CIRCULAR NO. **9** OF 2016

Islamabad, March 09, 2016

SUBJECT: SECURITIES AND EXCHANGE COMMISSION GUIDELINES FOR ESTIMATION OF INCURRED BUT NOT REPORTED (IBNR) CLAIMS RESERVE, 2016

In exercise of powers conferred by Section 34(3) of the Insurance Ordinance, 2000 (XXXIX of 2000) (hereinafter referred as the "Ordinance"), the Securities and Exchange Commission of Pakistan (SECP) hereby issues the guidelines for estimation of Incurred but Not Reported (IBNR) claim reserves for non-life insurance companies (*attached as Annexure*). The guidelines prescribe the standard method for estimation of IBNR claim reserves so as to bring industry-wide uniformity in respect of such estimation and to ensure the adequacy of IBNR claims reserve.

2.   All non-life insurance companies are required to comply with all provisions of these guidelines with effect from July 1, 2016. Non-compliance of the guidelines will invoke penal action under Section 156 of the Ordinance.

Fida Hussain Samoo
Commissioner – Insurance

Distribution:

1. Chief Executive Officers of all Insurance Companies / Takaful Operators
2. Chairman (Insurance Association of Pakistan - IAP)
3. President (Institute of Chartered Accountants of Pakistan)
4. President (Institute of Cost & Management Accountants of Pakistan)
5. President (Pakistan Society of Actuaries)

Securities and Exchange Commission (SEC) Guidelines
for Incurred but Not Reported (IBNR)
<u>Claims Reserve, 2016</u>

**SECURITIES AND
EXCHANGE
COMMISSION OF
PAKISTAN**

SECURITIES AND EXCHANGE COMMISSION (SEC) GUIDELINES FOR

ESTIMATION OF INCURRED BUT NOT REPORTED (IBNR) CLAIMS RESERVE, 2016

In exercise of the powers conferred by sub-section (3) of Section 34 of the Insurance Ordinance 2000, the Securities and Exchange Commission of Pakistan hereby issues the following Guidelines namely:-

1. **Application:** These Guidelines are applicable to all classes of non-life insurance business with effect from July 1, 2016.

2. **Definitions.-**   (1)   In these Guidelines, unless there is anything repugnant in the subject or context, -

   (i)   **"Act"** means Securities and Exchange Commission of Pakistan Act, 1997 (XLII of 1997);

   (ii)   **"Actuary"** means an actuary as defined in Rule 3 of SEC Insurance Rules, 2002.

   (iii)   **"Commission"** means the Securities & Exchange Commission of Pakistan constituted under Section 3 of the SECP, Act 1997 (XLII of 1997);

   (iv)   **"Insurer"** means a non-life insurer registered under the Ordinance;

   (v)   **"Incurred but not reported (IBNR) claims"** The losses that are incurred or are in the occurrence period at the end of reporting year and have not been intimated to the Insurer by that end of reporting year, or if reported, complete details are not available to Insurer, so as to ascertain the amount of loss for that claim as claims outstanding. Thus, it includes Incurred but not enough reported (IBNER) claims reserve.

   (vi)   **"Ordinance"** means the Insurance Ordinance, 2000 (XXXIX of 2000);

   (vii)   **"Valuation Date"** is the date as on which accounting year of the insurer is closed and for which the financial statements of the insurer are made.

   (viii) **"Valuation Report"** means a report on the estimation of IBNR claims reserve in accordance with the requirements of these Guidelines whether prepared by the insurer or an actuary used for this purpose.

(2)   All words and expressions used in these guidelines but not defined shall have the same meaning as assigned to it in the Ordinance and the Act.

(3)   In these Guidelines, the word 'Takaful' may be used interchangeably with the word 'insurance', 'Family Takaful' with 'Life Insurance', 'General Takaful' with 'General Insurance', 'contribution' with 'premium' and 'Company' & "Insurer" with 'Takaful Operator'. Similarly other terms used in the Takaful Rules, 2012 associated with the Takaful business may be used interchangeably with their conventional counterpart words/terms.

3. **Determination of IBNR Claims Reserve:**   (1) An insurer shall determine the amount of IBNR claims in accordance with these Guidelines for the preparation of financial statements and regulatory returns under Section 46 of the Ordinance.

(2) These Guidelines encourage an insurer to determine the amount referred in sub-clause (1) above based on the written advice of an actuary.

4. **Submission of Valuation Report:**   (1)   An insurer shall submit a Valuation Report on the estimation of the amounts referred under clause 3 above, prepared in accordance with these Guidelines, to the Commission along with annual regulatory returns required to be submitted under Section 46 of the Ordinance. The Valuation Report shall include amongst others the quantitative reports as described in Annexure I and elaborated in Annexure II and Annexure III.

(2) If an insurer has hired the services of an actuary for the purpose of these Guidelines, the actuary shall prepare the Valuation Report in accordance with requirements of these Guidelines as well as the applicable professional standards and code of conduct which shall be mentioned in his/her Valuation Report.

5. **Insurer to maintain adequate data of claims:** (1) An Insurer shall at all times maintain adequate data of claims capturing at minimum the following data fields in respect of each claim:

(a) class of business

(b) product type within each class of business

(c) separately identifiable code for each claim

(d) policy number

(e) insured's name

(f) policy period

(g) codified details about the claim/event/loss

(h) claim amount

(i) claim status (i.e. open, closed or reopened)

(j) loss date / period

(k) reporting / intimation date

(l) paid date(s)

(m) claim settlement expenses

(n) reinsurer's name

(o) reinsurer's share in claim

(p) reinsurer's share in claim settlement expenses

(q) applicable deductible

(r) maximum cap/ceiling

(2) An insurer shall maintain the claims' records in electronic format, in addition to any other existing form, to ensure that adequate data of claims is available in an easily understandable and accessible format for its own use and to be used in any other quantitative/qualitative analysis.

6. **Data for the Estimation of IBNR Claims Reserve:** (1) An insurer shall consider the following data or information components for the estimation of IBNR claims reserve. The same shall be provided to the actuary if an insurer has hired him/her for this purpose.

(a) data of claims;

(b) data of insurance policies;

(c) financial statements;

(d) changes in underwriting policy over preceding relevant years;

(e) changes in claim administration procedures over preceding relevant years; and

(f) changes in method for estimation of outstanding claims reserve over preceding relevant years.

7. **Considerations for IBNR claim reserves:** (1) The insurer shall consider the following factors for estimation of IBNR claims reserve separately for each class of business:

(a) **Homogeneity in the claims development pattern** – The Insurer shall consider homogeneity of the claim development pattern for different classes of business or type of risks. If the classes/risks exhibit a similar pattern, the Insurer may aggregate them for estimation of IBNR claim reserve. Where a certain portfolio under a given class has a different development pattern, the Insurer shall estimate the reserve for that portfolio separately or with the relevant homogeneous risk class.

(b) **Underwriting Policy** – The Insurer shall examine the underwriting policy of the Insurer by each class/subclass/product and consider the changes in the underwriting policy and practices that have been made during the period under consideration. The effect of any such changes on the claim development pattern and the IBNR claims reserve should be examined and incorporated.

(c) **Business Mix** – The type of business mix within each risk class has significant impact on the claims development pattern. Where there is a significant change in the business mix, the impact of such change on the claims development pattern shall be examined and reflected by the Insurer in estimation of IBNR claims reserve.

(d) **Claims Administration** – The claims administration procedures and any changes in such procedures over the relevant preceding years shall be examined by the Insurer to determine their impact on claims development pattern. In this regard, the Insurer shall consider, including but not limited to, the following factors:

(i) the manner in which a claim is recorded by the Insurer at onset;

(ii) speed of the subsequent processing of claims;

(iii) promptness of loss determination and payment;

(iv) attitude of the Insurer towards litigation;

(v)   practice of partial payments of claims; and

(vi) effectiveness of recovery procedure

(e) **Reserving method for reported outstanding claims** – The Insurer's method of reserving outstanding claims is a significant factor in most IBNR claim. The Insurer shall consider any changes that have been made in the methods of estimating outstanding claims reserve. If the Insurer has the policy to reduce outstanding claims that shows no movement during the year, the effect on the IBNR shall be accounted for in the estimation.

(f) **Individual large claims and catastrophic claims** – The Insurer shall identify and separate the individual large claims and catastrophic claims from the claims data to estimate the IBNR claims reserve for regular claims. The Insurer shall apply appropriate quantitative and qualitative method to account for the individual large and catastrophic claims based on sound actuarial principals.

(g) **External Factors** – The Insurer shall consider the following external factors:

(i)   changes in legal environment;

(ii) changes in regulatory environment;

(iii) economic factors such as inflation, unemployment, credit default etc; and

(iv) other relevant external factors.

(2) **Effect of Reinsurance** – The Insurer shall calculate the IBNR claims reserve, based either on the prescribed method or an alternative method, gross of reinsurance as well as net of reinsurance. In this regard, the Insurer shall consider the impact of any changes in the reinsurance arrangement on the claims development pattern and make necessary adjustments accordingly. The Insurer shall mention in the Valuation Report any such adjustments and their rationale on account of reinsurance.

8.   **Prescribed Method:** (1) The Insurer shall estimate the IBNR claims reserve based on method as prescribed in Annexure I subject to clause (2) below.

(2) If an Insurer considers, based upon its past experience and views about future outlook, that the

prescribed method in Annexure I needs to be adjusted for the considerations as mentioned in Paragraph 7, the Insurer shall be allowed to adjust the method for the reasons to be mentioned in the Valuation Report.

9. **Margin for Adverse Deviation:** The reserve for IBNR claims shall not be valued at less than the expected settlement cost, including settlement expenses and including prudent but reasonable provision for adverse development in that expected settlement cost after valuation date.

10. **Alternative Methods:** (1) If adequate data is not available, or the available data is not reliable or relevant to estimate IBNR claims reserve based upon the prescribed method, then the Insurer may use any other generally recognised method.

(2) If an Insurer, based upon its own or industry's past experience and views about future outlook, considers that the IBNR claims reserve calculated for a specific risk class under the method prescribed in Annexure 1 does not fully reflect the peculiarities of that particular risk class, the Insurer may use any other deterministic or stochastic method that is more suitable for the risk class.

(3) Provided that the amount estimated under sub-clause (2) above, shall not be less than the amount calculated under the prescribed method.

(4) An Insurer shall state in the Valuation Report the reasons for not using the prescribed method. In this regard, an Insurer shall provide a description of the alternative method used and any assumptions or measures to estimate the IBNR claims reserve.

11. **Adequacy of IBNR claims reserve-** While estimating the IBNR claims reserve for the current reporting year, the Insurer shall evaluate the adequacy of the IBNR provisions during the last six years and include a comparison of IBNR claims provision with actual subsequent payments as per Annexure III. Such a comparison shall be provided for each homogenous risk class separately.

Annexure I

To the Guidelines on IBNR Claims Reserve

Prescribed Method

For

Estimation of IBNR Claims Reserve

1. **Prescribed Method:** The prescribed method for the estimation of IBNR claims reserve is the *Chain Ladder* method as described in the following paragraphs. The Insurer may use an alternative method for this purpose as allowed under paragraph 9 of the Guidelines after giving comprehensive reasons in the Valuation Report. Triangles may be made at frequency lesser than the annual, as deemed appropriate by the insurer considering the business dynamics.

2. **Description of Prescribed Method:** The following paragraphs describe the presentation of data of claims to be used in the estimation of IBNR claims reserve and the prescribed method:

    (a) **Accident Year:** It is the year in which an accident occurs when the insurer was exposed to a particular risk underwritten through an insurance policy. For the purpose of this Annexure, the Origin Year is the accident year.

    (b) **Development Years:** The years following the accident year *(for example, for the accident year 2012, the 2014 shall be the second development year, 2015 shall be the third development year and so on)*. For the purpose of this analysis, the Insurer shall gauge the time by which the claims for that particular class have been fully developed and no further payment is expected to be made. Such a year shall be referred as the final development year.

    (c) **Reporting Year:** The year for which the IBNR is being calculated and the financial statements and the corresponding Valuation Report is being required.

    (d) **Ultimate Claims:** The cumulative claims paid plus expected claims to be paid in subsequent development years for any accident year. The amount of ultimate claims may change for an

accident year from one reporting year to another.

(e) Claims Outstanding: The amount of claims that have been reported and are yet unpaid or partially unpaid at the end of reporting year for a given accident year. This amount shall be the best estimate by the Insurer taking into consideration the past claim settlement experience and its own reserving policy.

(f) Incurred but not reported (IBNR) claims: The losses that have incurred or are in the occurrence period at the end of reporting year and have not been intimated to the Insurer by that end of reporting year, or if reported, complete details are not available to Insurer, so as to ascertain the amount of loss for that claim as claims outstanding. Thus, it includes Incurred but not enough reported (IBNER) claims reserve.

(g) Link Ratio: It is used to project cumulative claims paid till the end of reporting year to ultimate claims for a particular accident year. For example, the link ratio (LR(0,1)) is the ratio of sum of cumulative claim paid by the end of development year 1 to the cumulative claims paid by the end of Origin Year. It is shown in Row M of Table in Annexure II. For a given development year *(d)*, mathematically it is denoted as:

General Formula:

$$LR_{(d-1,d)} = \frac{\sum_{i=BY}^{RY-d} CCP_{(i,i+d)}}{\sum_{i=BY}^{RY-d} CCP_{(i,i+d-1)}}$$

Where

$LR_{(d-1,d)}$ = Link Ratio is used for the projection of claims between the Development Year and one year prior to the Development Year calculated over the complete development period.

$CCP_{(i,i+d)}$ = Cumulative claims paid in the Development Year i+d relating to the claims that occurred in Accident Year *i*.

$CCP_{(i,i)}$ = Cumulative claims paid in Origin Year (i.e. Accident Year) relating to the claims occurred in Accident Year *i*

BY = The oldest year in the claims data that is considered to be relevant by the Insurer for the purpose of estimation of IBNR claims reserve for the current reporting year. It is fully developed

and no further claims are expected for this year.

RY = The current reporting year for which the estimation of IBNR claims reserve is being undertaken by the Insurer.

Specific Formula of Link Ratio for the Development Year 1 and Origin Year:

$$LR_{(0,1)} = \frac{\sum_{i=BY}^{RY-1} CCP_{(i,i+1)}}{\sum_{i=BY}^{RY-1} CCP_{(i,i)}}$$

$CCP_{(i,1)}$ = Cumulative claims paid in the Development Year 1 relating to the claims occurred in Accident Year i

$CCP_{(i,i)}$ = Cumulative claims paid in Origin Year (i.e. Accident Year) relating to the claims occurred in Accident Year i

3. **Estimation of Ultimate Claims:** For each accident year, all the relevant link ratios shall be used to project the ultimate claims for that particular accident year and for that particular homogenous risk class. A general formula for projecting the cumulative claims paid to the ultimate claims is given below

$$UC_i = CCP_{(i,RY)} \times \prod_{j=RY-i+1}^{RY-BY} LR_{(j-1,j)}$$

The last link ratio will be for the year where the Development Year = RY − BY.

4. **Determination of IBNR:** For each accident year, the claims outstanding shall be deducted from the ultimate claims for that particular year to derive an IBNR estimate for that year. Any negative values shall be ignored. The total for each accident year shall be the total IBNR as at the end of reporting year for that risk class.

5. **Appropriate unit of development period:** Under the method described above, the yearly development period is used. However, an Insurer may use monthly or quarterly development period for a particular risk class. The reason for using such unit of development period shall be explained in the Valuation Report.

Annexure II

To the Guidelines on IBNR Claims Reserve

Quantitative Report for the Estimation of IBNR Claims Reserve

As on December 31, 2xxx

		IBNR Claims Reserve Table											
		Sample Format for Reporting Year 2016											
		For Accident Year, cumulative claims paid till the end of									Ultimate Claims	Claims Outstanding	IBNR
Accident Year		Accident Year	1 year after the accident year	2 year after the accident year	3 year after the accident year	4 year after the accident year	5 year after the accident year	6 year after the accident year	-----	-----			
		Origin Year	Development Year										
		0	1	2	3	4	5	6		UC'	UC	CO	IBNR
	A										UC'		
	B										UC'		UC-CO
	C										UC'		UC-CO
2009	D	CCP	CCP	CCP 2H,2H	CCP	CCP	CCP	CCP			UC'		UC-CO
2010	E	CCP	CCP	CCP	CCP	CCP	CCP				UC'		UC-CO
2011	F	CCP	CCP	CCP	CCP	CCP					UC'		UC-CO
2012	G	CCP	CCP	CCP	CCP	G3×M4					UC'		UC-CO
2013	H	CCP	CCP	CCP	H2×M3	H3×M4					UC'		UC-CO
2014	I	CCP	CCP	CCP	I1×M2	I2×M3	I3×M4				UC'		UC-CO
2015	J	CCP	J0×M1	J1×M2	J2×M3	J3×M4					UC'		UC-CO
Sum of cumulative paid claims EoY	K	sum of Row A to J	sum of Row A to I	sum of Row A to H	sum of Row A to G	sum of Row A to F					NA	NA	NA
Sum of cumulative paid claims BoY	L	sum of Row A to I	sum of Row A to H	sum of Row A to G	sum of Row A to F	sum of Row A to E					NA	NA	NA
Selected Link Ratio	M	NA	LR0-1=K/L0	LR1-2=K2/L1	LR2-3 = K3/L2	R3-4 = K4/L3							
Provision for expected claim settlement expenses	N												
Provision for adverse deviation	O												
IBNR reserves as at	P												
Total	Q	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		

For an accident year, it is assumed that the claims have fully developed till the end of 7th year. This assumption needs to be reviewed by Actuary and the Table be appropriately adjusted
The shaded area shows the data that shall be compiled for analysis

Note: *An insurer may calculate link ratios for each development year (age-to-age factors) and then select link ratios for projection of Ultimate Claims based on weighted average or use latest 3-4 link ratio's average or use average excluding outliers (say excluding highest or lowest ratios).*

Annexure III

To the Guidelines on IBNR Claims Reserve

Adequacy of IBNR Claims Reserve over the Preceding Six Years

As on December 31, 2xxx

Accident Year	IBNR for the Accident Year at the end of Accident Year	Incurred in Accident Year, Unreported at the end of Accident Year, Paid in subseque						Total	Difference
		2011	2012	2013	2014	2015	2016		
	1	2	3	4	5	6	7	8	9
2011									(1) - (8)
2012		N/A							(1) - (8)
2013		N/A	N/A						(1) - (8)
2014		N/A	N/A	N/A					(1) - (8)
2015		N/A	N/A	N/A	N/A				(1) - (8)
2016		N/A	N/A	N/A	N/A	N/A			(1) - (8)

Sample Format for Reporting Year 2016

Note: *Annexure III should show a run off both of reported outstanding claims and IBNR so that both IBNR and IBNER are accounted for.*