FINAL

VALUATION TECHNIQUE PAPER NO 10 - VALUATION OF PARTICIPATING POLICY LIABILITIES

COMMITTEE ON LIFE INSURANCE FINANCIAL REPORTING

FINAL VERSION AS APPROVED BY COUNCIL

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Canadian Institute of Actuaries **Institut Canadien des Actuaires**

MEMORANDUM

To: All Members of the Canadian Institute of Actuaries

From: Stuart F. Wason, Vice-President

Date: September 26, 1996

Subject: **Valuation Technique Paper Nº 10 - Valuation of Participating Policy Liabilities**

Enclosure: Standard of practice dated September 1996

The Council, on the advice of the Committee on Life Insurance Company Financial Reporting and the Committee on the Adoption of Standards of Practice, has approved the enclosed standard of practice in accordance with the Institute's interim due process for adoption of standards of practice.

This standard defines accepted actuarial practice for the Valuation of participating policy liabilities and is effective for financial reporting after January 1, 1997.

Actuaries may wish to review with their auditors the need to disclose the impact of adopting this standard, if it is material, on the policy liabilities. Early implementation of this standard is encouraged.

SFW

Secretariat: 360 Albert #820 Ottawa, Ontario, Canada, K1R 7X7 (613) 236-8196 Fax: (613) 233-4552

TABLE OF CONTENTS

VALUATION TECHNIQUE PAPER Nº 10 - VALUATION OF PARTICIPATING POLICY LIABILITIES

1 Scope

This is a standard of practice for the valuation of participating policy liabilities to be used in financial statements prepared in accordance with Generally Accepted Accounting Principles (GAAP).

With the following qualification concerning group policies, these standards apply to all participating policies, whether life or accident and sickness insurance or annuities. These standards also apply to nonparticipating policies that pay dividends.

Participating group insurance is often indistinguishable from experience-rated nonparticipating group insurance. Therefore, this paper deals explicitly only with the subject of participating individual policies. However, the actuary should apply judgment in deciding whether these standards also apply to a specific group insurance or annuity contract under consideration.

The standards set out in this paper, and those set out elsewhere for the valuation of universal life policies, apply to the valuation of participating universal life policies.

While the treatment of dividends is an important focus of this paper, the valuation of nonguaranteed benefits other than dividends should conform to the same standards that apply to the valuation of dividends.

2 Policyholders' Reasonable Expectations

The actuary should make a provision for the participating policy liabilities that is consistent with the reasonable expectations of policyholders and in a manner that is consistent with the valuation of the assets.

Providing for policyholders' reasonable expectations is a complex matter. It is intended to cover situations where strictly contractual obligations are an insufficient standard for determining what are the liabilities to be valued. Participating business is a case in point.

The first step in the valuation of policy liabilities is the selection of expected experience assumptions and the policy elements, (e.g., premiums, death and surrender benefits and policyholder dividends) consistent therewith. When policy elements are not fixed, several factors may serve as a guide to the actuary in selecting the assumed policy elements. One is to consider the insurer's policy, if any, for the adjustment of policy elements. Another is to consider the insurer's past practice with respect to adjusting policy elements. The actuary should also consider what representations and communications have been made to policyholders with respect to the adjustment of those policy elements.

In the simplest case, the insurer will consistently apply a clear formula to the adjustment of policy elements. For example, the rate of interest credited to the policy is always equal to the rate earned on the allocated assets less a specific margin. If the insurer has a well-established practice of applying the formula, has expressed no plans for changing the formula (e.g., by increasing the margin) and has been careful to see that policyholder communications

have been consistent with the application of the formula, then the application of the principle is straightforward: the assumed policy elements will be consistent with the expected experience and with the continued application of the formula.

A slightly more complex case is one where the insurer has consistently applied a clear formula and policyholder communications have always been consistent with it, but intends to change the formula. The actuary should inquire as to whether the insurer intends to communicate the change to policyholders. If not, it is appropriate for the change to be disclosed in notes accompanying the financial statements.

Deviations from the application of an express policy deserve the actuary's close attention and should be brought to the attention of the board. The actuary should enquire as to whether the insurer has a plan to rectify the situation by restoring a practice consistent with its policy. If so, the actuary should set assumed policy elements that reflect management's plan. If not, the actuary should consider whether expectations have reasonably been created that the insurer has, in fact, modified the formula and, if so, how, and should set the policy elements accordingly. In such circumstances, the same disclosure is appropriate as in the case of the prior paragraph.

In more complex cases, there will be no set formula or it will have been inconsistently applied or policyholder communications will have been loosely controlled. In such cases, the actuary should consider what expectations might reasonably have been created by past practices and policyholder communications when setting the assumed policy elements.

Usually, policyholders' reasonable expectations relate to the application of an experience-related formula or policy. However, in some cases, they will instead relate to specific dollar amounts. For example, the insurer might have made no adjustment for many years to policy elements, notwithstanding its contractual right to do so, or it might have no clear intention of doing so. In an extreme case, policyholder communications may have been so loosely controlled or representations may have been made that, in the opinion of the actuary, the risk of legal action cannot be ignored. In all such cases, the actuary should consider whether the insurer has created reasonable expectations among policyholders that such policy elements are, in fact, not adjustable, and value the policy liabilities as though they had been undertaken on fixed terms.

In the worst case, or where legal proceedings have actually been instituted by one or more policyholders, this may not be enough. The actuary should obtain the appropriate advice in estimating the additional liability, including expenses, that the insurer might face as a result. In general, satisfaction of CICA standards should mean that no additional amount need be added to the policy liabilities, but the actuary should be satisfied that appropriate provisions are being held.

3 Valuation Method

The participating policy liability is the discounted present value of the future benefits and expenses less the discounted present value of the future policy premiums according to the expected experience scenario, plus the provision for adverse deviations.

Rather than compute the policy liability (before adding the provision for adverse deviations) according to the expected experience scenario, the actuary may apply the current experience and the current dividend scale, or the dividend basis, where, in the actuary's opinion, the results of such computations are consistent with the spirit and intent of these standards.

4 Expected Experience Scenario

The expected experience scenario consists of the expected experience, together with the valuation dividend scale and other policy elements consistent with the expected experience.

Regardless of how the dividend scale is constructed, the actuary should make a judgment of the expected experience with respect to every relevant risk factor, which may include mortality, morbidity, interest, inflation, lapse, expenses and taxes other than taxes on profit.

The following notes on specific experience factors should be reflected in the actuary's projection of expected experience.

4.01 Mortality and Morbidity

The standards for setting assumptions for the expected mortality and morbidity experience in the valuation of individual nonparticipating insurance and annuity liabilities apply to the actuary's work in making a judgment of the expected mortality and morbidity experience for the expected experience scenario.

In the case of term insurance renewable at the option of the policyholder, the actuary should project the expected experience to the end of the last period for which the insurance may be renewed. The effects of antiselective lapsation occurring in conjunction with scheduled premium increases should be considered.

The actuary should recognize that disability experience is influenced by economic cycles to an important degree.

4.02 Interest

Except in the determination of the provision for adverse deviations, the selection of the current and ultimate reinvestment rates that is prescribed in standards of practice for the future cash flow investment assumption for ordinary life insurance valuation does not apply. Instead, the expected experience scenario should reflect the projection of cash flows from currently invested assets combined with a projection of constant new money rates.

In forecasting future portfolio interest rates, the actuary should proceed by projecting the flows from the existing portfolio of assets and the net expected cash flows generated by the liability portfolio to which the assets are assigned.

In doing so, the actuary should recognize the sensitivity of the asset and liability cash flows to the assumed future new money rates.

The treatment of asset impairment depends upon the insurer's dividend policy. It may be the insurer's policy to pass through the cost of all impairments directly through the dividend scale, perhaps over several years. In such cases, the expected experience scenario should reflect the expected rate of asset impairment and the consequent reductions in dividends. Another approach would be to make a level charge in the dividend formula for the cost of asset impairments, effectively a contribution to surplus, with the intent that actual asset impairments would be charged directly to surplus. In such circumstances, the expected experience scenario should reflect a before-impairment periodic rate of return.

There is no reliable way to predict future new money interest. Future new money rates should be assumed to be the same as the new money rates available at the valuation date. For this

purpose, the actuary may assume that derivative securities available on the valuation date will continue to be available in future.

The actuary should make an appropriate provision for investment expenses and any direct taxes on investment income. Part XII.3 tax under the Income Tax Act (Canada) should also be dealt with explicitly.

These projections should, in every material respect, be consistent with the insurer's investment policy.

4.03 Lapse

In the selection of expected lapse rates for the expected experience scenario, the actuary should respect the standards of practice for the selection of lapse rates under nonparticipating policies.

4.04 Expense and Tax

The actuary should consider the application of taxes of all types to the valuation of participating policy liabilities.

A provision for inflation should be incorporated into the expected administrative expense rates by assuming an inflation rate equal to the forecast new money rate on short-term securities issued by the national government of the country to which the liability relates, less a reasonable estimate of the real rate of return. The assumed real rate of return need not be constant by duration.

4.05 The Valuation Dividend Scale

Qualitatively, the valuation dividend scale encompasses policyholder dividends of the following types:

- regular, periodic dividends;
- terminal and other deferred dividends.

Ownership dividends (see 4.05.05, below) are specifically excluded.

Quantitatively, the valuation dividend scale consists of those dividends that are consistent with the insurer's past experience (if relevant), expected future experience and the objective of providing for policyholders' reasonable expectations.

The valuation dividend scale should include policyholder dividends only and not shareholder dividends, nor should it include transfers to shareholders associated with policyholder dividends.

The existence of policyholders' reasonable expectations with respect to dividends does not directly depend upon the type of dividend, whether annual, deferred or terminal; or the source of the dividend, whether the base policy, margins in other policy liabilities both participating and nonparticipating, or surplus.

The actuary will normally be able to rely on the existence of current dividend scales and to refer to marketing practices, both current and historical, for periodic dividends and for terminal dividends. For dividends deferred many years after issue on a new product, marketing practices may be sufficient to establish reasonable expectations on the part of policyholders that such dividends will be paid in the right circumstances.

In addition to accrued investment income and the carrying value of assets, the statement value of assets should also reflect provisions for deferred gains and losses that are not netted against asset values but appear on the right hand side of the balance sheet. If future policyholder dividends are related to capital gains that are being deferred in this way, it would be inappropriate to assign a value to that portion of the liability that is greater than the statement value of the assets that support it.

4.05.01 Regular Dividends

In the case of regular dividends, typically paid annually, the actuary should assume, as the valuation dividend scale, the scale of policyholder dividends that is consistent with policyholders' reasonable expectations and the expected experience.

In some cases (e.g., where the current dividend scale has been set in anticipation of a future deterioration in experience), it is appropriate to assume that the dividend scale will not change as future experience deviates from current experience in the expected manner.

In other cases (e.g., where dividend scale changes have been briefly delayed), it may be appropriate to assume that the dividend scale will change even if future experience does not deviate from current experience in order to reflect the insurer's plan to rectify the situation. The actuary should be satisfied that the insurer, by its delay, has not effectively changed policyholders' reasonable expectations.

4.05.02 Dividend Options

The form in which dividends are received by policyholders may have a material bearing on the liability. It would normally be appropriate for the actuary to recognize the cash equivalent of all dividend options on the current conversion basis, provided that the actuary is satisfied that the current basis fairly reflects the value of all such options. If that is not the case, the actuary should either apply an appropriate basis to convert non-cash dividends to cash, or else value the dividend options in their actual form. Where significant differences in value exist, it may be appropriate for the actuary to assume that a higher proportion (than that which is reflected in historical experience) of policyholders will opt for the more valuable benefits.

4.05.03 Infrequent or Deferred Dividends

In the case of relatively infrequent dividends, or dividends deferred many years after issue - of which terminal dividends are a special case - future dividends may depend not only upon expected experience but also upon past experience.

Dividends that are related in an important way to capital gains are a special case. In some circumstances, it may be inappropriate for the actuary to assume that gains will continue to arise each year at historical rates. In such cases, it may be appropriate to assign a unique set of capital gains, hence dividends, to the issues of each calendar year.

The actuary should also take into consideration the company's dividend policy, in addition to dividend illustration and marketing practices.

4.05.04 Attaching Benefits

The actuary should value riders attached to participating policies explicitly, including these additional benefits and the corresponding premiums and related expenses in the expected experience scenario and adding a provision for adverse deviations to the whole policy that reflects its participating nature.

A commonly applied approximation is for the actuary, after giving due consideration to the issue of materiality, to value such riders independently, often applying provisions for adverse deviations that are appropriate for nonparticipating business. If the insurer's dividend scale expressly includes a component related to the release of these excess provisions for adverse deviations on riders, the actuary may ignore that component in formulating the valuation dividend scale in order to be consistent with the valuation of the riders. Care should be taken to ensure that the reduction applies only over the term of the rider, which is often shorter than that of the base policy.

4.05.05 Ownership Dividends

Some portion of policyholder dividends may be viewed as ownership dividends (i.e., dividends in the nature of shareholder dividends). Such dividends may be ignored in formulating the valuation dividend scale provided that:

- the insurer has a distinct policy for ownership dividends;
- the insurer has never included such ownership dividends in illustrations prepared for the policyholder; and
- such dividends do not arise from the experience of the class of policies for which the dividend is to be paid.

Accounting treatment of ownership dividends when paid should be the same as that which applies to shareholder dividends on common stock.

Interest on and payments out of surplus that has arisen from the experience of the class of policies in question are considered for the purposes of these standards to have arisen from the experience of that class of policies.

The actuary should be convinced that the characterization of policyholder dividends as ownership dividends is not purely artificial. For example, it would be contrary to the spirit and intent of these standards to so value the liabilities as to allow an insurer to accumulate surplus under one class of policies and use it to pay ownership dividends under a second class of policies, and vice versa, thereby artificially reducing its participating policy liabilities and increasing its surplus.

5 Provision for Adverse Deviations

The actuary should make a reasonable provision in the participating policy liabilities for adverse deviations from the expected experience scenario. Such a provision is required for two reasons. First, while the dividend scale is potentially able to absorb the effect of adverse experience with respect to each factor, its ability to do so should be tested. Secondly, market conditions and other factors may delay or prevent the pass-through of adverse experience to the policyholder through the dividend scale.

The provision for adverse deviations should be established after scenario-testing in which the dividend scale is allowed to respond to changes in experience factors and allowing for a lag between management action and the emergence of the experience.

Therefore, in order to determine an appropriate provision for adverse deviations, the actuary should compute the liability by applying assumptions appropriate for a nonadjustable, nonparticipating policy, using margins for adverse deviations appropriate for such a policy, and projecting reduced dividends consistent with experience assumptions identical to those assumptions inclusive of margins, having due regard to policyholders' reasonable expectations

of management action in response to the assumed emerging experience. The adverse scenario should reflect nonparticipating policy standards of practice for the future cash flow investment assumption. Inflation of expenses should be taken into account.

In allowing for dividend scale changes, the actuary should provide for an appropriate lag between deterioration in experience and management action to reduce dividends.

The actuary should be prepared to show that the dividend scale changes are consistent with the chosen scenario, and that the relationship of adverse scenario dividends to adverse scenario experience is consistent with the relationship of the valuation dividend scale to expected experience.

For computational reasons, the testing described in this section may be done on an aggregate basis.

In cases where the actuary is confident that there is sufficient dividend room to pass through the degree of adverse experience that would be reflected in the margins for adverse deviations were the policy in question, a nonadjustable nonparticipating policy, such scenario-testing may not be required. The actuary should, nevertheless, add a provision for adverse deviations to the policy liabilities that, in the actuary's opinion, is reasonable in the circumstances, making due allowance for lags between the deterioration of experience and the reduction in dividends and for the fact that the dividend scale may be unaffected by changes to some experience factors (e.g., lapses).

6 Reinsurance Ceded

The standards of practice with respect to reinsurance ceded for nonparticipating insurance also apply to participating insurance. The reinsurance cash flows should be consistent with the relevant treaty terms and the valuation basis for the direct cash flows.

7 Approximations

Standards of practice with respect to the use of approximations apply to the valuation of participating policy liabilities.