

Circular No: IRDA/ACT/PNTC/GEN/179/08/2011

To

CEOs of all Non-life Insurers and Reinsurers

Re: Asset-Liability management and Stress testing

Asset-liability management (ALM) is the practice of managing a business so that decisions and actions taken with respect to assets and liabilities are coordinated. ALM is relevant to, and critical for, the sound management of the finances of the insurers that invests to meet its future cash flow needs and capital requirements.

Stress testing helps insurers to ascertain the potential level of vulnerability to different scenarios, to manage their risks and maintain enough financial resources to manage them. Stress tests enable insurers to study the quantitative impact of different scenarios and its affect on the solvency of an insurer. The stresses may be financial, operational, legal, liquidity based or be related to any other risk that might have an adverse economic impact on the insurer.

As Asset Liability Management and Stress testing plays a vital role in the sound management of the insurance business, the Authority prescribes the following additional guideline to the existing framework which is already prescribed in the Financial Condition Report (FCR). The guidelines shall be applicable to all non-life insurers and reinsurers and shall come into effect from September 30, 2011.

I. Asset Liability Management:

ALM being the critical area of managing the finances of the insurers, Authority vide its Circular No: IRDA/ACT/CIR/MISC/081/05/2010, May 13, 2010, has mandated all the non-life insurers to provide the details of ALM activities undertaken by them Section-11 on 'Investments and ALM' of Financial Condition Report (FCR).

On thorough examination of the details of ALM activities submitted by the non-life insurers in the FCR for the year ended March 31, 2010, it appeared that these details are incomplete and inconsistent. As the mandate by the Authority was very broad, each insurer had adopted their own measures in reporting such details in FCR. In this regard, the following framework shall be put in place by the insurers:

1. Insurers shall have an ALM policy approved by the Board of the insurer and shall be submitted to the Authority within 45 days from the date of this circular. The Board shall approve the insurer's ALM policy, considering the asset-liability relationships, the insurer's overall risk tolerance, risk and return requirements, solvency position and liquidity requirements. The Board shall regularly review such policy at the year end or at more frequent intervals, if required, and submit to the Authority any changes in the ALM policy along with the FCR.
2. Insurers shall have in place effective procedures for monitoring and managing their asset-liability positions to ensure that their investment activities and asset positions are appropriate to their liability, risk profiles and their solvency positions. The insurers shall confirm compliance to this requirement within 45 days from the date of this circular.
3. The ALM policy shall, at the minimum, enable the insurer to:
 - 3.1 understand the risks they are exposed to;
 - 3.2 develop ALM policies to manage them effectively;
 - 3.3 apply techniques appropriate for the nature of their business, the risks they undertake and specific /local market conditions; and
 - 3.4 measure the interest rate risk, in particular, faced by the insurers and thereby improving the assessment of the asset liability management strategies of the insurers.
4. The insurer shall examine all risks requiring the coordination of its assets and liabilities. The ALM framework shall cover all the areas significant in terms of their potential impact on economic value. These may include risks like:
 - 4.1 Market Risk
 - 4.1.1 interest rate risk (including variations in market credit spreads)
 - 4.1.2 equity, real estate and other asset value risks
 - 4.1.3 currency risk
 - 4.1.4 related credit risk
 - 4.2 Underwriting Risk
 - 4.3 Liquidity Risk
5. The insurer shall develop and implement controls and reporting procedures for its ALM policies that are appropriate for its business and the risks to which it is exposed. These shall be monitored closely and reviewed regularly.

6. All non-life insurers shall submit the data with respect to the assets and liabilities in the format, **(Table-ALM)** as per Annexure-1, on a quarterly basis within 21 days from the end of each quarter, starting from the quarter ending September 30, 2011 onwards.
7. 'Table-ALM' data shall be furnished for:
 - 7.1 base discount rate applicable and, with such base discount rate increased & decreased by 1% and 2%.
 - 7.2 impact on duration due to changes in the following:
 - 7.2.1 fall of 30% in Equity values, 100 basis points fall in yield available on various fixed interest securities, adverse deviation of 50% in mortality/morbidity/claim rates, expenses, cancellation rates, renewal rates and 50% (increase and decreasing) in new business volumes independently .
 - 7.2.2 fall of 30% p.a. in Equity values, 100 basis points p.a. fall in yield available on various fixed interest securities, annual adverse deviation of 25% p.a. in mortality/morbidity/claim rates, expenses, cancellation rates, renewal rates and 25% (increase and decreasing) in new business, during three years from the report date independently.
- 8 Table-ALM data should be furnished separately for 'Fire', 'Marine', 'Health', 'Motor-Third party', 'Motor-Own damage', 'WC/Employers', 'Liability', 'Public/Product Liability', 'Aviation', 'Personal Accident' and 'Other classes of businesses'.

II. Stress testing

- 9 Stress Testing being critical in the management of risks and the financial soundness of the insurers, Authority vide Circular No: IRDA/ACT/CIR/MISC/081/05/2010, May 13, 2010, has mandated all the non-life insurers to conduct stress testing and provide the details in Chapter 14 of the Financial Condition Report (FCR).
- 10 On thorough examination of the requirements, it has been felt necessary to prescribe minimum requirements for the stress testing. In this regard, the insurer shall submit Format-ST-NL (Annexure-2 to this circular) as per the risk factors described in Annexure-3. The amount of deviation in the risk factors may be considered as per the risk profile of the insurer. However, the insurer shall submit the results of stress testing with respect to

the scenarios based on the following specific risk factors as stated below in addition to the insurer specific deviations in the risk factors described in Annexure-3.

10.1 Fall of 30% in Equity values, 100 basis points fall in yield available on various fixed interest securities, adverse deviation of 50% in mortality/morbidity/claim rates, expenses, cancellation rates, renewal rates and 50% (increase and decrease) in new business volumes independently.

10.2 Fall of 30% p.a. in Equity values, 100 basis points p.a. fall in yield available on various fixed interest securities Annual adverse deviation of 25% p.a. in mortality/morbidity/claim rates, expenses, withdrawal/lapse rates and 25% (increase and decrease) in new business, during three years from the report date independently.

11 Insurer's Board shall ensure timely review of the issues emanating from '**Table-ALM**' data and **Format-ST-NL** and take such corrective action as may be necessary under intimation to the Authority.

The circular is issued under Section 14 of IRDA Act, 1999.

Sd/-
(J. Hari Narayan)
Chairman

Annexure-1

The amount of assets and liabilities in each of the duration buckets as indicated below should be furnished. Macaulay duration should be used in this regard.

Line of business:

As on:

Table-ALM

Macaulay Duration				
Base Scenario (1/2/3/4/5)	Assets in Rs. (000)	Liabilities in Rs. (000)	Net	Net, Hedged
Under 1 year				
1-2 years				
2-3 years				
3-5 years				
5-7 years				
7-10 years				
10-15 years				
15-20 years				
20-25 years				
Above 25 years				
Total				

Notes:

1. Discount rate used in arriving at 'Macaulay duration' of various classes of assets and liabilities shall be furnished separately.
2. Macaulay duration shall be computed as below:
For cash flows of C₁, C₂,, C_n at times t₁, t₂,, t_n respectively and with 'd' being discount rate, Macaulay duration is:

$$\frac{\sum_{i=1}^n C_i (1+d)^{-t_i} t_i}{\sum_{i=1}^n C_i (1+d)^{-t_i}}$$

3. 'Table-ALM' data shall be signed by Chairman of the insurer's Board, Chief Executive Officer, Chief Financial Officer and Appointed Actuary.

Format-ST-NL

Scenario	Value of Parameters	Value of Assets	Value of Liabilities	Available Solvency Margin	Required Solvency Margin	Solvency Ratio
I						
II						

Annexure-3

List of 'Risk Factors' to be considered in projecting financial and capital adequacy positions over the one-year period immediately following recent March 31.

1. Mortality/ Morbidity/ Claim rates: adverse deviation in experience
2. Investment returns
 - (a) Yield curve
 - (i) Parallel yield curve shift
 - (ii) No change for duration less than 5 years, parallel shift for duration more than 5 years, linear interpolation
 - (iii) Parallel shift for duration less than 5 years, no change for duration more than 5 years, linear interpolation
 - (iv) Change in credit spreads
 - (b) Equity market
 - (i) Equity crash – fall in all market, by market
 - (ii) Stock specific event risk - move in each individual stock, by stock
3. Expenses: increase in expenses
4. Renewal rates: adverse deviation in experience
5. New business: fall in new business
6. The appointed actuary shall also include shock scenarios to company's experience in the next projection year arising from changes in:
 - (a) reinsurance ceded;
 - (b) reserving basis;
 - (c) exercise rate of policy options;
 - (d) distribution to shareholders; and
 - (e) taxation.
7. The appointed actuary may also consider any other factors that have significant relevance to the insurer's business.

List of 'Risk Factors' to be considered in projecting financial and capital adequacy positions over the three-year period immediately following recent March 31.

1. Mortality/ Morbidity/ Claim rates: yearly deterioration in experience over the projection period
2. Investment returns
 - (a) Yield curve:
 - (i) Parallel yearly yield curve shift
 - (ii) No change for duration less than 5 years, yearly parallel shift for duration more than 5 years, linear interpolation
 - (iii) Yearly parallel shift for duration less than 5 years, no change for duration more than 5 years, linear interpolation
 - (iv) Change in credit spreads
 - (b) Equity market
 - (i) Equity dividend yield fall over the projection period
 - (ii) Equity total returns deteriorate over the projection period
3. Expenses: Yearly deterioration in experience over the projection period
4. Renewal rates: Yearly deterioration in experience over the projection period
5. New business: Yearly fall in new business income over the projection period
6. Where material, the appointed actuary shall also include scenarios on deterioration of company's experience over the projection period arising from changes in:
 - (a) reinsurance ceded;
 - (b) reserving basis;
 - (c) exercise rate of policy options;
 - (d) distribution to shareholders; and
 - (e) taxation;
7. The appointed actuary may also consider any other factors that have significant relevance to the insurer's business.