<u>Annexure II</u>

Appointed Actuary's Annual Report of Life Insurance business. (Referred to as 'Report' or AAAR, hereafter)---

The d*escription of AAAR is broadly outlined below—*

(1) An insurer shall file the Report, as per the Schedule of Annexure I, within **three months from the end of the period to which they refer to or within thirty days from the date of adoption of accounts by the Board, whichever is earlier**.

(2) The Report shall describe the **business of the insurer** during the financial year under review which shall be duly signed by the Appointed Actuary.

(3) Along with the statutory valuation returns, Appointed Actuary (AA) shall furnish the Report covering the points mentioned in the Schedule below.

(4) An insurer shall furnish four **copies** of the Report to the Authority of which one has to be duly signed and the rest could be Xerox copies, and also one digitally signed (as per "The Information Technology Act, 2000") soft copy.

Schedule

Appointed Actuary's Annual Report

For the financial year ended: 31st March (X)
Of
(Name of the Life Insurance Company)
By
(Name of the Appointed Actuary)

Chapter	Description	Page No.
1	Executive Summary	
2	Analysis of Business Written and Distribution Channels	
3	Analysis of experience (Insurance and Economic)	
4	Analysis and Distribution of Surplus	
5	Risk Management	
6	Current Financial Condition	
7	Future Financial Condition - Estimate	
8	Conclusions	
Appendix A	Action Taken Report of previous AAAR	
Appendix B	Note on Persistency	
Appendix C	Details of Investments	
Appendix D	Risk Management	
Appendix E	Analysis of Surplus	

Certification by the Appointed Actuary

“I, (name of AA), the Appointed Actuary and (name of the Mentor), Mentor for Appointed Actuary, where applicable , of (name of insurer), hereby certify, with regard to the liabilities under the policies held by the insurer at the (Report Date), to the best of my knowledge:

a) that I have complied with the guidance notes issued by the Institute of Actuaries of India (hereinafter referred as IAI) in concurrence with the Insurance Regulatory and Development Authority of India (hereinafter referred as IRDAI) along with other guidance notes viz., …….;

b) that I have complied with the provisions of the Insurance Act, 1938, Regulations, Rules and Directions of the IRDAI;

c) that I have taken into account all contingencies appropriate to the business that is valued and that the assumptions employed in the valuation are appropriate;

d) that the mathematical reserves have been based on accurate data and have been calculated and reported accurately, subject to the following qualifications (list the qualifications, if any);

e) that I have calculated the Required Solvency Margin accurately; and

f) that the mathematical reserves make good and sufficient provision for all the pre-matured obligations under the terms of the policies on the books of the insurer.

Place:

Signature of the Appointed Actuary
(Name of the Appointed Actuary)

Signature of Mentor (where applicable)
(Name of the Mentor , where applicable)

Date:

Chapter 1 – EXECUTIVE SUMMARY

This Chapter should be a succinct and sharp highlight of key points and main messages in relation to impacts on the financial condition of his/her company. The context is to help the IRDAI by providing meaningful insights and recommendations. The AA could share this document with his/her Board and / or CEO and hence the document is seen to be useful to the business and management and not viewed as just a regulatory filing.

In addition to the above qualitative summary, the AA should also provide quantitative information. The template for the same is as given below:

S.No	Description	Note	Current year (year ending 31 March X)	Year ending 31 March X - 1	Year ending 31 March X - 2	Year ending 31 March X – 3	Year ending 31 March X - 4
1	New Business Annualized Premium						
2	First Year Premium	A					
3	Renewal Premium	A					
4	Top-ups	A					
5	Single Premium	A					
6	Total Premium	A					
7	Reinsurance Premium Paid						
8a	Total policyholder benefits paid	B					
8b	Total benefits paid by the reinsurers						
8c	Death Strain – Actual to Expected						
9	Total Operating Expenses related to insurance business and Commission						
10	Surplus/Deficit in Revenue Account						
11	Profit/Loss in P&L Account						
12	Total liabilities in respect of policyholders funds						

12a	Investment yield (TWRR) on policyholders' fund – with unrealised gains						
13	Total liabilities in respect of shareholders' Funds						
14	Capital injected during the year (including share premium and application money)						
15	New Business Cost Ratio	C					
16	Renewal Cost Ratio	D					
17	Overall Expense Ratio	E					
18	13 month persistency ratio (for individual non single premium business)	F					
19	37 month persistency ratio (for individual non single premium business)	F					
20	Solvency Ratio						
21	Individual Inforce Policies						
22	Group Inforce Schemes						
23	Group Inforce Lives						

Note A – gross of reinsurance
Note B – net of reinsurance
Note C – New Business Cost Ratio is the ratio of expenses attributable to new business (including commission) expressed as a percentage of First Year Premium
Note D – Renewal Cost Ratio is the ratio of expenses attributable to maintenance and renewal of business (including commission) expressed as a percentage of Renewal Premium
Note E – Overall Expense Ratio is the ratio of total operating expenses related to insurance business and commission expressed as a percentage of total premium income
Note F –Refer to attached note on measurement of persistency (Appendix B)

Annualized Premium means modal premium multiplied by premium frequency for non-single premium policies plus 10% of single premium for single premium policies

The data furnished in the table above should be consistent with financial statements, wherever applicable.

Chapter 2 – ANALYSIS OF BUSINESS WRITTEN AND DISTRIBUTION CHANNELS

This chapter should contain an analysis of new business written during the year with comparison with previous four years

- New business (annualized premium, sum assured, annuity, policies, new business strain) by product line and distribution channel. AA can customize for specific company's distribution channels and product lines.
- Any developments in sales channels – expansion, closures (channels; branches; channel partners)
- Products – new products added, products withdrawn, products modified (state product name, UIN and nature of product – individual linked life, individual linked pension, individual with profits life, individual with profits pension etc.)
- The table for new business analysis

Distribution Channel -

S. No	Description	Note	Current year (year ending 31 March X)	Year ending 31 March X – 1	Year ending 31 March X - 2	Year ending 31 March X – 3	Year ending 31 March X - 4
	Product Line Name	A					
1	New Business Annualized Premium						
2	First Year Premium	B					
3	Renewal Premium	B					
4	Top-ups	B					
5	Single Premium	B					
6	Total Premium	B					
7	Reinsurance Premium Paid						
8	Sum Assured (or annuity p.a.)	B					
9	Number of Policies (or Schemes)						
10	Average New Business Annualized Premium per policy	1 / 9					

11	Average SA (annuity) per policy	8 / 9					
12	Average age at entry						
13	Average policy term						
14	Average premium payment term						
15	Renewal Premium / Total Premium	3 / 6					
16	Reinsurance Premium / Total Premium	7 / 6					

Note A – The product lines are Individual Unit Linked Life, Individual Unit Linked Pensions, Individual Unit Linked Health, Individual With Profits Life, Individual With Profits Pensions, Individual With Profits Health, Individual Without Profits Life, Individual Without Profits Pensions, Individual Without Profits Health, Individual Annuities, Group Unit Linked Funds, Group With Profits Funds, Group Without Profits Funds, Group Life.

Note B – gross of reinsurance

- Provide analysis of new business (individual only) by premium payment frequency (percentage by number of policies)

Product Line	**Current year ending 31 March X**					**Year ending 31 March X – 1**					**Year ending 31 March X – 2**				
	SP	**Yly**	**Hly**	**Qly**	**Mly**	**SP**	**Yly**	**Hly**	**Qly**	**Mly**	**SP**	**Yly**	**Hly**	**Qly**	**Mly**
Unit Linked Life															
Unit Linked Pensions															
Non Linked Life															
Non Linked Pensions															
Non Linked Health															
Unit Linked Health															
Individual - Others															

Chapter 3 – ANALYSIS OF EXPERIENCE

This chapter should contain the following:

- **Persistency** as %, have to be shown by number of policies and by annualized premium in the format given below, on aggregate at company level.

Persistency Month	Issue Year 01-April-(X-2)to 31-March-(X-1)	Issue Year 01-April-(X-3)to 31-March-(X-2)	Issue Year 01-April-(X-4)to 31-March-(X-3)	Issue Year 01-April-(X-5)to 31-March-(X-4)
13				
25				
37				
49				
61				

  - The results of the above analysis should be shown at least for the following lines of business:
    - at overall Company level
    - for Non-Linked Par, Non-linked Non-Par & Linked at overall level
    - for Non-linked Non-Par savings , Non-linked Non-Par protection, Linked Life, Linked Pension
    - for those Distribution Channels whose contribution is more than 5% of the total premium income of the insurer for that financial year. This analysis should made at an overall level. In other words, Line of business and segment –wise analysis is not required for this purpose.
  - Depending upon the complexity and nature of the business the AA may report above analysis for further line/s of business based on sound judgement.
  - The results should also be shown separately for Individual and Group businesses.
  - Where a company holds a revival reserve, it would also be important for the analysis of revival behaviour to be disclosed. This may be analysed by line of business, policy size, lapse duration etc.
  - *The guideline on persistency methodology is provided as Appendix B.*
  - The template indicated above should be used.
  - The AA should discuss any trends or observations noticed from this analysis.

- **Free Looks**

- Percentage of Free Looks should be provided as per table below. The definition of % of free looks during a period is A / B, where B is the new business written during the period and where the option to exercise free look ended during the period, and A is the free looks exercised out of B. For example, consider the financial year 2009-10. The statutory free look period is 15 days. Let us say the report on free look experience is being generated on 30 April 2010. The denominator (B) will be all new business issued during the financial year 2009-10. The numerator (A) will be all free looks exercised till 30 April 2010 out of new business issued during the financial year 2009-10.

- The information, expressed separately as % of policies and as % of new business annualized premium, should be provided for individual business as per table below:

Product Line	**Issue Year 01-April-(X-1) to 31-March-X**	**Issue Year 01-April-(X-2) to 31-March-(X-1)**
Unit Linked Life		
Unit Linked Pensions		
Non Linked Life		
Non Linked Pensions		
Non Linked Health		
Unit Linked Health		
Individual - Others		

- **Cheque dishonours**

  - The information on cheque dishonours (in respect of first premium), expressed separately as % of number of new business policies and as % of new business annualized premium, should be provided at company level. The major reasons for the experience should be duly analysed.

- **Claims**

  Actual to Expected analysis, at company level, by number of policies (or lives) and sum assured

Policy Duration (Year)	**Issue Year 01-April-(X-1)to 31-March-X**	**Issue Year 01-April-(X-2)to 31-March-(X-1)**	**Issue Year 01-April-(X-3)to 31-March-(X-2)**	**Issue Year 01-April-(X-4)to 31-March-(X-3)**	**Issue Year 01-April-(X-5)to 31-March-(X-4)**
0					
1					
2					
3 and higher					

- Analysis of death and other insurance claims by duration (policy year), gender, product line (including micro insurance) and any other relevant parameter. The results, expressed as Actual to Expected, have to be shown by number of policies (or lives) and sum assured (or annuity amount or risk amount, as appropriate to the product line).
- The AA can, if found appropriate, provide the information by medically underwritten / non-medical / simplified issue (e.g. 'over the counter') / zero sum assured categories rather than by product lines.
- 'Actual' would include settled claims as well as any allowance made for IBNR.
- 'Expected' means the best estimate assumption as at the date of the report. It has to be noted that the best estimate should not include any margin for adverse deviation.
- The analysis should also highlight any variation in experience between rural, semi-urban and urban segments.
- Product line here refers to grouping of products of similar characteristics from the perspective of claims experience. It is expected that the Appointed Actuary would use sound judgement in arriving at the groupings, the rationale for which should be explained in the report.
- The AA should comment on appropriateness of underwriting standards in the context of emerging claims experience.
- Repudiated and rejected claims during the year by duration; express the same as a % of total claims received during the year. 'Rejected claims' include claims that are received at the company but do not fall within the definitions of claims as per policy contract or claims received on un-concluded contracts.
- The table, for claims analysis, is provided below.

Actual / Expected % death claims, Individual Unit Linked Life, sold through Agency Channel

Policy Duration (Year)	**Issue Year 01-April-(X-1)to 31-March-X**	**Issue Year 01-April-(X-2)to 31-March-(X-1)**	**Issue Year 01-April-(X-3)to 31-March-(X-2)**	**Issue Year 01-April-(X-4)to 31-March-(X-3)**	**Issue Year 01-April-(X-5)to 31-March-(X-4)**
0					
1					
2					
3 and higher					

Table, for repudiated and rejected claims, is provided below:

Description	**Current year ended 31 March X**					**Previous year ended 31 March X - 1**				
	(A)	(B)	(B) / (A) %	(C)	(C) / (A)%	(A)	(B)	(B) / (A) %	(C)	(C) / (A)%
Death										
Health insurance										

Critical Illness										
Other Insurance Claims										

(A)- is the number of claims received within two years from commencement date of coverage
(B)- is the number of claims repudiated out of (A)
(C)- is the number of claims rejected out of (A)

- **Expenses**
  - Analysis of expenses by product line and split into new business, renewal/maintenance and claims with further split into per premium, per sum assured, per fund and per policy. This breakdown of expenses should ideally be based on an analysis of various activities. If such a breakdown is not based on analysis of actual activities, the same should be based on the judgement of the AA or the company.
  - The total expenses used for this exercise should reconcile with the expenses shown in the financial statements.
  - Where a company's business has not, in the AA's judgement, reached a level of maturity or, as in health insurance, where living benefits are a feature and so claims are an ongoing function, expenses can be grouped under broader categories. For example, claims expenses can be combined with renewal / maintenance expenses.
  - The expense analysis should be for the expenses during the year under review with commentary on emerging trends based on similar analysis of previous years.
  - The AA must explain the methodology (details as to identification, allocation and further analysis) adopted in this work.
  - AA must comment on any changes in expense allocation methodology
  - AA to state proportion of expenses allocated between acquisition and renewal/maintenance expenses
  - The results of the analysis should be provided
    - at overall Company level
    - for Non-Linked Par, Non-linked Non-Par & Linked at overall level
    - for Non-linked Non-Par savings , Non-linked Non-Par protection, Linked Life, Linked Pension
    - for those Distribution Channels whose contribution is more than 5% of the total premium income of the insurer for that financial year. This analysis should made at an overall level. In other words, Line of business and segment –wise analysis is not required for this purpose
  - The table, for expense analysis, is provided below:

Description	**Current Year ending**	**Previous Year ending**	**Previous Year ending**	**Previous Year ending**	**Previous Year ending**

	31 March X	**31 March X – 1**	**31 March X – 2**	**31 March X – 3**	**31 March X - 4**
Acquisition					
commission (% of premium)					
fixed per policy					
% of premium (other than commission)					
% of sum assured/annuity					
Renewal/maintenance					
Commission (% of renewal premium)					
Fixed per policy					
% of premium (other than commission)					
% of sum assured/annuity					
% of fund					
Claims related expenses, if any					

- **Analysis of investment** performance during the year split by various funds. This would cover investment return during the year calculated on an appropriate basis.
    - AA must provide a commentary on investment returns earned during the period under review and quality of assets separately for participating, non-participating and linked businesses. ALM will be covered in the chapter on Risk Management.
    - Information to be completed as per Appendix D
- **Analysis of surrenders and partial withdrawals**. The AA should provide an analysis of these exits similar to the analysis of persistency. Appendix B provides guideline on information on surrenders and partial withdrawals.

The AA must provide a commentary on the actual experience as per the "analysis of experience" done above. The AA should further explain how the actual experience was utilized to set his or her basis of best estimate assumptions as well as valuation assumptions. The AA should justify his/her assumptions (best estimate and valuation) and, where these are different from actual experience, explain how the gap would be narrowed over a period of time. For example, the AA must comment on credibility of experience and alternatives considered and/or utilised.

Chapter 4 – ANALYSIS AND DISTRIBUTION OF SURPLUS

This chapter should give a break-up of the surplus (or deficit) by various sources as per format provided in Appendix F. The AA should also explain the methodology used and assumptions made in arriving at such break-up.

The AA should also explain the following

- the manner in which the surplus is shared between shareholders and policyholders
- the company's policy towards distribution of surplus, including meeting policyholders' reasonable expectations and definition of PRE, and whether the same is approved by its Board
- the order of the source of surplus used in arriving at the results

Chapter 5 – RISK MANAGEMENT

Proper assessment of risk and management of the risks is critical to sound well-being of a life insurance company. IRDAI’s ‘Corporate Governance Guidelines for Insurance Companies’ places stress on this aspect and also places responsibility on the Appointed Actuary to provide professional advice or certification to the Company’s Board with regard to “identification and estimation of material risks and appropriate management of the risks”.

This chapter should provide

- views on appropriateness of company’s risk management strategy and framework
- how various risks are identified in the company
- how risks are classified into various categories (high, medium, low)
- actions planned to manage the risks
- actions taken during the year in managing risks
- commentary on significant new risk exposures (e.g. a new form of investment guarantee) and significant changes in risk management practices (e.g. new underwriting or claims management standards) and implications

The risks mentioned here include investment risk (market risk, credit risk, liquidity risk, counterparty), asset liability mismatch risk (interest rate, duration), operational (fraud, tax, systems, people, legal, compliance, process, regulatory, unit pricing risk, sales conduct, PRE, control on data etc), investment guarantees risk, insurance risk (persistency, mortality, morbidity, reinsurance counterparty risk).

The AA should use the format provided in Appendix E to prepare the risk management report and results of Economic Capital.

Chapter 6 – CURRENT FINANCIAL CONDITION

This chapter should provide a view of the AA on the current financial condition of the Company. This view should be based on the analysis and information in chapters 1 to 5 of this report, the AA's own understanding of the business and the AA's view on adequacy of reserves. The AA should also provide insights into profitability (i.e surplus / deficit) of the company including trends based on previous years and the company's future plans.

The AA should also

a) Comment on the solvency position, including stating quarterly solvency ratios during the current year under review.
b) Comment on adequacy of premium rates and charges on products being sold by the company
c) List any changes in valuation method / assumptions from previous year, and explain reasons for the changes. Also, the effect of each of such changes should be furnished.

Chapter 7 – FUTURE FINANCIAL CONDITION - ESTIMATE

The objective of this chapter is to capture the company's assessment of its future financial condition and a 'time zero' stress test. This chapter should cover:

A) Present the company's projected financial statements and solvency position for following three years, allowing for expected future new business. This should also be stress tested for two plausible adverse scenarios (i.e. events that could have a negative impact on solvency position) with a description of possible management actions to ensure maintenance of regulatory solvency. This report should be based on the latest work done by the company on or after 01 October of the financial year under review.

   Whilst a three-year forecast is recommended, the AA must submit, at the minimum, the forecast for one year.

   The two adverse scenarios must be selected by the company as felt appropriate for the company's business.
   Results of this should be presented in the following template:

Financial Year Plan				
	Current year ended 31 March X	**Next year ending 31 March X+1**	**Next year ending 31 March X+2**	**Next year ending 31 March X+3**
Revenue A/C				
First year premium				
Total Premium				
Investment Income				
Commission				
Operating Expenses				
Claims (net)				
Increase in Reserves (net)				
Surplus/ (Deficit)				
P&L A/C				
Investment Income				
Profit /(Loss)				

Balance Sheet				
Accumulated share capital*				
Solvency Ratio				
Free Surplus				
Free Surplus (excluding FFA)				

Note * - including share premium and other share reserves
Free surplus is excess of assets over liabilities and RSM.

The above table is to be provided for the base scenario and each adverse scenario. The AA should provide a description of each adverse scenario and explain how it varies from the base scenario. Any management action, as a response to adverse scenario, must be explained.

B) Resilience test of the solvency position as at the end of the current year under review. The AA should describe the resilience test and state the resulting solvency ratio. Also, AA should submit the Form-KT-III (of Actuarial Report and Abstract) under the resilience test scenarios. In this regard, valuation assumptions need to be specified, which need to be consistent with the values of assets under each of resilience test scenarios.

Prescribed resilience test scenarios from the year 2009-10 onwards are:

Investments

1. Equity - 20% fall in market values, as at valuation date.
2. Fixed interest securities - 100 basis points fall in yields, as at valuation date.

Chapter 8 – CONCLUSIONS

Based on the outputs of Chapters 6 and 7, the AA should present conclusions on overall financial condition of the company. If the company has not reached break-even yet, the same should be commented upon.

Appendix A –
ACTION TAKEN REPORT OF PREVIOUS YEAR'S APPOINTED ACTUARY'S ANNUAL REPORT

After submission of previous year's AAAR, it is likely the IRDAI would have asked the AA to act on a few points. This section should list the points formally raised by the IRDAI and explain, against each, the action taken by the AA.

Appendix B

Persistency

INDEX

1. Glossary

2. Persistency Definitions and calculation
   2.1 Persistency
   2.2 13, 25, 37, 49 & 61-month persistency
   2.3 Policies excluded from the calculation

3. Persistency Calculation for special scenarios

3.1 Contractually Variable Premium Policies
3.2 Optionally Variable Premium Policies
3.3 Premium payable for a limited period

4. Surrenders

5. Partial Withdrawals

Annexure: An example of 13-month persistency

1 GLOSSARY

Persistency
A policy is said to be persistent at a particular point in time if all the premiums due on the policy at the date of measurement are received.

Regular Pay plans
These are plans where the premiums are paid over a period of time and where the premium payment term is greater than one year.

Grace Period
This is the period during which the policyholder can pay his premium after the due date without any penalty or underwriting. The grace period is normally one month but may vary across companies.

Modal Premium
The modal premium is the instalment premium e.g. in case of monthly mode there will be 12 modal premiums payable in a year.

Annualized Premium
Annualized premium is the premium amount payable in a year.

2 Persistency Definitions and calculation

2.1 Persistency

Persistency is about understanding how many life insurance policies have been issued to customers and out of these how many customers continued to regularly pay premiums on dates as per terms set out in the policy contract. The persistency rate measures the percentage of the issued business that remains in force and premium paying after a certain period of time.

Persistency rate gives an important indication of the quality of the business sold.

2.2 n^{th} month persistency

A policy is said to be n^{th} month persistent if the number of premiums received is INT [(n-1)/x] + 1 at the end of n^{th} month when the data is extracted following the expiry of the grace period,

Where

Mode	x
Annual	12
Semi-annual	6
Quarterly	3
Monthly	1

The policy will continue to be n^{th} month persistent even if further premiums other than those required for being defined as persistent are not paid. For example, consider a policy that has an effective date of 10 December 2007. The first renewal premium due on 10 December 2008 is paid on 15 December 2008 (within the grace period). If the policy subsequently lapses, the policy will still be considered as 13^{th} month persistent as the first modal premium in the second policy year is paid.

If the total annualised premium from new business issued in the month of December 2007 is Rs 1,00,000/- and of these sourced policies, total annualised premium of policies for which premium due in the month of December 2008 were received within the grace period (ending in January 2009) is Rs 70,000/-

The 13^{th} month persistency would be equal to (70000/100000) = 70%

The general formula for regular pay individual plans shall be:

nth Month Persistency Rate = Inforce/Exposure

Where: Exposure in respect of policies issued in a given month = total annualised premium/number of policies with effective date in that month such that the policy would have completed at least n months at the date of calculation i.e. total APE
or
policy count of policies that could have been n^{th} month persistent had all due premiums been paid. Due premiums are considered to be those that are payable as per the original terms and conditions of the contract.

Inforce = total annualized premium/number of policies in the exposure block that has paid the no of instalments equal to INT [(n-1)/x] + 1

e.g. The 13^{th} month persistency for policy with effective date in December 2007 would be measured as Inforce/Exposure where

Inforce – Policies with effective date in December 2007 and the first modal premium in the second policy year is paid latest by end of January 2009 (considering a grace period of one month)

Exposure = Policies with effective date in December 2007.

The table below shows the number of premiums payable for the policy to be n^{th} month persistent:

Persistency Measure					
Payment Mode	13^{th} month	25^{th} month	37th month	49^{th} month	61^{st} month
Annual	2	3	4	5	6
Semi-annual	3	5	7	9	11
Quarterly	5	9	13	17	21
Monthly	13	25	37	49	61

2.3 Policies excluded from the calculation

The policies excluded from the persistency calculation (both numerator and denominator) are:

- Maturities and expiries, if any
- Deaths[1],
- Cancelled policies,
- Free look policies
- Fully paid up policies (Single Premium & Limited pay policies after premium payment term).
- Surrendered[2] policies.

The above policies are excluded as we are looking at the persistency of only the premium paying inforce policies during the observation period.

If the premium in the later years is different from first year premium, we can use the first year premium as the base for calculation of numerator and denominator for the purpose of persistency calculation.

[1] Deaths occurring within n months of duration for calculation of nth month persistency would be excluded. E.g. Consider a policy with effective date of 10 December 2007. The first modal premium in the second policy year was paid on 15 December 2008 and the policyholder expired on 31 December 2008. This policy will be included in the calculation of 13 month persistency. However if death had occurred on 30 November 2008 (say) before payment of first modal premium in the second policy year, this policy would be excluded both from the numerator and denominator.

[2] A surrendered policy would be excluded both from the numerator and denominator if the surrender occurred before the policy completed n months (for nth month persistency) as at the time of surrender. Please refer to footnote (1).

3. Persistency Calculation for special scenarios

3.1 Contractually Variable Premium Policies

It is likely that companies offer products where the premiums are not level. In such products the premiums at later policy years may be higher or lower from the first premium or first year premium. Such variable premiums will be as per product design and the premium billing to policyholder will reflect such premium amounts. For example, a product may, by design, offer a level premium for first three policy years and then reduce the premium to 80% of the first year premium from the fourth policy year.

In such policies, the contractual premium payable during the period must be considered both in the numerator as well as denominator for the purpose of calculation of persistency.

The following examples are provided for clarity.

Table No 3.1: Reducing Premiums

		Annualized Premium amount received			
Premium mode	**Annualized Premium at inception of the contract**	**1st year**	**2nd year**	**3rd year**	**4th year**
Annual	10,000	10,000	10,000	10,000	8,000

For calculation of persistency

Measure	13th month	25th month	37th month
Numerator	10,000	10,000	8,000
Denominator	10,000	10,000	8,000
Persistency Ratio	100%	100%	100%

Table No 3.2: Increasing Premiums

		Annualized Premium amount received			
Premium mode	**Annualized Premium at inception of the contract**	**1st year**	**2nd year**	**3rd year**	**4th year**
Annual	10,000	10,000	10,500	11,000	11,500

For calculation of persistency

Measure	13th month	25th month	37th month
Numerator	10,500	11,000	11,500
Denominator	10,500	11,000	11,500
Persistency Ratio	100%	100%	100%

3.2 Optionally Variable Premium Policies

It is likely that companies offer products where the policyholder has the option to pay a premium that is different from what was billed (i.e. renewal premium notice). It is also likely that a policyholder can seek alteration to the policy whereby he alters the contractual premium.

In such cases the numerator should reflect the actual premium received and the denominator should reflect the original contractual premium at issue date.

The following table is intended to clarify the same with an example.

Table No 3.3 – Policyholder pays reduced premium

		Annualized Premium amount received			
Premium mode	**Annualized Premium at inception of the contract**	**1st year**	**2nd year**	**3rd year**	**4th year**
Annual	10,000	10,000	10,000	10,000	7,000

For calculation of persistency

Measure	13th month	25th month	37th month
Numerator	10,000	10,000	7,000
Denominator	10,000	10,000	10,000
Persistency Ratio	100%	100%	70%

Table No 3.4 – Policyholder stops paying premium under Premium Holiday / Automatic Cover Maintenance

		Annualized Premium amount received			
Premium mode	**Annualized Premium at inception of contract**	**1st year**	**2nd year**	**3rd year**	**4th year**
Annual	12,000	12,000	12,000	12,000	0

For calculation of persistency

Measure	13th month	25th month	37th month
Numerator	12,000	12,000	0
Denominator	12,000	12,000	12,000
Persistency Ratio	100%	100%	0%

3.3 Premium payable for a limited period

The policy would be considered for persistency calculation for the duration of premium payment. The policy would be excluded from the calculation once the premium payment term is over i.e. No credit or debit would be taken for this policy. Please refer to the example given in the following table for reference.

Table No 3.5: Limited Pay

Premium payment term : 3 years

		Annualized Premium amount received			
Premium mode	**Annualized Premium at the inception of the contract**	**1st year**	**2nd year**	**3rd year**	**4th year**
Annual	12,000	12,000	12,000	12,000	0

For calculation of persistency

Measure	13th month	25th month	37th month
Numerator	12,000	12,000	NA
Denominator	12,000	12,000	NA
Persistency Ratio	100%	100%	NA

4. Surrenders

Surrenders will be measured and reported separately. Surrenders will be excluded both from the numerator and the denominator in the calculation of persistency ratios.

The monitoring will be done by class of business on the basis of both number and annualized premium.

Surrender Ratio in policy year t = Surrenders in policy year t / Exposure in policy year t

Where:
Surrenders = Annualized premium/number of policies surrendered in the exposure block.
Exposure = Annualized premium/number of policies (inforce) at start of policy year t which have a right to surrender in policy year t and/or where surrender value is acquired.

The policies excluded from the calculation are:

- Maturities and expiries, if any
- Deaths

5. Partial Withdrawals

The partial withdrawal ratio can be used to measure the funds under management (FUM) that gets partially withdrawn. Partial Withdrawal means the act of policyholder taking money out of his unit linked policy (life and pensions), whether voluntarily or as per product design (e.g. systematic withdrawal, periodic survival benefits). The ratio applies only to unit linked policies (both single and regular premium).

The partial withdrawal ratio can be calculated as:

Partial withdrawal ratio = Partial withdrawals in policy year t / Exposure in year t

where

Partial withdrawal in year t = number of units cancelled for partial withdrawal in the exposure block.

Exposure in year t = 0.5*(number of units at start of year t + number of units at end of year t + units cancelled for partial withdrawal) in year t. The units here should be only of those policies which have the right to take a partial withdrawal in year t.

The policies excluded from the calculation are:

- Maturities and expiries, if any
- Deaths

Annexure:
An example of 13-month persistency calculation

13th month persistency

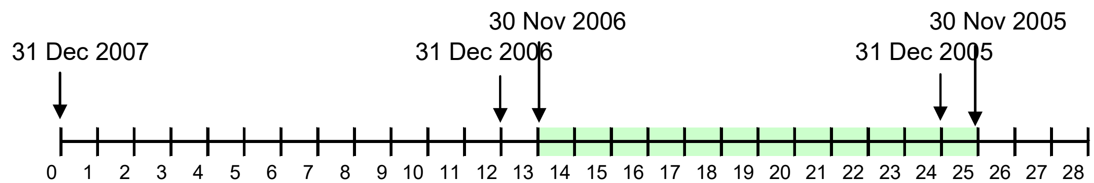
Objective: To measure the company's first year persistency.

Definition: Percentage of contracts, measured by premium, still in force 13 months after they have been issued.

Formula: inforce/exposure

where
exposure = total annualised premium* of policies issued from 13+x to 24+x months ago, inclusive, taking into account grace period (x)

example:
grace period is 1 month
valuation date is 31 December 2007
exposure shall be total annualised premium of policies sold from November 30, 2005 to November 30, 2006 (as shaded)



inforce = total annualised premium* of policies in the exposure block that has paid the first modal premium of the 2nd policy year in particular, given the following premium mode, satisfying the following conditions:

annual mode	paid at least 2 premiums
semi-annual mode	paid at least 3 premiums
quarterly mode	paid at least 5 premiums
monthly mode	paid at least 13 premiums

Note:
*annualised premium is calculated using the sum assured as at valuation date (reflecting any increases or decreases in coverage)

For example:

Month	Month of Commencement	No. of Policies issued	Month of Commencement + 13 months	No. of policies in force with duration '13 Months' falling during the period of investigation	Month of Commencement + 25 months	No. of policies in force at duration '25 Months' falling during the period of investigation
1	Dec-05	50.00	Jan-07	47.50	Jan-08	38.00
2	Jan-06	75.00	Feb-07	60.00	Feb-08	45.00
3	Feb-06	100.00	Mar-07	85.00	Mar-08	61.20
4	Mar-06	125.00	Apr-07	102.50	Apr-08	71.75
5	Apr-06	150.00	May-07	118.50	May-08	77.03
6	May-06	175.00	Jun-07	154.00	Jun-08	110.88
7	Jun-06	200.00	Jul-07	172.00	Jul-08	129.00
8	Jul-06	225.00	Aug-07	184.50	Aug-08	129.15
9	Aug-06	250.00	Sep-07	195.00	Sep-08	126.75
10	Sep-06	275.00	Oct-07	206.25	Oct-08	136.13
11	Oct-06	300.00	Nov-07	210.00	Nov-08	134.40
12	Nov-06	325.00	Dec-07	227.50	Dec-08	141.05
	Total	**2250.00**		**1762.75**		**1200.33**

Persistency Calculation

13^{th} Month persistency is 1762.75 / 2250 = 77.80%

25^{th} Month persistency is 1200.33 / 2250 = 53.35%

The above example is based on a issue month basis. Alternatively, a period of investigation can be chosen to calculate 13^{th} and 25^{th} month persistency ratios by working backwards.

1. All policies assumed are annual mode policies. Though the example is explained using number of policies, annualised premium can be used to explain the same logic.

Appendix C

Investment Details

a) **Details of Investments Held –** Provide the details of the investments held, as at the Report Date, in respect of Non-linked policyholders' fund, Linked policyholders' fund and the Shareholders' fund in format given below.

(Rs. Crores)

Item	Current Year (X)		Year (X-1)		Year (X-2)		Year (X-3)		Year (X-4)	
	Book Value	Market Value	Book Value	Market Value	Book Value	Market Value	Book Value	Market Value	Book Value	Market Value
1. Bonds, Securities and Debts										
(a) Central Govt.										
(b) State Govt.										
(c) Public Sector										
(d) Private Sector										
(e) Total Bonds, etc.										
2. Mortgages										
(a) Commercial										
(b) Residential										
(c) Total Mortgages										
3. Equities										
(a)Listed										
(b)Unlisted										
(c)Total Equities										
4. Real Estate										
(a) Commercial										
(b) Residential										
(c) Total Real Estate										
5. Others (specify)										
6. Total Investments										

Notes: The market values should be determined as per the provisions of the Insurance Act, 1938

b) **Mean Yield on the Funds –** Provide in Table below the mean yield on the policyholders' and shareholders' funds for the year. The yield should be calculated after deducting the investment expenses.

Mean Yield on Funds

Fund:	Current Year		Previous Year	
	A: with realized gains	B: with unrealized gains	A: with realized gains	B: with unrealized gains
1. Policyholders' Fund(Non-Linked) par				
2. Policyholders' Fund (Non-Linked) Non-par				
3. Shareholders' Fund				

Investment Yield:

Provide TWRR (Time weighted rate of return), as per table below:-
(Insurer should use the procedure/method in arriving at TWRR applicable, as explained in the note below)

S.No/Item	Current Year		Previous Year	
C1	C2: With realized gains	C3: With unrealized gains	C4: With realized gains	C5: With unrealized gains
Policyholders' Funds:				
Non-Linked: R1. Par				
R2. Non-Par				
R3.Sub-Total				
Linked: R4. Par				
R5. Non-Par				
R6. Sub-Total				
R7.Grand Total				
Shareholders' Funds				

c) **Asset Defaults –** Show in Table below the details of losses caused during the year due to asset defaults. Also, show the comparative figures for the previous year. Please furnish, in all tables under this sub-section, the information separately for par and non-par funds, and also any other fund specifically maintained under policyholders' funds.

Details of Asset Defaults (Rs. Lakhs)

Description of Asset	Carrying Value before Written down	Amount of Written down
1. Policyholders' Fund (List the assets individually) Total 2. Shareholders' Fund (List the assets individually) Total		

Total Asset Defaults

	Current Year	Previous Year
1. Policyholders' Fund (a) Total Amount of Written downs (Rs. Lakhs) (b) % of Mean Assets over the year 1. Shareholders' Fund (a) Total Amount of Written downs (Rs. Lakhs) (b) % of Mean Assets over the year		

d) **Non-Performing Assets –** Show in Table below the level of non-performing assets. Comment on any unusual events that may have happened during the year. Please furnish, in all tables under this sub-section, the information separately for par and non-par funds, and also any other fund specifically maintained under policyholders; funds.

Non-Performing Assets (NPA)

	Policyholders' Fund		Shareholders' Fund	
	Current Year	Previous Year	Current Year	Previous Year
1 Amount of NPA (Rs. Lakhs) 2. % of Total Fund 3. Provision for NPA in the financial statement (Rs. Lakhs)				

METHODOLOTY FOR TIME WEIGHTED RATE OF RETURN

Modified Dietz method

The modified Dietz method is a method of evaluating a portfolio's return based upon a time weighted analysis.

Formula:

$$r(T) = \frac{MV(T) - MV(0) - SUM\ [C(t)]}{MV\ (0) + SUM\ [W(t)*C(t)]}$$

Where:

r(t) -- Modified Dietz return, MV(T) – Ending market value

MV (0) – Beginning market value, C(t) – Net contribution occurring on day t

W(t) – weight of the net contribution on day t.

W(t) = {T – t} /T, where:

T – Total number of days, and t – day the net contribution occurs

The modified Dietz method assumes that net contributions are invested at the end of the respective day they occur.

An example of the Modified Dietz method				
01-Mar-09	MV(0)	1,358,927	(Market Value at Beginning)	
31-Mar-09	MV(T)	2,164,501	(Market Value at Ending)	
Date	**Net Cash flow - C(t)**	**At Day t**	**Weights W(t)**	**Weighted Cash Flow W(t) * C(t)**
03-Mar-09	29,718	3	0.90	26,842
06-Mar-09	-25,714	6	0.81	-20,737
08-Mar-09	260,000	8	0.74	192,903
10-Mar-09	300,000	10	0.68	203,226
17-Mar-09	60,244	17	0.45	27,207
17-Mar-09	75,000	17	0.45	33,871
22-Mar-09	34,244	22	0.29	9,942
23-Mar-09	-34,244	23	0.26	-8,837
28-Mar-09	28,830	28	0.10	2,790
28-Mar-09	42,000	28	0.10	4,065
	770,078			**471,271**

Performance for Month of March 2009 using Modified Dietz method:

$$r(T) = \frac{MV(T) - MV(0) - SUM\ [C(t)]}{MV(0) + SUM\ [W(t)*C(t)]} = \frac{(2164501-1358927-770078)}{(1358927+471271)} = 1.94\%$$

Where: W(t) = (T-t)/t

e.g: W(t) for 06-03-2008 = (31-6)/31 = 0.81

Appendix D –

RISK MANAGEMENT

Company overview

The purpose of this section is to provide an overview of the company's business and the environment it exists in, covering:

- Company strategy
- The material lines of business written
- Key risk exposures
- Risk mitigation in place
- Significant business or external events that have had a material effect on the business
- Key trends or factors that have or may have an impact on the business

The information provided should include details of any changes in the above since the previous report.

Risk management system

The Appointed Actuary should provide an overview of the company's risk management system. This should include a description of:

- Risk strategy
- Risk management roles and responsibilities
- Written policies and procedures the company has in place
- Approaches/tools used to identify and assess risks, including details of key risk indicators and metrics used
- Approach to identifying emerging risks
- Risk monitoring procedures
- The internal controls framework
- Risk reporting, including scope and frequency

- Risk mitigation methodologies used
- The review process and feedback loop

Any changes implemented in the risk management system since the previous report must be clearly highlighted, and proposed changes documented, along with the proposed implementation timeline. Any risks that are not considered within the company's risk management system should also be clearly highlighted, along with an explanation of why they are not included.

The Appointed Actuary should provide his/her view on the appropriateness of the risk management system, given the nature, scale and complexity of the business.

Risk management

Commentary should be provided on exposure, concentration, mitigation and sensitivity to each material risk, in each of the listed risk categories, where relevant. This section should include details of any risk management processes or mitigation tools the company plans to put in place, and the proposed timeline for implementation.

Risk categories

1. Insurance risk (persistency, mortality, morbidity, reinsurance counterparty risk)
2. Investment risk (market, credit, liquidity, counterparty, embedded financial options risk)
3. Asset liability mismatch risk (duration, interest rate)
4. Operational risk (people, processes, systems, controls risk)
5. Other material risks

Risk exposure

Details of:

- Nature and extent of the risk exposure, and how this has developed
- Products and investments that give rise to the risk, including for investment risk, details of the investment strategy
- Qualitative and quantitative measures used to assess the risk

- The level of risk the company is prepared to take, or the company's tolerance for the risk
- Controls in place to manage the level of risk
- View on whether the current level of risk is acceptable or not
- Other risk categories affected by this risk, for example, embedded financial options have an impact on the level of insurance risk as well as investment risk

For example, for a product with little or no underwriting:

- Details of the product structure
- Number/size of policies in force, split down by key risk indicators, e.g. age, duration
- Description of how experience compares with pricing assumptions Description of how experience has developed over time
- Details of the company's tolerance for this risk, say in terms of sum assured by policy and in aggregate, along with procedure for changing these limits depending on experience
- Description of the controls in place to prevent these limits being breached
- View on whether the current level of risk is acceptable

Concentration

Details of concentrations of risk, by risk category, for example across the financial sector, by insurance risk type, by reinsurer, etc.

For example, provide details of any concentration of risk by entity/sector across different asset classes.

Mitigation

An explanation of appropriateness of reinsurance and other risk mitigation tools to reduce risk exposures.

Details of any risk mitigation tools currently in place and the processes for monitoring their effectiveness.

The Appointed Actuary is required to give his/her view of the appropriateness of any risk mitigation tools in place.

Sensitivity

Information on the sensitivity of the business to the key risk exposures, including a sensitivity analysis for each of the key risks, for example, interest rate risk, to which the company is currently exposed.

The report should include details of the methods and assumptions used to assess the sensitivities and any changes in these since the previous report.

Investments

The AA should also provide specific details pertaining to investments as below:

- Detail of investment strategy

- Views on whether assets and liabilities are well matched and if not, why not and implications.

- Details of what financial options there are in the liabilities and how they are mitigated.

- Views on non-standard asset holdings.

Economic capital

Companies are encouraged to calculate Economic Capital ("EC") and the Appointed Actuary should provide details of:

- Risks analysed
- Methodology and process used to calculate EC, including rationale for the methodologies adopted for each risk
- Any management actions allowed for, including justification for these
- Key assumptions covering both assets and liabilities, including background to the derivation of key assumptions
- Method used to derive the economic basis used, including the calibration process
- Stress and scenario analysis applied
- Quantitative results of the stress and scenario tests applied
- Any allowance made for diversification

The required Economic Capital should be broken down by its various components (e.g. for each risk). This should be compared with available Economic Capital.

Appendix E

Analysis of Surplus

Conventional business				
	Variances on account of	**Variation of actual from best estimate (A)**	**Contribution from PAD (B)**	**Total (C) = (A) + (B)**
1	Investment Return			
2	Expenses			
3	Mortality			
4	Lapses/Surrenders			
5	Cost of Bonus[3]			
6	Release of Zeroisation			
7	Method/Basis Change			
8	New Business Strain			
9	Others			
	Total			

Unit Linked business				
	Variances on account of	**Variation of actual from best estimate (A)**	**Contribution from PAD (B)**	**Total (C) = (A)+(B)**
1	Investment Return on non-unit fund			
2	Expenses			
3	Mortality			
4	Lapses/Surrenders			
5	Release of Zeroisation			
6	Method/Basis Change			
7	New Business Strain			
8	Actual vs Expected Charges			
9	Others			
	Total			

The order in which the above parameters are analysed is left to the AA to decide after giving due consideration to the nature of the company's business.

[3] This will reflect the cost of bonus net of the provision made for such bonus in the reserves. The surplus on Form I (prior to distribution) is disclosed using reserves with no allowance for the cost of bonus.

This surplus should tally with the "surplus emerged during the year" from the revenue account.