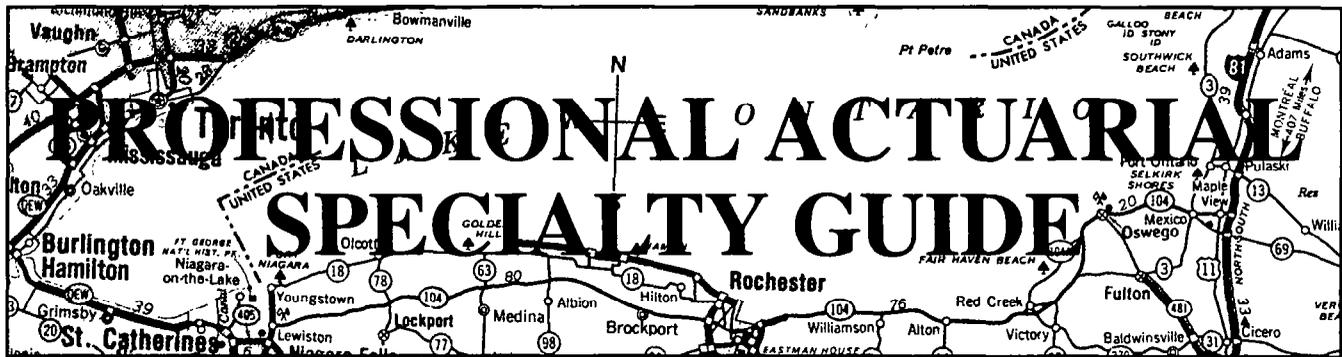


## SOCIETY OF ACTUARIES



## COMMITTEE ON CONTINUING EDUCATION

## Canadian Financial Reporting

## Overview

Over the last 15-20 years the job of the valuation actuary has become increasingly demanding. Prior to this time all aspects of the insurance industry had been reasonably stable for a long period of time. But during the 1970's interest rates started to rise, eventually reaching heights which no one would have predicted even a few years before, and then started to fluctuate. During the 1980's lapse rates soared. It was thought to be bad enough that they caused reduced earnings on average money products until they even threatened the solvency of some companies on interest sensitive products. Taxes became an increasing concern over these years. Expenses increased. Mortality seemed to be the one element to remain stable until it was threatened by the AIDS epidemic. Lapse supported products with little or no surrender values were introduced, presenting a new type of valuation problem. In addition to these liability problems the actuary realized that s/he had to be more involved with the assets, and this was during a period of declining quality, volatile interest rates and frequent mismatches between the cash flows of the assets and liabilities. This has since become a requirement of accepted actuarial practice. In 1992 the Canadian and British Insurance Companies Act was replaced by the Insurance Companies Act. (the Act)

In the USA, stock insurance companies file separate statutory and generally accepted accounting principles (GAAP) based financial statements. In Canada, however, a single filing basis was preferred and statutory statements are now on a full GAAP basis except where certain solvency related requirements override. From 1978 through 1991 there were several significant overriding statutory requirements which departed from normal GAAP practice but, effective in 1992, these have been reduced to include basically only appropriations of surplus to better ensure solvency. Along with this there are minimum continuing capital and surplus requirements. In effect the actuary must consider all of the risks to which both assets and liabilities are subject.

From the actuary's perspective, the most important changes over this period have been:

- (i) The repeal of statutorily prescribed valuation methods and bases including maximum interest rates, and their replacement by the less structured requirement that the actuary select valuation assumptions which are appropriate to the nature of the policies and the circumstances of the company and by accepted actuarial practice valuation methodology.
- (ii) The emergence of the appointed actuary concept.
- (iii) The requirement to meet at least once each year with the company's directors and report on the company's financial position and expected future financial condition. The purpose of this is to enable the actuary to provide advice about trends in surplus, threats to the company's solvency and to identify courses of action which may mitigate the threats.

While the great majority of life insurance business in Canada is conducted through federally chartered and/or licensed companies there are a number of provincially chartered and regulated companies. Provincial financial reporting requirements are evolving in a manner similar to federal requirements, and the provinces and federal government are encouraged to harmonize their laws and regulations. This guide, however, deals only with requirements and practices for federally licensed companies.

## The Role of the Actuary

The role of the Actuary, as established by the Act, is described under six broad areas:

## 1. Formal Designation of the Actuary

The Board of Directors of each insurance company (life and property and casualty) must formally appoint the Actuary of the Company. Also, the Board must formally report any termination of the Actuary and the reasons therefore. Before accepting a position as Actuary, the individual concerned must consult with his or her predecessor. Further, the Act requires an Actuary, upon termination, to prepare a written statement for the Board and for the regulatory authority (Superintendent of Financial Institutions) stating the reasons for the termination.

## 2. Access to Management Information

The Act provides that the Actuary should at all times have right to access to all persons or records necessary to fulfill the responsibilities of the position.

## 3. Management Reporting

The Act requires the Actuary to report in writing to the chief executive officer, the chief financial officer and the directors of the Company, any transaction or condition which in the Actuary's opinion could have significant adverse effect on the financial position of the Company and which requires rectification. The Actuary is required to monitor the matter and if suitable action is not forthcoming in a reasonable time, s/he must notify the Superintendent of Financial Institutions (the "Superintendent") and advise the directors that s/he has done so.

## 4. Board Reporting

The Act requires the Actuary to report to the directors or to the audit committee thereof at least annually as to the current financial condition of the Company. The Superintendent may specifically direct the discussion to cover the expected future financial condition as well.

## 5. Financial Statements

The legislation does not prescribe specific methods and assumptions for calculating the items upon which the Actuary is to report. Instead the Actuary must value the actuarial and other policy liabilities (the "policy liabilities") using accepted actuarial practice except as modified by the Superintendent. The Act requires that the published financial statements include a report by the Actuary stating that the policy liabilities have been properly valued and fairly presented.

## 6. Participating Business

The Act assigns to the Actuary important responsibilities with respect to participating business.

The methods used to allocate investment income and expenses (including income taxes) to the participating branch of a company must be deemed fair and equitable in the written opinion of the Actuary. The methods must also be approved by the directors after considering the Actuary's opinions and must subsequently not be disallowed by the Superintendent.

Each year the Actuary must report to the directors as to the fairness and equity of the allocations.

Prior to declaring and paying policyholder dividends the directors must consider the Actuary's written opinion as to whether such declaration is in accordance with the company's formal dividend policy.

## A. REFERENCES

The following sections outline Canadian valuation and financial reporting matters under appropriate headings. In each section items from all or some of the following primary sources have been listed. Some sections have additional sources as well.

(a) *Canadian Institute of Chartered Accountants (CICA) Handbook*

Copies of this Handbook may be purchased from:

CICA Order Department  
The Canadian Institute of Chartered Accountants  
277 Wellington Street West,  
Toronto, Ontario, Canada M5V 3H2

Telephone: (416) 977-3222  
Facsimile: (416) 977-8585

(b) *The Insurance Companies Act*

The Insurance Companies Act is available from:

Office of the Superintendent of Financial Institutions  
13th Floor, Kent Square  
255 Albert Street  
Ottawa, Canada K1A 0H2

Telephone: (613) 990-7813  
Facsimile: (613) 990-6643

(c) *Canadian Institute of Actuaries (CIA)*

- (i) Papers
- (ii) Valuation Technique Papers
- (iii) Standards of Practice

These are available from:

The Secretariat  
Canadian Institute of Actuaries  
Suite 820  
360 Albert Street  
Ottawa, Canada K1R 7X7

Telephone: (613) 236-8196  
Facsimile: (613) 233-4552

## B. GENERAL FINANCIAL REPORTING TOPICS

This section covers various general topics relating to financial reporting, for example appointment of the Actuary, surplus, the relationship between the Actuary and the Auditor, etc.

1. *Canadian Institute of Chartered Accountants Handbook*

This handbook is published for the guidance of accountants and auditors in the preparation and audit of general purpose financial statements. The general sections specifically applicable to the preparation of life insurance company statements are listed below:

- (a) Section 1500 – General Standards of Financial Statement Presentation.
- (b) Section 1506 – Accounting Changes.
- (c) Section 1600 – Consolidated Financial Statements.
- (d) Section 3250 – Surplus.
- (e) Section 3290 – Contingencies.
- (f) Section 3470 – Corporate Income Taxes.
- (g) Section 4210 – Life Insurance Enterprises, the sections entitled “Reinsurance and Retrocession”, “Segregated Accounts”, “Income and Distributions” and “Transitional Provisions”.
- (h) Section 5100 – Generally Accepted Auditing Standards.
- (i) Section 5130 – Materiality and Audit Risk.
- (j) Section 5360 – Using the Work of a Specialist.

Level: Intermediate

Pages: 80

2. *The Insurance Companies Act*

This act applies to all insurance business written in Canada through federally chartered and/or licensed insurers. It became effective on June 1, 1992, replacing the former Canadian and British Insurance Companies Act, and it applies to both Canadian and foreign insurance companies. The general sections specifically applicable to the work of the Actuary are listed below:

- Section 357 – Appointment.
- Sections 358, 359 – Qualifications.
- Section 360 – Revocation of Appointment.
- Sections 361–364 – Actuarial Vacancies.
- Section 547 – Appointment, Fraternal.
- Section 623 – Appointment, Foreign Company.
- Section 624 – Qualification, Foreign Company.
- Sections 625–627 – Actuarial Vacancies, Foreign Companies.

Level: Intermediate

Pages: 4

3. Canadian Institute of Actuaries/Canadian Institute of Chartered Accountants Joint Policy Statement on the Roles of the Auditor and the Actuary in Respect of Financial Statements. January 17, 1990. Available from the Canadian Institute of Actuaries.

This standard of practice discusses:

- (i) Under what circumstances the actuary and auditor would use the work of the other;
- (ii) How they should interact in carrying out their respective responsibilities;
- (iii) How their responsibilities may be disclosed.

Level: Basic

Pages: 4

### C. VALUATION OF ASSETS

This section discusses the regulations, requirements and practices concerning assets, the permissible investment vehicles, values which may be placed on them, etc.

1. *Canadian Institute of Chartered Accountants Handbook*

The following sections are applicable:

- (a) Section 3050—Long Term Investments.
- (b) Section 3060—Capital Assets.
- (c) Section 4210—Life Insurance Enterprises, the section entitled “Life Insurance Portfolio Investments”.

Level: Intermediate

Pages: 21

2. *Investment Valuation Regulations. Canada Gazette Part II, Vol 113, No. 5.*

These regulations prescribe how the statement values of assets are to be determined, including the methods to be used to adjust the book value of common and preferred stocks towards market value, and to amortize net realized gains and losses on fixed interest investments.

Not yet covered in these regulations is the option a company has for applying to real estate, a method similar to that used for common and preferred stocks.

Canada Gazette  
Canada Communication Group—Publishing  
Ottawa, Canada K1A 0S9

Level: Basic

Pages: 15

3. *The Insurance Companies Act*

The following sections deal with assets:

- Sections 492-494 — General Constraints on Investments.
- Sections 495-497 — Subsidiaries and Equity Investments.
- Sections 498-501 — Exceptions and Exclusions.
- Section 502 — Portfolio Limits.
- Sections 506-507 — Real Property.
- Section 508 — Equities.
- Section 509 — Aggregate Limit.
- Sections 515-517 — Adequacy of Capital and Liquidity and Assets.
- Sections 551-553 — General Constraints on Investments, Fraternal.
- Sections 554-556 — Subsidiaries and Equity Investments, Fraternal.
- Sections 557-560 — Exceptions and Exclusions, Fraternal.
- Sections 561,562 — Portfolio Limits, Fraternal.
- Sections 563,564 — Real Property, Fraternal.
- Section 565 — Equities, Fraternal.
- Section 566 — Aggregate Limit, Fraternal.
- Sections 608-609 — Adequacy of Capital or Assets, Foreign Companies.
- Sections 611-612 — Assets in Canada, Foreign Companies.
- Section 615 — General Constraints on Investments, Foreign Companies.
- Section 618 — Real Property, Foreign Companies.
- Section 619 — Equities, Foreign Companies.
- Section 620 — Aggregate Limit, Foreign Companies.

Level: Basic

Pages: 24

4. *Canadian Institute of Actuaries Papers*

- (a) Actuarial Note Concerning a Multi-Variate Stochastic Model for Simulating Market Values of a Mixture of Investments—Reed, Owen A. Proceedings of the Canadian Institute of Actuaries, Vol XIX, No 3, 1987–1988, p.336.

Currently most scenario testing to select the interest rate is done using deterministic methods. But if we want to use stochastic methods it will be difficult in some situations to avoid considering the covariances of the variables. This paper describes a project to consider such a situation.

Level: Advanced

Pages: 10

- (b) Considerations for the Valuation of Income Yielding Assets of a Life Insurance Company—MacLeod, D. Rae. Proceedings of the Canadian Institute of Actuaries, Vol VI, No 2, 1974–1975, p232.

Proposes valuation methods for a number of types of assets in order to allow the actuary to properly assess the company's financial position.

Level: Intermediate Pages: 18

## D. VALUATION OF LIABILITIES

This section discusses the various standards governing the values to be placed on policy liabilities. This includes government regulations and standards produced by the Canadian Institute of Actuaries and the Canadian Institute of Chartered Accountants.

### 1. *Canadian Institute of Chartered Accountants Handbook*

The following section is applicable:

Section 4210 – Life Insurance Enterprises, the section entitled “Actuarial Liabilities”.

Level: Intermediate Pages: 1

### 2. *The Insurance Companies Act*

The following sections are applicable:

Sections 365-370 – Valuations and Reports.  
Sections 628-632 – Valuations and Reports, Foreign Companies.

Level: Basic Pages: 3

### 3. *Canadian Institute of Actuaries—Valuation Technique Papers, CIA Life Insurance Financial Reporting Committee. CIA Professional Standards Binder (CIAPSB).*

These papers define binding standards of practice. If an actuary wishes to diverge from the procedures outlined in these papers, s/he must first consult with the Financial Reporting Committee of the CIA.

- (a) The following technique papers have been approved by the CIA as of the date shown and are currently in effect:

- (i) Valuation Technique Paper No. 1—June 20, 1985

The Valuation of Lapse Supported Products.

Level: Intermediate Pages: 22

- (ii) Valuation Technique Paper No. 2—September 29, 1986

The Valuation of Individual Renewable Term Insurance.

Level: Intermediate Pages: 34

- (iii) Valuation Technique Paper No. 3—August 3, 1989

Future Cash Flow Investment Assumption for Ordinary Life Insurance Valuation.

Level: Basic Pages: 7

- (iv) Valuation Technique Paper No. 4—August 3, 1989

Valuation of Reinsured Policies.

Level: Intermediate Pages: 18

- (v) Valuation Technique Paper No. 5—August 3, 1989

Valuation of Adjustable Products.

Level: Intermediate Pages: 13

- (vi) Valuation Technique Paper No. 6—March 31, 1989

Expected Mortality Experience for Individual Insurance.

Level: Intermediate Pages: 14

- (vii) Valuation Technique Paper No. 8—December 1991

Reserving for AIDS.

Level: Intermediate Pages: 3

- (b) Valuation Technique Paper No. 9—June 25, 1991, Valuation of Single Premium Annuities

This technique paper on valuation of single premium annuities is currently in the exposure draft stage, and has not been formally approved by the CIA as a binding standard of practice.

Level: Intermediate Pages: 12

- (c) Research Document—The Valuation Interest Rate—September 26, 1989

This research paper is intended solely as a guide to the actuary in selecting the valuation interest rate under the Policy Premium Method.

Level: Intermediate Pages: 5

- (d) Research Document—Valuation of Universal Life Insurance—January 31, 1992

This is a preliminary version of a research paper.

Level: Intermediate Pages: 18

- (e) Research Paper—Group Insurance—September 8, 1992

This is a discussion paper.

Level: Intermediate Pages: 6

4. *Canadian Institute of Actuaries—Recommendations and Explanatory Notes for Life Insurance Company Financial Reporting. CIAPSB.*

- (a) The recommendations and explanatory notes have been produced to facilitate the following:

- (i) That the information determined by the Actuary be properly determined and be fully and clearly disclosed.
- (ii) That the determination and disclosure be in the form which permits peer review and which will merit the acceptance of the public and the Superintendent of Insurance.

The Actuary should conform to the Recommendations except in unforeseen circumstances, in which case he should consult with the Committee on Life Insurance Financial Reporting. The Explanatory Notes are not binding on the Actuary but are provided solely to amplify the Recommendations.

- (b) The contents of the Recommendations and Explanatory Notes are as follows:

- (i) Introduction.
- (ii) Verification of data.
- (iii) Assumptions for a valuation of policy benefit liabilities.
- (iv) Methods for a valuation of policy benefit liabilities.

Level: Basic

Pages: 100

5. *Canadian Institute of Actuaries—Standards for Financial Reporting*

The development of actuarial standards of practice for financial reporting in Canada is currently in a very active state. The new Insurance Companies Act has mandated a considerably broadened role for the Actuary and the CIA is hard at work developing standards of practice to guide and support the Actuary in carrying out his/her expanded responsibilities. Many of the documents described below are in draft form but they do indicate the direction this development is taking.

- (a) Standards for the Appointed Actuary. Approved June 15, 1992. CIAPSB.

These standards have been drafted by the Committee to Develop the Role of the Appointed Actuary. The topics covered include application, appointment, access to information, management reporting, board reporting and financial statements.

Level: Basic

Pages: 3

- (b) Actuary's Compliance Questionnaire for Life Insurance Company Financial Reporting in Canada—February 1991. Available from the Canadian Institute of Actuaries.

Each year end the Actuary must submit a completed questionnaire to the Canadian Institute of Actuaries on a confidential basis. This document outlines the current form of that questionnaire.

Level: Intermediate

- (c) The Appointed Actuary's Report for Insurance Company Published Financial Statements. Exposure Draft—June 1992. Available from the Canadian Institute of Actuaries.

These standards of practice apply to an actuary's report in the published financial statements of an insurance company if those published financial statements are in accordance with generally accepted accounting principles. These standards describe the contents of the report, the situations where a standard report is appropriate, the standard report, and the drafting of a report with reservations for unusual situations.

Level: Intermediate

Pages: 13

6. *Provision for Adverse Deviations. March 12, 1990. CIAPSB.*

This report is recommended for use by valuation actuaries in setting margins for individual insurance products for GAAP valuations. It states that the actuary should consult with the CIA Financial Reporting Committee if s/he feels that it is appropriate to use weaker margins.

Level: Intermediate

Pages: 36

7. *Canadian Institute of Actuaries Papers*

- (a) "Parametric Graduation of Canadian Individual Insurance Mortality Experience: 1982-1988"-Panjer, Harry H. and Russo, Guiseppe. November 1991. Available from the Canadian Institute of Actuaries.

This paper provides a graduation of Canadian individual mortality experience for the years 1982 to 1988 in order to update the Canadian Institute of Actuaries (CIA) tables based on 1969-1975 experience. Jones and Aitken had graduated the experience from years 1982-1986 and discovered a number of anomalies. This paper avoids the anomalies by using parametric methods.

Level: Basic Pages: 42

- (b) "Immunization - Some Practical Aspects"-Ezra, Donald D. Proceedings of the Canadian Institute of Actuaries, Vol VI, No 2, 1974-1975, p.150.

The purpose of this paper is to outline quantitative methods for applying immunization. Specifically it shows how a fund with actuarial liabilities can determine the extent of its departure from an immunized position.

Level: Intermediate Pages: 41

- (c) "Surplus and Dividend Distribution in Canada"-Leckie, Robin B., Moore, Christopher S., and Eakins, David P. Proceedings of the Canadian Institute of Actuaries, Vol IV, 1971-1973, p.30.

The overt purpose of this paper is to discuss the current tools used by Canadian actuaries in surplus definition and dividend apportionment and to suggest alternative tools. Its importance to financial reporting lies in its description of a method of valuing assets by discounting expected proceeds in conjunction with a bonus reserve method for the liabilities.

Level: Intermediate Pages: 18

- (d) "Provision for Adverse Deviations"-Reed, Owen A. Proceedings of the Canadian Institute of Actuaries, Vol XIX, No 3, 1987-1988, p.347.

There is a CIA valuation technique paper which defines the procedures for defining margins for adverse deviations for the various valuation assumptions. This paper, using mortality margins as an example, makes the argument that there should be no one method for resolving problems but that alternatives should be allowed.

Level: Intermediate Pages: 28

- (e) "Provisions for Adverse Deviations under PPM"-Mereu, John. Proceedings of the Canadian Institute of Actuaries, Vol XIX, No 3, 1987-1988, p.377.

The Policy Premium Method has been agreed to as the valuation method which will produce income statements best satisfying GAAP. But the author contends that this is only true if provisions for adverse deviations (PAD) in the various assumptions are appropriate. This paper shows the effect on the income statement of various PAD levels and draws some conclusions about the appropriate level.

Level: Advanced Pages: 10

- (f) "Valuation of Policy Liabilities under GAAP"-Keith, Donald M. Proceedings of the Canadian Institute of Actuaries, Vol XIV, No 3, 1982-1983, p.377.

The paper which defined the Policy Premium Method of valuation.

Level: Advanced Pages: 23

- (g) "Renewable Term Options"-Cooper, S. H. Proceedings of the Canadian Institute of Actuaries, Vol VI, No 2 1974-1975, p.252.

This paper discusses the theory that mortality experience under renewable term options will be worse than ultimate, and proposes a mathematical model for the antiselection phenomena.

Level: Intermediate Pages: 17

- (h) "Deferred Income Taxes and Discounting"-Haynes, Neil L. Proceedings of the Canadian Institute of Actuaries, Vol XX, No 3, 1988-1989, p.294.

This paper outlines an actuarial method of determining the discounted value of deferred tax liabilities relating to both assets and liabilities. It defines the economic value of assets and liabilities by discounting the associated cash flows. The economic value is then divided into two parts, the accounting or statement value and the deferred tax liability. The former may, in some cases, be governed by other rules such as the CICA Handbook with CIA Financial Reporting Recommendations. Since this method produces the same value as the Canadian Institute of Actuaries Financial Reporting Recommendations there exists a potential for conflict between the Canadian Institute of Chartered Accountants Handbook and the Canadian Institute of Actuaries Recommendations.

Level: Intermediate Pages: 17

- (i) "AIDS. 1992 Guidance Notes for Valuation Actuaries"- March 1992. CIAPSB.

The purpose of this note is to give the Valuation Actuary guidelines on developing a reserve to cover the AIDS risk for the statutory statement. These notes supplement Valuation Technique Paper No. 8.

Level: Intermediate Pages: 13

- (j) "1992 Guidance Notes for AIDS. Revised Tables"—March 1992. CIAPSB.

Tables to accompany the guidance note described under (i) above.

Level: Intermediate Pages: 50

- (k) "First Report of the Subcommittee on Modelling"—November 1988. Available from the Canadian Institute of Actuaries.

In 1988 a subcommittee was formed to develop a model of the HIV infection and the resulting AIDS cases and deaths. The information gained from this research was used to determine reserve requirements for the AIDS risk. This is the first report issued by this subcommittee; it describes the model used and the application of that model to Canadian statistics.

Level: Intermediate Pages: 26

- (l) "Second Report of the Subcommittee on Modelling. An Analysis of USA Data"—November 1988.

The second report issued by the subcommittee on modelling. It uses the model described in the first report to analyse USA AIDS data.

Level: Intermediate Pages: 20

## E. CURRENCY

This following section describes the requirements concerning the translation of foreign currencies.

*Canadian Institute of Chartered Accountants Handbook*

Section 1650 — Foreign Currency Translation.

Level: Intermediate Pages: 21

## E. STATUTORY MODIFICATIONS

This section contains information about solvency requirements to which companies must adhere, and also the requirements for completing the valuation report to the Superintendent which the Actuary must produce.

1. "CLHIA Test Formula for Minimum Continuing Capital and Surplus Requirements." December 6, 1991. The Canadian Life and Health Insurance Association Inc., 1 Queen Street East, Suite 1700, Toronto, Ontario, Canada, M5C 2X9.

The Canadian Life and Health Insurance Association (CLHIA) has sponsored a consumer protection plan against insurance company insolvencies. Before companies can join the protection agency, there are certain solvency standards which they have to meet. This document describes the CLHIA formula which is used for that purpose.

Level: Intermediate Pages: 22

2. "Canadian Institute of Actuaries Dynamic Solvency Testing for Life Insurance Companies." July 1991. CIAPSB.

This document outlines the requirements for the Appointed Actuary in order to meet the standards for dynamic solvency testing. It covers the purpose of the study, the form the investigation should take and the form of reporting.

Level: Intermediate Pages: 5

3. "Canadian Institute of Actuaries Primer on Dynamic Solvency Testing." August 2, 1989. CIAPSB.

This document gives the background behind the need for dynamic solvency testing and the manner in which it is to be carried out.

Level: Basic Pages: 38

4. "Memo to Valuation Actuaries. Annual." Office of the Superintendent of Financial Institutions.

The purpose of this memo is to provide information to appointed actuaries who must provide reports on their valuations to the Office of the Superintendent of Financial Institutions. The specific purposes of the memo are as follows:

- (a) To set out procedures used by the Superintendent in reviewing reports and assessing the acceptability of the actuarial assumptions and methods.
- (b) To guide persons preparing reports in matters related to the level of detail in presentation and the nature of the discussions to be included.

Level: Intermediate

This Actuarial Speciality Guide on Canadian Financial Reporting was developed under the auspices of the Professional Actuarial Speciality Guides Committee on Continuing Education by:

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