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Educational Note

Disclosure of Actuarial Information by Life Insurance Companies

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EDUCATIONAL NOTE

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DISCLOSURE OF ACTUARIAL INFORMATION BY LIFE INSURANCE COMPANIES

COMMITTEE ON THE ROLE OF THE APPOINTED/VALUATION ACTUARY

JANUARY 1998

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MEMORANDUM

TO: All Members and Students of the Canadian Institute of Actuaries

FROM: Geoffrey I. Guy, Chairperson
Committee on the Role of the Appointed/Valuation Actuary

DATE: January 16, 1998

SUBJECT: **Educational Note on Disclosure of Actuarial Information by Life Insurance Companies**

An educational note has been prepared by the Committee on the Role of the Appointed Actuary regarding the public disclosure of actuarial information following the application of Sections 3860 and 1508 of the CICA Handbook to life insurance companies. Specifically, the note is designed to assist actuaries by identifying issues to consider in the disclosure process.

Comments and questions can be directed to the Chairperson of the committee, Geoffrey Guy, or to Michael Lombardi who was responsible for the preparation of the educational note, at their *Yearbook* addresses or by e-mail.

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BACKGROUND

In February, 1995, the Department of Finance, Canada, issued a White Paper on the subject of Enhancing the Safety and Soundness of the Canadian Financial System. This paper proposed enhanced standards of disclosure for insurance companies, including the following items relating to actuarial liabilities:

- sensitivity to changes in interest rates and foreign exchange rates;
- information on liabilities (such as annuities described by product types);
- information on reinsurance risks;
- information on methods used to value actuarial liabilities; and
- information concerning the key assumptions and provisions for adverse deviation used in the valuation.

These proposals were aimed specifically at providing improved information concerning the nature of the risks to which financial institutions are exposed and the extent to which they have been recognized in published financial reports.

OSFI, the CICA, and the CIA agree that improved disclosure of information concerning actuarial information is desirable, and have issued several related documents:

- OSFI: Annual Disclosure Requirements – Life Insurance Enterprises (Guideline D-1, July 1996)
- CICA: Financial Instruments (Handbook Section 3860)
- CICA: Measurement Uncertainty (Handbook Section 1508)
- CICA: Actuarial Liabilities of Life Insurance Enterprises (Accounting Guideline 8, March 1997)
- CIA: CICA Handbook Changes Effective for Year-End 1996 (Committee on Property and Casualty Insurance Financial Reporting)

Sections 3860 and 1508 of the CICA Handbook were applied for the first time with the 1996 year-end in the development of financial statements for property and casualty insurance companies and are applicable to life insurance companies effective 1997 year-end.

Actuaries may be requested to respond to these requirements by providing information about policy liabilities which permits the reporting of various items in accordance with these sections.

Detailed public disclosure of actuarial information is relatively new and likely to evolve over time. The actuary should realize that the purpose is not to redraft the appointed actuary’s report into a more user-friendly format; rather, it should be to present a few key paragraphs or pages in the notes to the financial statements or in the Management Discussion and Analysis (MD&A) that concisely present insights into, and provides better understanding of, the operations of a life insurance company. The actuary should be prepared to be involved in any internal discussions on the subject of disclosure. Finally, the actuary should ensure that any liability values or components presented have been determined in accordance with accepted actuarial practice and regulatory requirements, and that descriptions of actuarial liabilities or risk management practices are appropriate.

The purpose of this educational note is to assist actuaries by identifying some issues to consider. More specific information will be made available in the future.

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GENERAL

The most significant impact of these developments will be increased disclosure of information relating to policy liabilities in the notes to the financial statements or in the MD&A.

While the preparation of the financial statements is the responsibility of management and the interpretation of GAAP is the auditor's responsibility, it is appropriate for the appointed actuary to be involved in any presentation changes and disclosures that relate to policy liabilities.

Disclosure is enhanced when information is presented consistently across companies, when significant matters are clearly described, and when the implications are properly communicated.

In order to ensure greater likelihood that these goals will be achieved, the actuary may want to review the following important considerations:

- *Risk and Risk Management* – It is important that major risks to which a company is exposed be explained. Management actions to mitigate the risks should also be discussed. DCAT may be a useful guide to determining the critical risks to be disclosed. While communication of sensitivities to assumption changes is an important goal, this goal is not enhanced if disclosure includes the results of implausible scenarios with very low probabilities.
- *Ambiguous Terms* – Certain components of liability determination are not precisely defined or can be subject to more than one interpretation. For example, there are various prescribed standards which do not separate the "expected" assumption and the "margin for adverse deviation" assumption. The value of new business liabilities may depend on the company's particular definition of new business (new policies, additional coverage, deferred annuity renewals, increased premiums, etc.). Where appropriate, ambiguous terms should be described.
- *Sensitivities* – The communication of the sensitivity of liabilities to certain changes in assumptions is more challenging when the actuarial method used or the nature of the products make the liability results relatively insensitive to changes in some or all assumptions. The actuary should consider what kind of disclosure provides meaningful information in the circumstances.
- *Materiality* – Certain assumptions or blocks of business may not be material to overall company results. The public interest is not improved if voluminous information of an immaterial nature is included. Moreover, the circumstances of the company may be such that very limited disclosure will suffice (examples: a wholly owned subsidiary, a small branch, a company not writing new business, or a single product insurer).
- *Approximations* – It may not be possible to determine with complete precision the sensitivities of some actuarial liabilities to changes in assumptions at the same time as the routine determination of year-end liabilities. Given that the goal is public education and communication rather than absolute precision, it would, therefore, seem appropriate in many circumstances to use reasonable approximations or projections based on prior period calculations (for example using DCAT results or values derived from a recent quarter-end).
- *Internal Coordination* – It will be very helpful for management, auditors, and the appointed actuary to agree on how the overall effort will be coordinated. Questions that need to be addressed include: who will select the meaningful disclosure items, which concepts or measurements convey particularly meaningful information, how best to present it, who will determine values and on what basis, and who has final responsibility to review the disclosed information.
- *Proprietary Information* – The disclosure is intended to help an interested reader of financial statements understand some of the complexities of the balance sheet and income statement of a life insurance company. It is not intended to provide proprietary information to competing companies. Therefore, disclosure of items that might be viewed as proprietary is not recommended.
- *Evolution* – Ultimately, disclosure might advance to a level where a sophisticated analyst could gain insight into the company's operations. In the meantime, disclosure will be an evolutionary process as companies determine what competitors are doing and what readers want. As such, initial disclosure might be broader and more educational, leading towards more detailed analytic disclosure in coming years.

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The actuary should also consider the benefit of reviewing what has previously been disclosed by other life insurance companies on this subject, either directly in their annual reports, or through periodic surveys or summaries prepared by other firms. In particular, Price Waterhouse prepared a summary earlier this year in conjunction with its "Seminar on New Disclosure Guidelines for Life Insurance Enterprises (May 20,1997)" which may prove helpful. Caution, however, is advised since what will be available is disclosure examples for the prior year-end; this will not identify evolving approaches or changes likely to be made in future rounds of year-end disclosures.

GUIDANCE

In the interest of comparability of results, and to address emerging issues, the Committee on the Role of the Appointed/Valuation Actuary recommends the following:

1. *Segmentation* – Where assets and liabilities are reported by line of business or geographic segment, care should be taken to ensure that either assets agree with total liabilities and surplus, or, if this is not the case, that an explanation is provided.

2. *PFAD Disclosure* – It should be noted that while PFAD disclosure is not a CICA disclosure requirement, some level of disclosure is encouraged. PFAD is one component of the total provision for policy liabilities. How this total liability provision is split between an expected provision and a provision for adverse deviation, if such a distinction is made at all, is subject to actuarial judgment and it may impair meaningful communication to place undue emphasis on the PFAD.

   However, the company may choose to comment on this subject or disclose values. In considering what detailed information, if any, to disclose for PFADs, the appointed actuary should consider both the potential for competitive harm as well as the overall meaningfulness of disclosure. Clearly, the level of PFAD is only meaningful in the context of the level of risk being assumed. When comparing two companies, a higher amount of PFAD does not necessarily mean the company is "safer," or better protected against adversity. It may not be advisable to disclose much beyond the fact that the margins have been selected to be generally at the low, medium, or high end of the allowable range and to explain why this is appropriate.

   In the case where PFAD information is being disclosed, this can be communicated in various ways:

   - dollar amounts (total or by line of business);
   - percentage of reserves;
   - percentage of invested assets; or
   - percentage of premiums.

   Each disclosure basis or ratio has advantages and disadvantages. A single total dollar amount is easily understood; however, it may not be very meaningful for public comparability because different companies have different business characteristics. A detailed breakout of the total amount by line of business, territory, or assumption may overcome this deficiency, but caution is advised since this information may be considered proprietary.

   The total dollar amount, on its own, may give the impression that larger companies are better protected against adverse deviation than smaller companies; therefore, the approach of disclosing PFAD relative to some base value such as premiums or reserves may make for a better relative measure. Similarly, in the case of credit risk or asset default PFADs, it may make more sense to relate these to the related invested assets. In selecting the most appropriate ratio(s), the actuary should consider which ratio most adequately communicates the situation taking into account company circumstances, such as the existence of paid-up policies, negative reserves, or large mismatch positions for C-3 risk.

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One final point to note about PFAD disclosure is that, in many instances, current professional standards are unclear on what element of the actuarial assumption is the actuary's best estimate and which elements are margins:

- lapse assumption for lapse-supported products (VTP 1)
- mortality deterioration (VTP 2)
- interest rates declining to 5% (VTP 3)
- mortality improvement for insured lives
- adjustable policies (VTP 5)
- provision for future CompCorp assessments
- inflation
- future unit expense productivity improvements
- AIDS provision (VTP 8)
- C-3 component (VTP 9)
- participating policies (VTP 10)
- universal life policies (draft VTP 11)
- blocks (such as group insurance, credit insurance, riders, or disabled lives) valued using implicit assumptions

Greater clarity or professional guidance on this point would be ideal; however, professional standards are not yet sufficiently evolved to resolve this issue. It is hoped that a consensus will emerge as the profession gives this matter further thought.

In the meantime, the committee, while generally encouraging disclosure, suggests that the actuary who chooses to disclose PFADs use his or her own judgment in deciding what elements make up the PFAD and that this view be applied consistently between calendar years and across geographic territories or lines of business.

3. *Measurement Uncertainty* – Disclosure of measurement uncertainty deals with the general sensitivity of liabilities. It also includes identification of particular short-term events, such as planned changes to valuation bases, and any material consequences these may have on liabilities. Measurement uncertainty may include quantifying the extent to which policy liabilities would change if a key assumption is changed by a specified amount, disclosure of experience gains and losses, or the relationship between actuarial assumptions and recent experience.

   Which assumptions are considered key will depend on company circumstances. It is important that the focus of measurement uncertainty be with respect to material changes in liability values that arise from plausible or likely changes in assumptions.

   The interest assumption is likely to be one of the key assumptions for most companies and disclosure of its measurement uncertainty will prove particularly important. Also, readers may measure or judge the company's disclosure information against that of other financial institutions, such as banks and trust companies, where it is common practice to include a section on interest rate risk, and so the company may choose to include a similar commentary, even if the exposure to interest rate risk is not material.

   For traditional non-par products, disclosure of the sensitivity of liabilities to, for example, a 1% change in interest rates may be appropriate, and the basis of the sensitivity (that is, whether the change relates to a 1% change in reinvestment rate or a 1% change in the portfolio rate) should be described. Whether a 1% interest change is, in fact, an appropriate or material sensitivity level to disclose will depend on the nature of the products and the company circumstances.

   Mortality measurement uncertainty might include quantifying the impact of a 5% or 10% mortality change on net income and surplus. Expense measurement uncertainty could be similarly quantified. If

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the company has significant lapse-supported business, measurement uncertainty in the lapse assumption might include quantifying the impact of a 0.25% or 0.50% change in the ultimate lapse rate. For asset default risk, the impact on net income and surplus of a 50% or 100% increase in defaults might be meaningful.

In addition to, or instead of quantification of sensitivities, the company may choose to deal with measurement uncertainty by comparing recent actual experience to those values expected from the liability assumptions. This might be more appropriate for blocks of business or specific components that tend to display greater volatility such as asset defaults, disability claims, or group life and health incurred, but not reported, claims.

For universal life products, par products, and adjustable life products disclosure of interest rate sensitivity is less useful since the process of liability determination for all these products assumes that management actions will act to reduce or eliminate the change. In such circumstances, it may be more appropriate to comment on the nature of risks and the company's approach to risk management. Similar considerations apply for other assumptions such as mortality and expense sensitivities for products with adjustable features.

Some companies may choose to quantify the impact of a change in interest rates, mortality or other assumptions together with a permanent "no corrective management action" scenario. While this may be suitable for insurance products with fixed terms, in the case of adjustable products the disclosure value of this implausible outcome is not recommended – if the adjustable component is a relatively large value, inclusion of this component may risk unnecessary confusion or public alarm.

For products subject to VTP 9, the valuation process already provides for interest rate changes. One approach to disclosure might be to disclose the extent of reserve increases needed to absorb a 1% change in the base scenario while maintaining the same level of C-3 and other margins as is currently in the reserves. The disclosure value of this number on its own would be questionable and would need some further explanation since, given the process for determination of the C-3 value, the calculated change is unlikely to relate to the actual increase in liabilities. Instead, for products subject to VTP 9, the net cash flow gap, if any, by time period may provide more meaningful information.

In general, for products where a change in assumption tends to be offset by management action, or is already part of the process of liability determination, it is recommended that disclosure is more appropriate if the focus is on providing a description of the nature of the products, the risk associated with interest rate or other assumption changes, and management's general approach to managing risk.

4. C*apital Adequacy* – For 1997 year-end, OSFI does not require companies to disclose their MCCSR ratios, although OSFI plans to introduce disclosure of MCCSR ratios for 1998 year-end. With respect to Québec-regulated companies, for whom a different capital formula applies, IGIF's position is that similar disclosure of capital adequacy is not required.

   In any case, the committee believes that companies should disclose their MCCSR ratio (TAAM for foreign branches). An explanation of the changes in ratio from one year to the next is also suggested. Where transition rules are material to the ratio, their impact should be disclosed. Due to the potential for confusion created by available capital differing from balance sheet capital and surplus, caution is advised for any disclosure with respect to available and required components of MCCSR.

5. *Liquidity* – The availability of liquid assets to meet cash demands is critical to any financial institution. Disclosure should be made of the company's approach to managing the liquidity risk. It may be useful to include a table that compares liquid assets against policy surrender values by line of business or territory. Any unique liquidity requirements in the near term should be disclosed.

6. *Fair Value of Liabilities* – The CICA accounting standard calls for determination of both fair value of assets and liabilities, where practicable. The standard also states where it is not practicable, the company should disclose the fair value of assets backing liabilities, and the portion of deferred realized net gains taken into account in the computation of actuarial liabilities.

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The CICA standard also states that when the fair value of actuarial liabilities is disclosed, the basis should be described and that consideration be given to disclosing the values at which related items, such as deferred gains and losses and deferred income taxes, would be stated if financial assets and liabilities were measured at fair values.

The CIA committee believes disclosure of the fair value of liabilities will not be practicable for many companies. No professional standards exist on this subject and the concept has yet to be clearly defined. For example, fair value of liabilities might be defined as:

- the fair value of the assets used to back the liabilities;
- the present value of liability cash flows at government risk-free spot rates plus a spread corresponding to the average quality of the asset portfolio backing the liabilities; or
- company appraisal value less fair value of assets.

Any definition of fair value of liabilities that is related to a set of assets backing the liabilities needs to address the issue of what to do in cases where liabilities have been determined independent of any specific set of supporting assets.

The process for developing standards for determining the fair value of actuarial liabilities has not yet begun. Such a development would facilitate the ability of companies to provide this disclosure on a consistent basis.

The company may want to explain the changes in fair value from one period to the next. Changes in the fair value of assets caused by changes in market interest rates generally would be expected to be offset by changes in the fair value of liabilities which they support. In practice, this is generally more true for annuity business than for long-term life insurance business where long-term matching is less likely. Where cash flows are not effectively matched, the outcome is more complicated and depends, among other things, on the particular interest environment, the company reinvestment strategy, and changes in policyholder persistency. If equities are used to back some of the liabilities, or if deferred income tax liabilities are involved, the exercise can become very complicated. To the extent practicable, the actuary may wish to estimate and disclose the extent to which changes in the fair value of assets would be offset by changes in the valuation of liabilities.

While the committee is mindful of these theoretical difficulties, it, nevertheless, favours the concept of meaningful disclosure and recommends, as an initial practical alternative, disclosure of the fair value of surplus. In other words, disclosure would include the book and market value of assets identified as backing surplus.

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