv) Random checks of accuracy of surrender values between the actual surrender value tables in the life administration and actual policy files should be performed.
  - (v) Accuracy of data for reinsured policies if policy liabilities are to be calculated net of reinsurance.
8. A separate and independent inforce data extraction may be performed to counter check the data extraction prior to any valuation of policy liabilities, if deems necessary by the AA.
  9. The AA should take into consideration for those policies that have lapsed as at the valuation date but may be revived in the near future.
  10. Appropriate adjustments must be made for any data errors and omissions found and this should be disclosed in the appropriate section in valuation report together with recommendations to ensure the non recurrence of such errors and omissions.
  11. The AA should consider setting up additional policy liabilities if he is unable to satisfy himself that the data used are appropriate, accurate and complete.
  12. The opinion formed by the AA regarding the appropriateness of the data used, whether for the derivation of the various assumptions for the valuation of liabilities or the actual valuation of liabilities, must be disclosed in the valuation report. Any rectification, modification, enhancement, grouping of data must be disclosed in the valuation report. If data ifs grouped, the principles employed and the details of goodness of fit tests must be disclosed.

## **C. Methodology**

1. Definitions and Valuation Basis for Long Term insurance policies for Traditional Products and Universal Life Products:-

The valuation method should be those of gross premium valuation methods, considering all the relevant cash flows and using the appropriate discounting rates as defined herein.

The policy reserve for a policy at time t is defined as:

$$V(t) = \text{PV of Outgo} - \text{PV Income}$$

Where

PV Outgo = Present Value of Outgo

= Present Value of the following items:

- 1) Death Benefits including vested bonus and terminal bonus payable on death
- 2) Morbidity Benefits including vested bonus and terminal bonus payable on morbidity
- 3) Surrender Benefits including basic cash value and terminal cash value payable on surrender
- 4) Commissions including basic commission, overriding, production and persistency bonus
- 5) Management expenses
- 6) Agency related expenses if not included elsewhere
- 7) Claims Expenses if not included as part of management expenses
- 8) Anticipated Cash Payments
- 9) Cash Dividend and Terminal Cash Dividend payable on death or surrender
- 10) Maturity Benefits including maturity bonus
- 11) Transfer to shareholders based on Cost of New Bonus
- 12) Taxation

For item 11) above, Cost of new Bonus shall be determined as follow:-

(a) For Cash dividend plans

Cost of New Bonus = Cash Dividend amount to be declared

(b) For Reversionary Bonus plans

Cost of New Bonus = the actuarial present value of additional cost of death benefit, surrender benefit and maturity benefit due to new reversionary bonus declared based on assumptions that will provide 75% confidence level.

PV Income = Present Value of Gross Premium

Gross premium should include extra premium payable due to medical rating or avocation and occupation rating.

For Traditional Participating products, the policies liabilities should be determined

2. Definitions and Valuation Basis for Long Term insurance policies for Investment Linked Products

The policy liability consists of two (2) parts, namely the unit reserve and non-unit reserve.

(a) Non Unit Reserve

The valuation method should be those of the discounted prospective cash flow method, considering all the relevant cash flows and using the appropriate discounting rates as defined herein.

The policy reserve for a policy at time t is defined as:

$$V(t) = PV \text{ Outgo} - PV \text{ of Income}$$

Where

PV of Outgo = Present Value of Outgo

= Present Value of the following items:

- 1) Death Benefits in excess of the fund value payable on death
- 2) Morbidity Benefits in excess of the fund value payable on morbidity
- 3) Commissions including basic commission, overriding, production and persistency bonus
- 4) Management Expenses
- 5) Agency Related Expenses if not included elsewhere
- 6) Claims Expenses if not included as part of management expenses
- 7) Investment Expense of managing the funds
- 8) Taxation
- 9) Maturity benefit or excess of maturity benefit in excess of fund value for capital guaranteed plan
- 10) Guaranteed cash payments

PV of Income = Present Value of Income items

= Present Value of the following items:

- 1) Unallocated Premium
- 2) Bid Offer Spread, if any
- 3) Cost of Insurance (COI)
- 4) Fund Management Fee
- 5) Monthly Policy Fees
- 6) Surrender Charges, if any
- 7) Other Charges, if any

Cost of Insurance (COI) should include extra rating due to medical rating or avocation and occupation rating.

(b) Unit Reserve

The Unit Reserve is calculated as the value of the underlying assets backing the units relating to the policies.

(c) Additional Requirements for Single Premium Capital Guaranteed Product:-

- (1) Additional Reserves required are calculated based on the difference between the Present Value of Benefits (which includes the explicit guarantees of principal and interests) and the sum of Unit Reserve and Non-Unit Reserve of the Fund. If Present Value of Benefits is lower than the sum of Unit Reserve and Non-Unit Reserve of the Fund, then no additional reserve is required.

The Present Value of Benefits is the greater of the following methods:

- (i) Present Value of Benefits based on the explicit guarantees discounting for time value of money using risk free discount rate of the corresponding term to maturity.
  - (ii) Present value of Benefits based on the explicit guarantees discounting for time value of money using stochastically generated future risk free interest rates at 75% confidence level. Stochastic methods includes, but not limited to methods such as Monte Carlo method, Binomial Lattice method and Black-Schole method.
  - (iii) Present value of Benefits based on the explicit guarantees discounting for time value of money using stochastically or deterministically generated, as appropriate, the yields of the assets backing the guarantees.
- (2) Where the investment guarantee are met by buying a structured product from third party financial institutions or fund managers, the reserves for these guarantees shall be based on the credit rating of the third party guarantee provider. These additional reserves shall be held as part of the non unit reserve.

3. Definitions and Valuation Basis for Group, Accidental and Health Business

The life insurance policy liabilities for such policies or an extension to a basic policy that provide accidental or health benefits should consist of premium liabilities and claims liabilities.

Premium liabilities are unearned premium liabilities determined by calculating the unearned portion of the premium for each of the policy or approximated by suitable grouping method applied on the specific products.

Claims liabilities should consist of provision for notified claims, incurred but not reported (IBNR) claims and provision for claims that arise in the future.



#### 4. Definitions and Valuation Basis for Annuities

##### (a) Gross Premium Valuation (GPV) method

The policy liability was valued by computing the sum of the present values at the date of valuation of the future guaranteed and non-guaranteed benefits including future guaranteed surrender values, if any, provided for by such life policy and the present values at the date of valuation of the expected future management and distribution expenses, less the present values at the date of valuation of any future valuation considerations derived from future gross considerations, required by the terms of such life policy, discounted at the annuity fund net yield rates.

For this purpose, the expected future cash flows were determined using best estimate assumptions with allowance for provision of risk margin for adverse deviation from the expected experience, and with due regard to significant recent experience.

##### (b) Valuation of Provision of Risk Margin for Adverse Deviation (PRAD)

Best estimate for annuity mortality should be based on appropriate annuitant mortality table with due consideration for risks assumed and expected future mortality experience. PRAD for annuity mortality should increase the liability with 75% confidence level.

## **D. Assumptions**

### 1. Best Estimate (BE) Assumptions

BE assumptions are assumptions regarding future experience, which in the professional judgment of the AA, are most likely to materialize based on the available past recent experience having regard to its credibility. The resulting policy liabilities using BE assumptions should neither be deliberately overestimated nor underestimated.

### 2. Provision for Risk Margin for Adverse Deviation (PRAD)

The use of PRAD should increase the statistical confidence of policy liabilities and hence enhance the protection provided to policyholder benefits and should normally increase the policy liabilities. The RBC framework requires the use of 75% confidence level (CL). The AA may use normal or other distributions to derive the 75% CL.

The use of PRAD should be applied on a fund level basis (par, non-par, investment linked) ie certain parameter with 75%CL may produce lower reserve on a per plan/product basis but on a fund level basis should produce higher reserve.

### 3. Provision for Liabilities Risk Capital Charge (PLCC)

The AA is required to assess and determine which products are decrement-supported that is either they are lapse, mortality or morbidity-supported and to use the appropriate direction of stress factors to determine the PLCC such that no negative PLCC will be produced. The determination and calculation of PLCC should be disclosed in the report on Actuarial Valuation of Life Insurance Liabilities.

The use of PLCC should increase the statistical confidence of life insurance fund solvency and hence enhance the protection provided to policyholder benefits and should normally further increase the policy liabilities as compared to PRAD. The RBC framework requires the use of 99.5% confidence level (CL). The AA may use normal or other distributions to derive the 99.5% CL.

### 4. Risk Free Discount (RFD) rates and net fund yield rates

The RFD rates should be used for valuation of liabilities for non participating policies, non unit reserves for investment linked policies and guaranteed portion of participating policies, whereas net fund yield rates should be used for valuation of total benefits (guaranteed and non guaranteed portion) for participating policies and for annuity business.

Gross Fund Yield rates should be determined based on the average actual fund yield over the last 5 years taking into consideration the expected future fund yield and the assets backing such fund. Net Fund Yield is the Gross Fund Yield net of tax.

### 5. Mortality

(a) The AA's best estimate of insurance mortality may take into consideration, where appropriate:-

- (i) The age, sex, smoking habit, health and life style of the insured lives in the portfolio;
- (ii) Duration since policy issued;
- (iii) Plan of insurance and the benefits provided;
- (iv) Underwriting practices, whether fully underwritten, based on less stringent underwriting requirements or guaranteed issued;
- (v) The amount of sum insured;
- (vi) Distribution channel and its marketing practice;
- (vii) The effect of positive or negative selection at inception and any anticipated selective lapses in the future;

- (viii) The past mortality experience of the portfolio and any change in future mortality experience due to changes in the company's practices.
  - (ix) For CI products, the AA needs to ensure the appropriate matching of decrement and the decrement exposures in determining the relevant decrement rates.
- (b) The AA may use different mortality rates for different portfolios, when appropriate.
- (c) The mortality experience to be used is based on company most recent experience and preferably based on last 5 years' actual experience. For companies with less than 5 years experience, adjusted industry table may be used.
- (d) Below is an example of determining the mortality assumption for the valuation of policy liabilities by assuming a single ratio to be applied for the entire mortality table. The AA may use other methods, which in his opinion is better suited for the life insurance portfolio under consideration.
- (i) Best Estimate A/E ratio = Average ( A/E(1), ...,A/E(5))  
 where A/E(t) = Actual Claim/ Expected Claim  
 and t =1 is most recent year and so on
  - (ii) Partial Credibility, may be used
 
$$Z = \sqrt{\frac{n}{3006}}$$
  - (iii) Which is derived based on Simple Poisson model and assuming p=90% (confidence interval), r=3% (error margin), n is the number of deaths in 1 year.
  - (iv) BE Mortality Assumption (BE MA)  
 = Z \* BE A/E ratio + (1-Z) \* Industry A/E
  - (v) Mortality Assumption with 75%CL (MA75)  
 SD = Standard deviation for the 5 year A/E ratios  
 MA75 = BE MA +/- 75%CL  
 where 75% CL can be based on Normal or t Distribution.
  - (vi) Partial credibility can be applied on both genders or applied to male with female using 3 or 4 years set-back which approximate closely the female experience.
- (e) Below is an example of determining the mortality assumption for the valuation of policy liabilities by assuming different ratios to be applied for different age bands.
- (i) Best Estimate A/E ratio for [Age Band x] = Average ( A/E(1), ...,A/E(5))  
 for [Age Band x]  
 where A/E(t) = Actual Claim/ Expected Claim for time period t

and t =1 is most recent year and so on

- (ii) Partial Credibility, may be used

$$Z = \sqrt{\frac{n}{320}}$$

- (iii) Which is derived based on Simple Poisson model and assuming p=92.65% (confidence interval), r=10% (error margin), n is the number of deaths in 1 year for [Age Band x].

- (iv) BE Mortality Assumption (BE MA) for [Age Band x]  
 = Z\* BE A/E ratio for [Age Band x]+ (1-Z)\*Industry A/E for [Age Band x]

- (v) Mortality Assumption with 75%CL (MA75) for [Age Band x]  
 SD = Standard deviation for the 5 year A/E ratios for [Age Band x]  
 MA75 [Age band x] = BE MA [Age Band x] +/- 75%CL  
 where 75% CL can be based on Normal or t Distribution.

- (f) Mortality improvement from mid point of mortality table to current valuation date may be assumed however no future mortality improvement beyond current valuation date shall be assumed.
- (g) The AA may make explicit provision in the mortality assumption as to those sub-standard lives due to medical or occupational rating.
- (h) Append below is the table for determining the various confidence levels and error margins:-

Probability Level P	k (Error Margin)							
	30%	20%	10%	7.5%	5%	3.0%	2.5%	1%
80.00%	18	41	164	292	657	1,825	2,628	16,424
90.00%	30	68	271	481	<b>1,082</b>	<b>3,006</b>	4,329	27,055
92.65%	36	80	<b>320</b>	569	1,281	3,559	5,125	32,031
95.00%	43	96	384	683	1,537	4,268	6,146	38,414
99.00%	74	166	663	1,180	2,654	7,372	10,616	66,349
99.90%	120	271	1,083	1,925	4,331	12,030	17,324	108,276
99.99%	168	378	1,514	2,691	6,055	16,819	24,219	151,367

## 6. Annuity mortality

- (a) The AA's best estimate of annuitant mortality may take into consideration, where appropriate:-

- (i) The age, sex, smoking habit, health and life style of the annuitants;

- (ii) The premium size;
- (iii) The benefits provided by the annuity plan;
- (iv) The past mortality experience of the portfolio and any future expected improvements in mortality;
- (v) Whether it is a compulsory or voluntary plan.

and would include the effect of any anti-selection resulting from the annuitant's option to select the timing, form, or amount of annuity payment, or to commute the annuity payments.

- (b) The valuation of annuity business should be based on a(90)m and a(90)f annuitants mortality tables with the applicable adjustments. The AA should give due consideration for future mortality improvement for annuity business.

## 7. Morbidity

- (a) The AA's best estimate of insurance morbidity and critical illness experience may take into consideration, where appropriate:-
  - (i) The age, sex, smoking habit, occupation, industry, health and life style of the insured lives in the portfolio;
  - (ii) Duration since policy issued;
  - (iii) For income replacement insurance, definition of disability, unemployment levels, and for out standing claim, cause of disability;
  - (iv) Plan of insurance and the benefits provided, including elimination period, guarantees, deductibles, coinsurance, return of premium benefits, benefit limits, indexation and offsets;
  - (v) Underwriting practices, whether fully underwritten, based on less stringent underwriting requirements or guaranteed issued;
  - (vi) The size of policy;
  - (vii) Seasonal variations;
  - (viii) Participation level for group insurance;
  - (ix) Environmental factors, such as change in the offset to government benefits;
  - (x) The past experience of the portfolio and any change in future experience due to changes in the company's practices.

- (b) For accelerated critical illness policies, it would be normal to use one combined table for both death and critical illness.

## 8. Lapse

- (a) The AA's best estimate of lapse rates may take into consideration, where appropriate:-
  - (i) Policy plan and options;
  - (ii) The life insured's attained age;
  - (iii) Duration since policy issued;
  - (iv) Method of payment and frequency of premiums;
  - (v) Premium paying status;
  - (vi) Policy size;
  - (vii) The policy competitiveness, surrender charges, persistency bonuses, taxation upon withdrawal and other incentives and disincentives for withdrawal;
  - (viii) Policyholder and sales representative sophistication;
  - (ix) The insurer's distribution system and its commission, conversion, replacement and other marketing practices;
  - (x) Environmental factors;
  - (xi) The interest scenario.
- (b) The best estimate lapse rate would be zero for paid-up policy without non-forfeiture benefit.
- (c) AA may consider anti-selective lapses where appropriate.
- (d) The lapse assumptions are based on company most recent experience and preferably based on last 5 years' annual lapse studies.
- (e) Below is an example of determining the lapse assumption for the valuation of policy liabilities. The AA may use other methods which in his opinion is better suited for the life insurance portfolio under consideration.
  - (i) Lapse assumption for a certain category

BE First Year Lapse (BE FYL) = mean (FYL1,...,FYL5) and  
BE Second Year Lapse (BE 2YL) = mean (2YL1,...,2YL5) and so on

Where FYL1 is the First Year Lapse rate of the most recent lapse experience study

FYL5 is the First Year Lapse rate of the lapse experience study 5 years ago

and 2YL1 is the Second Year Lapse rate of the most recent lapse experience study

2YL5 is the Second Year Lapse rate of the lapse experience study 5 years ago

(ii) Lapse Assumption with 75%CL (LA75)

FYSD = Standard deviation for the First Year Lapse Rate of the 5 year FYL ratios

First Year LA75 = BE FYL +/- 75%CL

where 75% CL can be based on Normal or t Distribution.

Second Year LA75 = BE 2YL +/- 75%CL

where 75% CL can be based on Normal or t Distribution.

## 9. Bonus and Dividend Rates

- (a) The future bonus and dividend rates assumed in the valuation should take into account the policy assets and bonus policy of the participating fund together with policyholders' reasonable expectations on future bonus and dividend rates.
- (b) If the current bonus scale anticipates a future deterioration in experience, then the AA should assume continuance of such scale. If the current bonus scale does not respond to a recent deterioration in experience but the insurer's policy is to do so, and if the delay in doing so does not provoke a contrary to policyholder reasonable expectation, then the AA should assume such response.

## 10. Policyholders' Reasonable Expectations (PRE)

- (a) The PRE is not defined and is influenced by several factors. The factors include but not limited to the following:-
  - (i) The materials given to policyholders at the point of sales such as sales illustrations, product brochures or flyers and policy contract;
  - (ii) Subsequent communications to policyholders whether directly, such as through policy annual statements and newsletters, or indirectly, such as through press statements, comments at shareholder meetings and Annual Report and Accounts;
  - (iii) The insurer's ability in exercising discretion in adjusting the bonus, dividend and premium rates and the right to cancel the coverage. If the insurer has not been able to do so in the past, this may undermine its ability to do so in the future. The insurer may also exercise discretion in non-contractual matters such as underwriting and claim practices and granting of ex-gratia payments;
  - (iv) The enforceability in a court of law for the payments in excess of contractually guaranteed liabilities;

- (v) General standards of market conduct.
  
- (b) The AA should form a view of the PRE taking into account the above factors and any other factors that he considers relevant. If the AA believes that policyholders will reasonably expect to receive more than the contractual guaranteed benefits, or they will be able to force the insurer, through a court of law or otherwise, to pay more benefits or expect to pay lower premium, then such increased liabilities should be reflected in the valuation of policy liabilities.

#### 11. Expense

- (a) The expense experience is to be based on company most recent expense study.
- (b) The expense study should be carried out annually or some other frequency but in no circumstance to be less frequent than every 2 years. The AA should ensure that the total of the expense allocated to different lines of business should closely approximate the total company expense.
- (c) Maintenance expense should incorporate long term inflation rate.
- (d) The AA must incorporate deterioration in unit expense if the trend is imminent and evidenced from the last few expense studies.
- (e) Improvement in unit expense may be incorporated but should not be more than 5 years into the future and the AA must be able to justify such unit expense improvement.

#### 12. Reinsurance

- (a) The valuation of life insurance liabilities is to be conducted on a gross of reinsurance basis except as provided for under deduction for reinsurance ceded below.
- (b) Deduction for reinsurance ceded – The assumptions used in deriving the appropriate reserve deduction for the reinsured portion shall be in accordance with the assumptions employed by the respective ceding companies. The AA should ensure that similar reserves were set up by the reinsurer before any reserve deduction can be allowed.

### **E. Surrender and paid Up Basis**

1. The AA shall state the basis for minimum guaranteed surrender value and paid up value.
2. The AA should disclose any products/plans that pay guaranteed surrender values in excess of the minimum guaranteed surrender value together with their respective basis of determining such surrender values.



## **F. Others**

1. The AA shall document the extent of compliance of the valuation basis specified above and reasons for non-compliance, if any.
2. Definition of all the technical terms and expressions used must be explained and disclosed.
3. Details of reinsurance arrangement such as name of reinsurer, method of reinsurance, retention limits, reinsurance rates, reinsurance commission etc must be disclosed.
4. Comments and recommendations of AA on the results of valuation in relation to capital requirements, maintenance of bonus policy and any other issues.

## **G. Disclosure and Communication**

1. The AA shall prepare the Actuarial Valuation of Life Insurance Liabilities Report which contains the information as stated in Appendix VII(a) of the said framework.
2. Appended below is the proposed format of the report
  - (i) Introduction  
This section identifies the name of insurer and name of the appointed actuary, his qualification and the relationship to the insurer. The section should state the date of the valuation as well.
  - (ii) Section A: Data
    - (a) Describe the source of data
    - (b) Steps taken to verify the consistency, completeness and accuracy of data
    - (c) Adjustment made to data and rationale of doing so
    - (d) Any errors or omissions found and recommendation to rectify the problem
    - (e) If data is grouped, state principles used and provide details goodness of fit tests.
    - (f) Opinion as to the accuracy, completeness and consistency of data and whether additional reserve being set up for this.
  - (iii) Section B: Valuation Methodology
    - (a) Valuation of Best Estimate
      - ◆ Describe the valuation method used. If non prescribed method was used, provide details of such methods and rationale for choosing such methods
      - ◆ Disclose any approximation or simplification made
      - ◆ Any change to valuation method since last valuation made
    - (b) Valuation of Provision of Risk margin for Adverse Deviation (PRAD)
      - ◆ Describe the method for deriving the PRAD

- ◆ Describe the method for deriving the PRAD that overall reserve would be at least 75% confidence level
- (c) Presentation of Valuation
- ◆ Summary of Valuation results as per Appendix VII(a)(i)
  - ◆ Valuation Result, Composition and Distribution of Surplus as per Appendix VII(a)(ii)
  - ◆ Opinion of AA as to the level of sufficiency of reserves
- (iv) Section C: Valuation Assumptions
- (a) Describe the justify each of the valuation key assumptions
  - (b) Describe the company Bonus/Dividend policy
  - (c) Disclose and justify any change of assumptions from the previous valuation
  - (d) Analysis of assumptions used in previous valuation against actual experience and how they are reflected in current valuation.
- (v) Section D: Surrender and paid Up Basis
- (a) Describe the basis for minimum guaranteed surrender value and paid up value.
- (vi) Section E: Others
- (a) Document extent of compliance of valuation basis and reason for non-compliance, if any.
  - (b) Definition of terms and expressions used.
  - (c) Description of reinsurance arrangement
  - (d) Comments of AA on the results of valuation in relation to capital requirements, maintenance of bonus policy and any other issues.
- (vii) Section F: Supporting Worksheet and Appendices
- (a) Detailed summary of data used.
  - (b) Valuation tables used such as discounting rates, mortality and morbidity, lapse rates.
  - (c) Specimen of bonus rates and minimum guaranteed surrender values.
- (viii) Section G: Certification by AA
- (a) Name and signature of AA, date.
- (ix) Section H: Certification by CEO
- (a) Name and signature of CEO, date.
3. The report must be submitted to BNM within 90 days from the end of financial year.