GUIDANCE NOTE 252
ACTUARIAL APPRAISALS OF LIFE INSURANCE BUSINESS

PURPOSE

This guidance note sets out the considerations that bear on the actuary's professional work in carrying out Actuarial Appraisals of life companies or their Life Insurance Business. It describes suitable procedures for carrying out the work and for documenting assumptions and methods in an Actuarial Appraisal Report.

The guidance note is not intended to be comprehensive and is not, in itself, sufficient to allow an actuary who is inexperienced in the field to attempt an Actuarial Appraisal.

APPLICATION

All actuaries involved in performing Actuarial Appraisals of Life Insurance Business

LEGISLATION

Corporations Law, refer paragraph 5.2

CLASSIFICATION

This Guidance Note is issued because a trial period is required before a Professional Standard is produced. The Appointed Actuary is expected to disclose any departure from this Guidance Note but departure from the Guidance Note is not, in itself, unprofessional conduct.

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1.INTRODUCTION

Most life insurance policies are issued on the expectation on the part of both the purchaser and the seller that the contract will remain in force for a number of years.

While not the only business where long term contracts are the norm, Life Insurance Business is certainly amongst the most significant in the commercial world.

Both parties have expectations as regards future payments to each other. While the purchaser's obligations to make future payments are voluntary, those of the life company are not. In addition the life company expects to incur costs in administering its Existing Business in the future. Accordingly, reserves must be established to meet the policy liabilities and capital adequacy standards necessary for a company to be able to fulfil its obligations.

From the point of view of the life insurance company, the existence of the long term contract enables it to structure its terms in such a way that the expectation of an excess of future revenues over costs can justify acceptance of a shortfall at the time of sale.

This situation means that, at any point in time, the Existing Business of a life company represents an asset of value. Indeed, it is not merely an asset of some intangible value, but one which could be sold.

Assessment of the performance of a life company, whether for internal management purposes, for stock market reporting purposes, or for purchase or sale, may therefore require determination of the value of the Existing Business.

The appraisal value of any business encompasses net tangible assets and the value of intangibles such as future business capacity. For a life company the Appraisal Value requires a valuation of the Existing Business as well.

The determination of the value of the capacity of a life company to obtain future business must also take into account the expected profitability of future sales.

Actuarial techniques have been developed for the evaluation of long term contracts. However, there is a need for guidance in relation to the wider issues involved in determining the Appraisal Values of life companies and Actuarial Appraisals generally. This guidance note addresses these wider issues as well as focusing on the detailed methods relating to life insurance contracts.

2.DEFINITIONS

For the purposes of this guidance note the following expressions will be used with the meanings indicated:-

Actuarial Appraisal

An assessment performed by an actuary in relation to a life company of the present value, based on projections of future Distributable Profits on certain assumptions, of an isolated segment of its Life Insurance Business, its entire Existing Business, its Future Business Capacity, one or more of its distribution channels or the company as a whole.

Actuarial Appraisal Report

A document which sets out the procedures, methods, data and assumptions used in an Actuarial Appraisal and the results of that Actuarial Appraisal.

Adjusted Net Worth

The value of the net balance of shareholders' funds plus the Proprietors' interest in surplus residing within the statutory funds, both calculated on a basis consistent with that adopted for the purposes of the remainder of the Actuarial Appraisal.

Appraisal Date

The date as at which an Actuarial Appraisal is carried out.

Appraisal Value

A particular example of the result of the Actuarial Appraisal of a life company which may or may not be an Opinion of Value but which includes both the Embedded Value of the company and the value of its Future Business Capacity.

Capital Adequacy Reserves

Reserves in excess of statutory liabilities which, in order to meet the requirements of regulatory authorities on the assumption that those requirements apply to the Entity in isolation, must be maintained before any distribution can be made to Proprietors.

Discount Rate

A risk-adjusted rate of return used to calculate the present value of projected Distributable Profits in respect of a particular Entity or a block of its existing or future business.

Distributable Profits

The Proprietors' share of net cash flows over a particular period less any amounts carried to reserves, liabilities or provisions, including those required to meet a Target Surplus criterion.

Embedded Value

A particular example of the result of the Actuarial Appraisal representing the value of a life company's Existing Business and Adjusted Net Worth.

Entity

The company, society, segment of Life Insurance Business or distribution channel which is the subject of the Actuarial Appraisal.

Existing Business

Life insurance business of the Entity which is in force on the Appraisal Date.

Future Business Capacity

The new business of an Entity expected to be procured, on certain assumptions, after the Appraisal Date.

Life Insurance Business

Life insurance business as defined in the Life Insurance Act 1945, as amended or re-enacted from time to time including, for this purpose, disability and accident business written within statutory funds.
Opinion of Value

A view as to the value of an Entity on the open market, taking account of current market conditions.

Principal

The person, persons or organisation which commissions an Actuarial Appraisal.

Proprietors

Those who are entitled to the Distributable Profits of the Entity where the nature and extent of that entitlement is defined for the purposes of the Actuarial Appraisal.

Target Surplus

An amount in excess of Capital Adequacy Reserves, retained within the Entity in accordance with a financial management philosophy assumed to apply for the purposes of the Actuarial Appraisal.

3.SCOPE

Actuarial appraisals are carried out for use in many areas including but not limited to:

(a)facilitating the business management of a life company

(b)determining for the purpose of sale or acquisition the value of a life company, its marketing organisation, or a block of its insurance contracts

(c)publication of a value in the accounts of a life company, its parent or elsewhere

(d)the provision of information for the Proprietors of the company.

This guidance note applies to Actuarial Appraisals which are performed in relation to entire life companies, segments of life companies (for example, a direct sales operation), or existing or potential future blocks of insurance contracts.

The guidance note applies to Life Insurance Business only. Life Insurance Business has the same meaning as in the Life Insurance Act 1945, as amended or re-enacted from time to time. It therefore includes disability and accident business written within a life company's statutory funds. Whilst only applying specifically to Life Insurance Business the guidance note could be of assistance in appraising the values of portfolios of other financial products or services (for example unit trusts or Approved Deposit Funds) where the use of similar techniques is considered appropriate.

Throughout this guidance note references are made to business transacted in Australia, Australian conditions and the relevant Australian legislation. Such references should be interpreted appropriately in relation to business transacted overseas.

4.BACKGROUND

4.1 History

Actuaries have performed calculations relating to the determination of the values of life companies and blocks of Life Insurance Business for a number of years. Various papers have been written on the techniques for carrying out Actuarial Appraisals and drawing attention to the various issues which arise in communicating the results to clients.

4.2 Current Practice

The key element in any Actuarial Appraisal is the projection of Distributable Profits. The projection is carried out using reasonable assumptions relating to such items as claims, expenses, investment return and policy discontinuances. The projections may be carried out for existing and new business separately, or in combination. Appraised values are then determined as the present values of Distributable Profits at risk-adjusted rates of return.

An Actuarial Appraisal has become recognised in the business community as a critical element in placing an overall value on a life company. Almost all mergers and acquisitions in Australia occur with one or more parties having commissioned an Actuarial Appraisal. Furthermore the majority of large life insurance companies use Actuarial Appraisals to monitor management performance.

4.3 Need for Guidance Note

As practice has evolved some methods have become fairly well accepted, but some differences have emerged. In addition to differences in methods, practices have varied as regards the determination of assumptions.

There are a variety of users of Actuarial Appraisals, including sellers, buyers and management. It is also probable that regulators will become increasingly interested in such valuations. It is important that these users understand the work the actuary has performed, the limitations of the work, and any reliance the actuary may have placed on others.

For the actuary, performing Actuarial Appraisals is an area of high liability risk. Performing Actuarial Appraisals requires judgement and experience. Small changes in assumptions or methods may make material differences to the results. Thus it is believed that there is a need for guidance in this area of professional practice.

In performing Actuarial Appraisals an actuary has a myriad of assumptions and data sources from which to choose in developing financial projections and ultimately deriving a value or range of values for the Entity. In practice, Actuarial Appraisals are sometimes based on extensive analysis of confidential or proprietary information, from which thorough verification of key assumptions can be performed. In other instances, appraisals are based on more limited analysis or data because of materiality considerations or time limitations or because internal company data is unavailable so that only publicly available information can be used.

Differences in approach may have an impact on the proper interpretation of the results of the Actuarial Appraisal.

These considerations suggest that guidance should include references to:

(a)methods of determining assumptions, and

(b)the formal disclosure of those assumptions.

5. PROFESSIONAL CONSIDERATIONS

5.1 Professional Code of Conduct

In performing Actuarial Appraisals, actuaries hold themselves out to be experts in such work and in the lines of business being appraised.

Before accepting a brief to conduct an Actuarial Appraisal the actuary should consider carefully whether he or she is professionally competent to do so.

This guidance note should be read in conjunction with the Code of Conduct.

5.2 Corporations Law

Corporations Law contains a number of provisions which may affect the actuary in carrying out Actuarial Appraisals. While the lack of established precedents makes it impossible to state exact legal constraints, the actuary should be aware of the legal consequences of carrying out an Actuarial Appraisal and, if any issues are in doubt, should seek legal advice.

In some circumstances the law may place a "due diligence" burden on the actuary. The general thrust of legislation in this area is that statements made must not be misleading (whether or not made with any intent to mislead). It is against this test that the actuary is required to make appropriate assumptions. In these circumstances the actuary must be reasonably satisfied as to the accuracy of the data for the purposes of the Actuarial Appraisal. In addition, the actuary should be able to demonstrate the reasonableness of the assumptions and bases adopted.

5.3 Opinion of Value

An Opinion of Value is an assessment of the likely price which might result from an open market transaction, taking account of current market conditions. It is not necessary for an Opinion of Value to be given by an actuary. However where an actuary does give an Opinion of Value this is a matter of judgement which relies upon experience in assessing the relationship which transaction prices and share market values bear to Appraisal Values and other financial indicators.

The actuary should note the important distinction between the calculation of the value of an Entity on a particular set of assumptions and the giving of an Opinion of Value. Giving an Opinion of Value requires greater experience and judgement than carrying out other Actuarial Appraisals and the actuary

should be satisfied that he or she has the relevant experience to give such an opinion.
There are many factors affecting the market values of life companies or parts of life companies which are not necessarily encompassed within the Actuarial Appraisal process. An Actuarial Appraisal can give a value which is calculated correctly, based on reasonable assumptions and useful for the purpose intended, without validating to the market value of the relevant Entity.

Actuaries may be asked to give opinions of value in a variety of circumstances, for example:

(a)as part of a merger or acquisition

(b)for inclusion in published accounts

(c)in connection with an internal transaction on an arms length basis.

In Australia purchases and sales of life companies occur infrequently. When a transaction does occur it is unusual for the price to become public knowledge. Even when a value appears in the press it cannot necessarily be relied upon in assessing the actual price paid relative to the results of any associated Actuarial Appraisals which may have been performed.

Other information which may assist in forming an Opinion of Value of the Entity is:

(i)merger and acquisition activity which does not lead to a transaction, although it is quite likely that the views and assessments of life company values by potential buyers or sellers are not public knowledge

(ii)relevant transactions overseas

(iii)relevant transactions outside the life insurance industry, for example unit trust management companies, general insurance companies and banks

(iv)stock market capitalisations of relevant Australian and overseas financial institutions.

The actuary should consider carefully whether or not to give an Opinion of Value in the absence of information on transaction, near transaction or other market related data and the relationship which such information or data bears to Actuarial Appraisals.

The values of life companies vary from time to time due to changes in market sentiment. The actuary should be aware of the dangers of using out of date information.

In the more common circumstances where the actuary determines a value for an Entity which is not intended to be regarded as an Opinion of Value, the Actuarial Appraisal Report should make it clear that the value is not intended to represent an Opinion of Value.

5.4 Accounting Standards

Corporations Law requires company accounts to comply with relevant accounting standards. When the results of an Actuarial Appraisal may be used in a company's accounts the actuary should draw attention to the need for them to be suitably described and qualified and should be available to discuss the approach taken in the Actuarial Appraisal with the company's management and the auditor.

6.METHODS

6.1 Basic Concepts

Actuarial Appraisals may be performed in relation to isolated segments of a life company's business or for the company's entire portfolio of business. Similarly, calculations may be performed on Existing Business only, new business only, or on both taken together.

An Actuarial Appraisal generally involves:

(a)making assumptions about the future experience of the business to be appraised

(b)making financial projections of future cash flows, assets, liabilities and Distributable Profits

(c)using Discount Rates to calculate the present value for those Distributable Profits.

6.2 Discount Rate

The Discount Rate is a risk-adjusted rate of return comprising:

(a) a risk-free rate of return

(b) a risk premium above the risk-free rate to compensate the investor for the risk that actual returns will deviate from those expected. The size of the risk premium reflects the perceived degree of risk associated with those returns.

The rate used for determining the present value of future Distributable Profits should be consistent with the purpose of the Actuarial Appraisal. For example, when advising a potential buyer of an Entity the Discount Rate might reflect the rate of return desired by and particular tax circumstances of the Principal. Since risks vary by product line and between Existing Business and new business, it is natural that risk adjusted rates of return might vary similarly. Where a single overall risk-adjusted rate of return is employed, it should reflect this range of risks.

In selecting a Discount Rate, the actuary should take account of items such as:

(i) rates of return currently available or expected in investment markets

(ii) the uncertainty associated with the other assumptions

(iii) the strength of the reserving basis

(iv) any Target Surplus assumed to be maintained.

6.3 Net Cash Flows

Net cash flows are the excess of revenue account income over expenditure less:

(a) the increase in statutory liabilities

(b) amounts allocated to participating policies.

In the interests of accuracy the time intervals over which net cash flows are calculated should not be longer than one year. It may be appropriate to use monthly intervals, at least in the early years of the projection.

6.4 Distributable Profits

For life companies, not all net cash flows are distributable to Proprietors since some must be retained to provide for Capital Adequacy Reserves.

The Actuarial Appraisal may be based on the assumption that surplus is to be maintained within the company in excess of Capital Adequacy Reserves, in order to facilitate the smoothing of returns to participating policyholders or to maintain a stated demonstrable level of solvency, i.e. Target Surplus. The assumptions in this respect should be clearly established with the Principal and disclosed in the Actuarial Appraisal Report.

For the purposes of the Actuarial Appraisal, Distributable Profits consist of net cash flows less:

(b) the required increase in Capital Adequacy Reserves

(c) any allocation to Target Surplus.

Where an entity has a practice of distributing profit in excess of net cash flows as calculated above but, at the same time, amounts equal to part or all of such distributions are reinvested in the entity, these amounts must be deducted in determining the Distributable Profits to be discounted. Such a practice may be carried out for tax purposes and the tax effects must therefore also be allowed for in the calculations.

6.5 Appraisal Value of Life Company

The Appraisal Value of a life company is comprised of the following three components as at the Appraisal Date:

(a) Adjusted Net Worth

(b) Value of Existing Business

(c) Value of Future Business Capacity.

These components are usually valued separately.

The items included in each component may vary depending on the type of business being appraised, the needs of the user, and other circumstances. A range of values may be quoted by the actuary.

6.6 Adjusted Net Worth

The net worth of a company is the sum of:

(a) the net balance of the shareholders' funds,
(b) the Proprietors' share of any unappropriated surplus disclosed in the statutory funds, and

(c) the Proprietors' share of the excess of the market value of the assets of the shareholders' fund and the statutory funds over the book values of those assets.

The following are typical of the adjustments which might be made to values disclosed in the accounts of a company in determining the Adjusted Net Worth:

(i) recalculation of the values of assets and liabilities on a basis which is more consistent with the methods adopted in calculating the value of the Existing Business;

(ii) the elimination of "over conservative" margins in reserves held within the statutory funds;

(iii) valuation on a discounted cash flow basis of non-interest bearing assets and low interest loans;

(iv) allowance for additional reserves, solvency and capital adequacy margins and Target Surplus over and above the statutory minima retained within the Entity in accordance with a financial management philosophy assumed to apply for the purposes of the Actuarial Appraisal.

(v) the appropriate treatment of any liability in respect of subordinated debt.

Many other adjustments may be appropriate depending on the circumstances.

6.7 Shareholders' Funds

The net balance of the shareholders' funds includes what is shown as "Other Classes of Business" in the statutory accounts. Shareholder assets should exclude those required to cover balance sheet reserves maintained in respect of classes of business written outside the statutory funds.

Where the values of Existing Business or Future Business Capacity are included in the balance sheet these should be excluded for the purposes of assessment of the value of shareholders' funds because such assets are assessed separately in the Actuarial Appraisal.

6.8 Proprietors' Entitlement to Surplus

The Proprietors' entitlement to surplus within a statutory fund may differ depending on whether that surplus is derived from participating or non-participating business. The Life Insurance Act and the company's Articles of Association place limits on the Proprietors' entitlement to surplus. These should be recognised in the Actuarial Appraisal.

Care is required in determining the Proprietors' entitlement to existing surplus within any statutory fund which includes both participating and non-participating business but where approved separate revenue accounts do not exist. In these circumstances the Proprietors' entitlement would normally be based on the division of surplus which would be expected to be approved given continuation of current practice and regulatory guidelines.

6.9 Value of Existing Business

The value of Existing Business is the present value of Distributable Profits expected to emerge from Existing Business in the future.

In projecting future policy cash flows a model of Existing Business can be used rather than performing calculations in respect of each policy. Blocks of business are represented by single policies known as model points. Model points should be established in respect of each homogeneous block of data.

For each model point an appropriate cash flow projection is derived which allows for the characteristics of the modelled policy. Cash flow projections for the Existing Business as a whole are then derived by applying each homogeneous block of Existing Business to the appropriate projected model point cash flows and summing for all model points. Global adjustments are then made to reflect items such as tax calculations at the Entity level and expenses not modelled at the policy level.

Depending upon the type and level of reinsurance, the same process would apply in respect of reinsured business.

Whilst the usual method of determining value is to employ discounted cash flow techniques, sometimes this can be accomplished without the need to build a detailed model. Such an approach is acceptable provided the actuary is satisfied that the value of expected Distributable Profits in respect of the group of policies concerned would not differ materially if it had been calculated using more precise methods .

In some circumstances there may be insufficient data in respect of a group of policies to make the construction of a detailed model and the production of cash flow projections worthwhile. Thus approximate methods may be used instead. Care is required to distinguish those situations where such an approach is not likely to have a material effect on the result from those where it is. In the latter case appropriate qualifications should be given in presenting the Actuarial Appraisal Report.

6.10 Value of Future Business Capacity

The value of Future Business Capacity is the present value of Distributable Profits expected to emerge in respect of new business expected to be written after the Appraisal Date.

The valuation of the Future Business Capacity of an Entity is the most subjective component of the Actuarial Appraisal.

There are several methods which could be used to determine the value of Future Business Capacity. The method chosen should be that which the actuary believes is most appropriate in the particular circumstances. A suitable model should be developed in the manner described for Existing Business.

One method is to determine the net present value of Distributable Profits expected from future new business based on volumes assumed for the purposes of the Actuarial Appraisal. Appropriate allowance should be made for the risk that this future new business will not be achieved in practice. This could include using a higher Discount Rate for the period from the Appraisal Date to the points of future sale.

An alternative approach is to apply a multiplier to the present value of Distributable Profits expected from one year's new business. The multiplier represents the present value of an annuity determined as a function of the assumed new business growth pattern and the Discount Rate. The Discount Rate should reflect the risk that the new business sales will not be achieved.

As is the case with the valuation of Existing Business, appropriate allowances should be made for expected reinsurance arrangements and non-modelled business .

6.11 Capital Needs

The Life Insurance Act contains minimum capital and solvency requirements. In addition capital is required within Proprietors' funds to provide for the future requirements of statutory funds as regards the funding of future new business and capital adequacy generally, to the extent that these cannot be met from within the statutory funds themselves.

The level of capital available from within statutory funds to support existing and future new business will be directly influenced by future management strategies in relation to such items as investment policy, Target Surplus, business profitability and bonus and crediting rate philosophies. Assumptions in this respect should be established with the Principal.

The value of Future Business Capacity may be calculated on the assumption that the capital required to support the projected new business will become available as required through emerging Distributable Profits and/or transfers from Proprietors.

To the extent that current Proprietors' funds and emerging Distributable Profits within the statutory funds concerned could be insufficient to provide the additional capital required, the existence of any constraints on the raising of such capital should be considered. This issue may influence the assumed future new business when determining the value of the Future Business Capacity.

The actuary should disclose the manner in which capital needs were considered against the background of assumed future management strategies. The assumed cost of such capital should be reflected in the Actuarial Appraisal as necessary.

6.12 Assets

Whilst relying on the asset values shown in the accounts, adjustments may be made as set out in Section 6.6.

The asset values adopted must be appropriate to the circumstances and timing of the Actuarial Appraisal. Asset values adopted in a published valuation prepared on the current going concern basis may be inappropriate, even when the valuation date and the Appraisal Date are the same, if different assumptions are made as regards the future operations of the Entity.

6.13 Appraisal Date

Where the Actuarial Appraisal is carried out as at a financial year end it can be based on audited accounts and First and Second Schedule information. However, on occasions the Appraisal Date will be some other date as at which only partial information is available. In these circumstances the actuary should:

(a) take account of any experience and financial data which may have become available since the financial year end

(b) explain fully in the Actuarial Appraisal Report the methods adopted to derive values as at the Appraisal Date and give qualifications, as appropriate, for any approximations used and any inadequacies in the data.

6.14 Developing Assumptions

Assumptions are required as to:

(a) the future experience of the Entity in order to project future cash flows, and

(b) the Discount Rate in order to calculate the present value of future Distributable Profits.

There can be a range of assumptions which the actuary could determine as being acceptable, based on the circumstances of the Actuarial Appraisal. The starting point in this process should be a set of best estimate assumptions regarding future experience which, in the actuary's judgement, are reasonable and unbiased, taking into account the historical and current experience of the Entity and information available from any relevant business plans. It is important to ensure that a particular set of assumptions which appear reasonable individually are also reasonable and consistent overall.

The Actuarial Appraisal should not be based on assumptions which the actuary believes are unrealistic or inconsistent unless the Actuarial Appraisal Report is suitably qualified. However, this does not preclude the actuary from performing an Actuarial Appraisal on assumptions provided by someone else, as long as full details, including the sources of assumptions, are included in the Actuarial Appraisal Report.

Experience studies should be reviewed. If these are not available, they should be developed where appropriate and practicable.

In some instances, data may not be available or may be insufficient to provide a credible basis on which to develop assumptions. Consequently, it may be necessary to rely more on judgement, taking into consideration the company's pricing and/or reserving assumptions and the experience of other companies with comparable products, markets and operating procedures.

Certain assumptions may require input or expertise which the actuary does not possess. In setting assumptions, the actuary should obtain any necessary input from persons possessing the relevant knowledge or expertise, and should give due weight to their input. Areas where such specialist knowledge may be sought include asset default risks, marketing, expense control, underwriting and claims management, reinsurance and taxation.

It is important to recognise that the assumptions will be used to project future experience, and should therefore be selected with due regard to the expected future operating environment of the Entity.

In many areas, such as evaluating Existing Business where the Distributable Profits are sensitive to investment returns, deterministic approaches may be inadequate. The actuary should examine each assumption critically in this regard and apply stochastic analysis where the tools exist and such methods are deemed appropriate.

The assumptions used in any Actuarial Appraisal should be specific to the type of Entity being appraised and the kinds of products underwritten by the Entity. Therefore, the actuary should be familiar with all products that contribute materially to the value of the Entity concerned. Furthermore, the actuary should recognise that issues common to all Actuarial Appraisals may require different treatment when applied to different products.

Care should be exercised in making assumptions involving inter-group transactions. Reference should be made to the terms under which it has been assumed that these will continue.

6.15 Sources of Information

Depending on the nature of the relationship between the Principal and the management of the Entity the actuary should obtain the maximum possible input of relevant information from the management. In particular the actuary should form a clear view as to future business plans. In circumstances where the Principal and the Entity are not the same, the actuary should establish which business management assumptions are to be based on advice from the Entity, which are to be based on instructions from the Principal and which are to be set independently by the actuary.

The actuary should seek to obtain details of any previous Actuarial Appraisals.

The sources of assumptions should be agreed with the Principal and described clearly in the Actuarial Appraisal Report.

6.16 Company Position

The assumptions should have regard to the company's position in its markets, in particular:

(a) competition within those markets

(b) the company's distribution methods, costs an d future viability

(c) any other relevant external factors.

They should also be reasonable in the light of the company's internal organisation, in particular:

(i) the strength of its management

(ii) its operating efficiency.

6.17 Impact of Change in Nature of Business

The Actuarial Appraisal should take into account any changes which are expected to occur in the nature of the business conducted by the Entity. Such changes could include:

(a) different business plans

(b) different bonus and crediting rate strategies

(c) cost structure changes

(d) heavy voluntary discontinuances

(e) revision of investment policy.

Where these expected changes result from assumptions regarding future management decisions and actions, these should be agreed with the Principal and stated in the Actuarial Appraisal Report.

The assumptions should allow for the costs associated with the assumed changes in the nature of the business including, if applicable, those likely to be incurred as a result of the transaction to which the Actuarial Appraisal relates.

6.18 Modelling and Model Validation

The model developed to perform the Actuarial Appraisal should be appropriate for the particular circumstances. The level of detail required will depend on the size of the Entity, the complexity of its products, the homogeneity of its business and quality of data obtainable.

At one extreme, no model may be constructed and the actuary may simply use judgement as to the likely values of the various lines of business based on his or her individual experience. One step up from this would be a simple spreadsheet model with limited validation to the Entity's experience. Simplified approaches of this nature may be useful where a broad indication of an Appraisal Value is required. However, if the Appraisal Value is required to be more accurate, for example in connection with a directors' valuation for inclusion in published accounts, then a more elaborate model should be constructed.

For a more complex model, the number of model points employed will depend upon the significance of variability in the results according to entry age, duration in force, size of premium, underwriting characteristics and other business features. The model should generate all of the items that make up the total net cash flows, liabilities and Distributable Profits.

For simple products it may be reasonable to represent the whole product line by one model point. For other products their volumes and complexity may necessitate the use of a large number of model points.

It is critical that any model used in a projection reproduces the business characteristics of each product line which most affect the Distributable Profits of the Existing Business within close tolerances in the aggregate.

The validity of the model and the experience assumptions used in developing the projections should be tested against actual experience immediately prior to the Appraisal Date and against any business plan information for time periods immediately following the Appraisal Date to which the actuary has access.

6.19 Sensitivity Analysis

An important part of any Actuarial Appraisal is an analysis of the sensitivity of the results to changes in assumptions. Sensitivity testing is particularly recommended if assumptions have been based on very limited data, when deviations from expected values may be very large, or if an assumption is considered to be particularly critical.

The results of the Actuarial Appraisal may be particularly sensitive to:

(a) the Discount Rate

(b) the assumed rates of investment return

(c) expense rates

(d) persistency levels

(e) new business assumptions

(f) different assumed shareholder percentages of surplus (in relation to both participating and non-participating business).

The actuary should ensure that the uncertainty inherent in any one result of the Actuarial Appraisal is discussed in the Actuarial Appraisal Report.

7.ASSUMPTIONS

7.1 Introduction

This section deals with some specific Actuarial Appraisal assumptions. Broader discussion of assumption setting is contained in 6.14 to 6.15.

If relevant, all assumptions should be compared with those made in recent published reports on the Entity and significant differences disclosed.

7.2 Policy Liabilities and Reserves

Guidance as to the determination of policy liabilities and associated reserves are given in 6.4.

The actuary should examine the bases of all reserves held by the Entity and adjust them as necessary to reflect any differences in treatment which are required for the Actuarial Appraisal.

The actuary should take into account the planned management strategy as regards any current or intended future mismatching of assets and liabilities. This should be reflected in the assumed levels of future reserves or the Discount Rate or both.

The basis for determining the reserve for deferred tax should be reviewed in the light of expected future events as reflected in the other Actuarial Appraisal assumptions. For example, heavy voluntary discontinuances as a result of a takeover may lead to the realisation of taxable gains at a rate in excess of that previously assumed in calculating provisions for deferred tax.

Adjustments should be made for any differences in the treatment of deferred tax provisions in the accounts and in unit prices.

7.3 Discount Rate

The Discount Rate should reflect the requirements of the Principal and the guidance set out in 6.2.

7.4 Rates of Investment Return including Capital Growth

These assumptions should reflect:

(a) the basis of valuation of the assets

(b) the asset mix

(c) an analysis of anticipated new-money investment yields

(d) asset default risks

(e) risks associated with any financial derivatives.

The actuary should recognise the existence of sub-funds and allocations of assets for particular purposes within statutory funds which could influence future investment policy and hence the value of the Entity.

For products in which the investment component is significant to the Actuarial Appraisal, separate income and capital growth assumptions should be made so that the different tax treatment of each type of return can be accommodated within the calculations.

For products where the investment return is less important, for example term and disability contracts, overall rates of return and tax may be adopted. However the appropriateness of the relevant assets and the risks associated with the returns from them should be taken into account.

The assumed rates of investment return, rates of inflation, Discount Rates and, where applicable, future bonus and crediting rates should be mutually consistent.

7.5 Inflation

The inflation assumption which is explicit or implicit in the choice of expense assumptions should be consistent with the rate of investment return assumed.

7.6 Bonus and Crediting Rates

Assumed rates of investment return and capital growth should be consistent with assumed future bonus and crediting rates. In forming an opinion on appropriate assumptions the actuary should consider the Entity's bonus and crediting rate strategy, whether or not this has been applied in the past and the likelihood that it will be applied in the future. The guidance in 6.4 is also relevant in this respect.

7.7 Mortality and Morbidity Rates

Where an Actuarial Appraisal calculation uses a standard mortality table this should be adjusted to reflect the experience of the Entity, to the extent that credible data is available, and the experience of other comparable entities.

The potential for future changes, whether favourable or adverse, should also be taken into account.

7.8 Policyholder Lapse/Surrender/Premium Dormancy Rates

These assumptions should have regard to the Entity's experience and that of comparable companies within the industry generally.

The effect of lapses or non-renewal, premium change and premium dormancy on flexible-premium products should be considered in the evaluation of historical experience and the development of the actuary's assumptions as to future anticipated experience.

Economic conditions can affect persistency significantly. In addition the actuary should, where applicable, consider the potential unusually high rates of lapse, non-renewal and premium dormancy which may result if a merger or acquisition transaction is proposed.

7.9 Expenses

The actuary should ensure that expense assumptions for the purposes of the Actuarial Appraisal reconcile to actual expenses.

An excess of actual expenses might, for example, be attributable to:

(a) non-recurring expenses

(b) production, administration or overhead capacity in excess of that required for the volumes of in force and new business.

Per policy expenses might diminish as a result of future new business, economies of scale and expense reduction programs. However the excess expenses should be reflected in projected experience.

7.10 Commission

Commission and related compensation assumptions should be based on the actual or anticipated experience of the Entity. In some cases, these assumptions will be based on past history. In other cases, a detailed review of agency contracts and company practices may be necessary.

7.11 Reinsurance

Particular care should be taken in analysing financial reinsurance transactions entered into for surplus relief or other capital and earnings support purposes and reflecting this in the Actuarial Appraisal. Some reinsurance transactions may be more appropriately reflected in Adjusted Net Worth.

7.12 New Business

The assumptions regarding new business production should be selected after considering recent history and anticipated future conditions. In this regard expected changes in the business environment, taxation, the economy and society generally should all be considered.

In determining the value of Future Business Capacity, the actuary should be satisfied that the assumed nature and volumes of new business are consistent with the Entity's structure as it existed at the Appraisal Date and as it is expected to change and evolve thereafter. Assumptions as regards future change should be consistent with all the other Actuarial Appraisal assumptions. In particular assumed future expenses, product prices, bonus/crediting rates, Target Surplus and capital requirements may all affect and be affected by the future new business assumptions.

7.13 Taxation

Historically the taxation basis of life companies has changed frequently. Whilst it is likely that changes will occur in the future, the current basis, allowing for any recently enacted legislation which is yet to come into force, should be assumed to apply in the future. Reliance on this assumption should be emphasised in the Actuarial Appraisal Report.

The Actuarial Appraisal should reflect:

(a) dividend rebates to the statutory funds

(b) the assumed basis of apportionment of tax between statutory funds

(c) Proprietors' entitlement to imputation credits resulting from dividends received and tax paid

(d) the value to the Proprietors of any accumulated imputation credits at the Appraisal date.

Where appropriate in relation to the stated use of the Actuarial Appraisal, the taxation status of the Principal may be reflected in the assumptions underlying the Actuarial Appraisal via projected tax or the tax rate assumed in determining the Discount Rate.

7.14 Surplus Allocation

Where separate participating/non-participating accounts are not maintained, the actuary may need to estimate the portion of current surplus attributable to each, in order to determine the Proprietors' interest in the total surplus.

In determining the allocation of surplus due consideration must be given to the constraints of the Life Insurance Act, ISC guidelines and the Entity's Articles of Association.

7.15 Guarantees and Options for the Policyholder

In setting assumptions the actuary should consider policy guarantees, options available to policy owners and their effect on the Actuarial Appraisal.

The cost of guarantees granted to policy owners should be determined and taken into account.

7.16 Options for the Company

In setting the assumptions, the actuary should consider options available to the company but should be wary of assuming departing from established company practice.

Where assumptions are made regarding management actions in relation to such options, for example the setting of variable policy charges, bonus rates and surrender value bases, these should be consistent with the other Actuarial Appraisal assumptions and with market practice.

8.COMMUNICATION AND DISCLOSURES

8.1 Actuarial Appraisal Report

A written Actuarial Appraisal Report should be prepared. This should include a summary of the actuary's conclusions from the appraisal calculations that have been performed.

The required content of an Actuarial Appraisal Report will depend on the circumstances. However it should include at least the items in this section.

8.2 Description of Entity being appraised

The report should contain a summary description of the Entity being appraised. Reference should also be made to any business excluded from the Actuarial Appraisal and an explanation given for so doing. Where appropriate there should be a description of the corporate organisational structure, stating what part constitutes the Entity. In addition, where applicable, a discussion of the marketing, lines of business, and products of the Entity should be included.

8.3 Appraisal Date

The Appraisal Date should be shown.

8.4 Scope of Assignment

Reference should be made to the terms of engagement including relevant instructions given to the actuary. The actuary's Principal should be clearly identified. The report should discuss the scope and purpose of the assignment and any limitations imposed by the Principal.

8.5 Intended Use

There should be a clear description of the intended use of the Actuarial Appraisal Report and, if necessary, a statement of how or why it might be inappropriate for purposes other than the ones for which it was intended. This description should be consistent with the scope of the work carried out.

8.6 Results

The Actuarial Appraisal Report should provide the value or range of values obtained from the Actuarial Appraisal calculations. Values should be shown for each of the components described in 6.5 as appropriate. An indication of the sensitivity of the results to changes in assumptions should be given including a description of sensitivity tests carried out.

8.7 Methods adopted

For each component of value, the Actuarial Appraisal Report should contain a description of the methods used. If data was obtained as at a date other than the Appraisal Date, a description of the method used to roll the data up to the Appraisal Date should be included together with comment on the effect of the approximations involved.

8.8 Validation

For lines of business which were valued using a model there should be a description of the validation techniques employed and their results.

8.9 Reliances

The report should identify the information, documents, and data upon which the actuary relied. The degree of independent verification of the data undertaken by the actuary should be disclosed.

8.10 Assumptions

The Actuarial Appraisal assumptions should be set out in detail. The basis for determining each material assumption should be described. The reasonableness of the assumptions for the purposes of the Actuarial Appraisal should be discussed including whether they are:

(a) consistent with past experience

(b) not consistent with past experience but are attainable under reasonable, specified conditions

(c) specified by the Principal.

Discussion should include the following:

(i) Where assumptions are based on company or other experience studies, the report should describe those studies

(ii) Where assumptions are based on judgement or industry experience, the actuary should discuss any relevant factors which led to the choice of assumptions

(iii) Where assumptions differ from recent experience because of trends, known changes in the environment or anticipated changes in the operations of the Entity, the actuary should discuss the factors which led to the assumptions used

(iv) Where assumptions were set using input or expertise from outside sources, the report should disclose the sources of such information and the reasons for reliance on it

(v) If relevant, comment on any significant differences between the assumptions underlying the Actuarial Appraisal and those underlying any other published reports

(vi) Where the actuary has knowledge of factors which may have a material bearing on one or more of the assumptions, the actuary should disclose such factors and the results of sensitivity tests which have been carried out

(vii) Where assumptions are specified by the Principal the actuary should comment on their reasonableness and, where appropriate, indicate the effects of adopting other assumptions which the actuary may consider to be equally or more reasonable.

If relevant, where assumptions differ from those used in other similar work such as pricing, business planning or realistic reporting, the Actuarial Appraisal Report should indicate the reasons for any significant differences.

8.11 Limitations

The Actuarial Appraisal Report should identify the limitations attaching to the values developed and their applicability in particular situations, as the result of items or lines of business excluded, lack of reliable data, recent or pending changes in operations or other considerations. It should also state any limitations the actuary places on its distribution.

8.12 Departure from Guidance Note

In the event of departures from this guidance note an explanation of the reasons for those departures should be disclosed in the Actuarial Appraisal Report.

8.13 Identity, Qualifications and Capacity of Actuary

There should be a clear statement of the identity of the actuary, the actuary's qualifications and the capacity in which the actuary is acting.

8.14 Disclosure if not an Opinion of Value

An Actuarial Appraisal should indicate clearly its nature and intended use. Where any result given in an Actuarial Appraisal could reasonably be construed on the basis of its form or conclusions to be an Opinion of Value but is not, a clear statement and explanation of that fact should be given in the Actuarial Appraisal Report.

END OF GUIDANCE NOTE 252