CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

Audits of financial statements that contain amounts that have been determined using actuarial calculations

March 2023

Canadian Institute of Actuaries

Institut canadien des actuaires

22-2826

DISCLAIMER

This publication was prepared by the Chartered Professional Accountants of Canada (CPA Canada) and the Practice Council of the Canadian Institute of Actuaries as non-authoritative guidance. CPA Canada, the Practice Council of the Canadian Institute of Actuaries, and the authors do not accept any responsibility or liability that might occur directly or indirectly as a consequence of the use, application or reliance on this material.

This Guide was commissioned by the Chartered Professional Accountants of Canada (CPA Canada) and the Practice Council of the Canadian Institute of Actuaries and developed by a Joint Task Force. The material in this Guide represents the views of this Task Force.

The contents of this Guide have not been adopted, endorsed, approved, disapproved or otherwise acted upon by the Auditing and Assurance Standards Board (AASB) or by any CPA Canada board, committee, or the governing body or membership of CPA Canada or any provincial or territorial body/Ordre or the Actuarial Standards Board or the Practice Council of the Canadian Institute of Actuaries.

This Guide is intended to help auditors understand and apply the requirements in the Canadian Auditing Standards (CAS) in conducting audits of financial statements that contain amounts that have been determined using actuarial calculations whether or not determined by or with the assistance of an actuary.

This Guide is based on the following professional standards as at the date of publication of this Guide:

- CAS, which are the generally accepted auditing standards issued by the AASB, published in the *CPA Canada Handbook – Assurance*; and
- Standards of Practice issued by the Actuarial Standards Board and published by the Canadian Institute of Actuaries.

These professional standards may be changed by subsequent pronouncements.

Auditors are expected to use professional judgment in determining whether the material in this Guide is both appropriate and relevant to the circumstances of each audit engagement.

CPA Canada and the Practice Council of the Canadian Institute of Actuaries wish to express gratitude to the members of the Joint Task Force for their assistance in the authoring of updates to and review of this publication, which was first published in 2011. The Joint Task Force is composed of representatives and volunteers from the following Canadian organizations: Eckler, EY, KPMG, Manulife, Oliver Wyman, PwC and SunLife.

Any comments regarding material in this Guide would be appreciated, and should be sent to both:

Kaylynn Pippo, CPA, CA
Director, Audit & Assurance
Research, Guidance and Support
277 Wellington Street West
Toronto, Ontario M5V 3H2
kpippo@cpacanada.ca

Jacques Tremblay
President-elect, Canadian Institute of Actuaries
360 Albert Street
Ottawa, Ontario K1R 7X7
jacques.tremblay@oliverwyman.com

Table of Contents

Introduction and scope

1 This Guide may be useful to an auditor engaged to carry out an audit of financial statements in accordance with Canadian Auditing Standards (CAS) where the financial statements prepared by management include amounts determined by using actuarial calculations, whether or not determined by or with the assistance of an actuary.

2 Examples of amounts determined by using actuarial calculations include the following:

a. insurance (including reinsurance), investment and service contract amounts for the following:
   i. a life insurance enterprise, including participating and non-participating accounts and reinsurance amounts
   ii. a reinsurance enterprise
   iii. a property and casualty insurance enterprise, including deferred policy acquisition costs and amounts for onerous contacts, liability for remaining coverage, claims provisions, salvage and subrogation, and reinsurance amounts
   iv. public personal injury compensation plans
   v. liabilities for incurred claims
   vi. fulfilment cash flows
   vii. mortgage insurance enterprises
b. financial arrangements that are classified as insurance contracts (i.e., have similar characteristics to insurance contracts but may not be clearly identified as an insurance contract)
c. self-insurance liabilities and warranty provisions
d. public personal injury compensation plan liabilities (i.e., those plans, which include workers' compensation boards, that have monopoly powers, require compulsory coverage other than for those groups excepted by legislation or regulations and have authority to set assessment rates)[1]
e. defined benefit employee future benefit costs and obligations of a plan sponsor:
   i. pension income
   ii. health care benefit
   iii. life insurance coverage
   iv. short- and long-term disability income benefits

1 Public personal injury compensation enterprises often employ terminology that can differ from that used by insurance enterprises and the context is significantly different as funding policy should be considered.

f. liabilities of an employee future benefit plan:
   i. pension plan
   ii. health care benefit plan
   iii. short- and long-term disability plans

3 The use of actuarial calculations in determining the amounts in the above examples can be complex, which may increase the risk of material misstatement when these amounts are material to the financial statements as a whole. Because of the complexity and specialized nature of these amounts, they are ordinarily determined by or with the assistance of an actuary; however, in some cases, management may elect not to use an actuary.

4 The focus of the Guide is on amounts determined by using actuarial calculations that are complex, significant to the financial statements as a whole, and where there is a risk of material misstatement, regardless of who determined the amounts. There may be additional risks when management determines the amounts using actuarial calculations without the use of an actuary that the auditor will need to address.

5 Auditors may find this Guide helpful when auditing amounts using actuarial calculations in other circumstances, such as regulatory capital requirements.

Definitions

6 For the purposes of this Guide, the following terms have the meanings attributed below:

a. **Actuarially determined amounts** are amounts included in the financial statements, determined by using actuarial calculations whether or not determined by or with the assistance of an actuary.

b. **Actuary involved in the preparation of financial statements** means an actuary, either an employee of the entity or an external consultant, who determines and reports on amounts to be included in the financial statements prepared by management. This person is a management's expert as defined in CAS 500, *Audit Evidence*.

c. **Auditor** means an external person or persons conducting the audit of financial statements, usually the engagement partner or other members of the engagement team, or, as applicable, the firm.

d. **Auditor's actuary** means an actuary with the necessary skills, knowledge and experience used by the auditor to assist the auditor in obtaining sufficient appropriate audit evidence. An auditor's expert is defined in CAS 620, *Using the Work of an Auditor's Expert*.

e. **Data** includes particulars of the following:

   i. invested assets of a pension plan or post-employment benefits plan or an insurance enterprise

   ii. membership of a pension plan or post-employment benefits plan

   iii. policies of and claims against an insurance enterprise

   iv. reinsurance agreements and claims of an insurance enterprise

f. **External review actuary** means an actuary who reviews the work of another actuary at the request of a regulator and provides an opinion to the regulator as to whether the work meets applicable professional standards and accepted actuarial practice in Canada.

g. **Insurance enterprise** includes the following enterprises, including companies, branches, fraternal benefit societies and other forms of organizations:

   i. life insurance enterprises

   ii. property and casualty insurance enterprises

   iii. reinsurance enterprises

   iv. workers' compensation enterprises

h. **Management** refers to the person(s) with executive responsibility for the conduct of entity's operations.

Objectives

7 This Guide is based on the conduct of an audit of financial statements in accordance with the CAS. Paragraph 11 of CAS 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with Canadian Auditing Standards*, states the overall objectives of the auditor are:

a. to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, thereby enabling the auditor to express an opinion on whether the financial statements are prepared, in all material respects, in accordance with an applicable financial reporting framework;[2] and

b. to report on the financial statements, and communicate as required by the CAS, in accordance with the auditor's findings.

8 With respect to actuarially determined amounts, the auditor's objective is to obtain sufficient appropriate evidence to provide reasonable assurance that they are reasonable within the context of the financial statements as a whole. In addition to performing appropriate procedures to test the calculation of the actuarially determined amounts, the auditor also considers such factors as the:

a. complexity and subjectivity involved in preparing the actuarially determined amounts

b. availability and reliability of source data

c. degree of uncertainty of future events

d. nature and extent of assumptions required

9 The auditor considers, based on the available evidence, a zone of reasonableness within which they accept the actuarially determined amounts as being reasonable within the context of the financial statements as a whole (see paragraphs 62-74). Actuarially determined amounts are based on estimates. Different estimates may result due to the inherent uncertainties and judgments required in making such estimates. Differences between such estimates are not necessarily indicative of misstatement where the estimates are within a reasonable range.

10 In meeting the objective of the audit with respect to actuarially determined amounts, the auditor considers the following:

a. the need for an auditor's actuary on the engagement team (see paragraphs 14-19);

b. the role of an actuary, where one is involved, in the preparation of financial statements (see paragraphs 20-25, 39 and 61); and

c. the nature and extent of corroborative evidence needed so that the auditor's work (including the work of the auditor's actuary, where used) provides sufficient appropriate evidence for the auditor's opinion (see paragraphs 62-74).

2 The term "applicable financial reporting framework" is defined in paragraph 13(a) of CAS 200.

Application of the Canadian Auditing Standards (CAS)

11 This Guide expands on matters discussed in the CAS about the audit process as it relates to actuarially determined amounts, in particular, the following:

a. identifying and assessing the risks of material misstatement of the actuarially determined amounts through understanding the entity and its environment (see CAS 315, *Identifying and Assessing the Risks of Material Misstatement*)

b. the auditor's procedures in response to assessed risks of material misstatement of the actuarially determined amounts (see CAS 330, *The Auditor's Responses to Assessed Risks*)

c. the auditor's consideration of the work performed by management's expert involved in the preparation of the actuarially determined amounts (for example, where an actuary is involved in the preparation of financial statements) as audit evidence (see CAS 500, *Audit Evidence*)

d. the auditor's responsibilities relating to the work of an auditor's expert (for example, the auditor's actuary), when that work is used to assist the auditor in performing audit procedures on actuarially determined amounts (see CAS 620, *Using the Work of an Auditor's Expert*)

e. the auditor's procedures in response to significant accounting estimates (see CAS 540, *Auditing Accounting Estimates and Related Disclosures*)

f. communications between actuaries involved in the preparation of financial statements and auditors (see the *Joint Policy Statement Concerning Communications between Actuaries Involved in the Preparation of Financial Statements and Auditors* appended to CAS 500)

g. the auditor's responsibility to obtain written representations from management and, where appropriate, those charged with governance (see CAS 580, *Written Representations*)

12 This Guide may be helpful in:

a. considering the audit procedures that the auditor may perform to obtain an understanding of the entity and its environment, including internal controls relevant to the preparation of actuarially determined amounts

b. considering the specified aspects of the entity and its environment, and components of its internal control that the auditor may need to understand, in order to identify and assess risks of material misstatement of actuarially determined amounts

c. identifying and assessing the risks of material misstatement of actuarially determined amounts, including determining whether any of the assessed risks are significant risks that require audit consideration or risks for which substantive procedures alone do not provide sufficient appropriate audit evidence
d. determining overall responses to address risks of material misstatement at the financial statement level and the nature of those responses, including determining whether to use the work of an auditor's actuary and, if so, using such work to assist the auditor with respect to the audit of actuarially determined amounts
e. designing and performing further audit procedures with respect to actuarially determined amounts, including tests of the operating effectiveness of controls, and substantive procedures whose nature, timing and extent are responsive to the assessed risks of material misstatement at the assertion level
f. evaluating whether the risk assessment remains appropriate and concluding whether sufficient appropriate audit evidence has been obtained to provide reasonable assurance that the actuarially determined amounts are reasonable within the context of the financial statements as a whole
g. communicating deficiencies about internal control matters with respect to actuarially determined amounts with those charged with governance and management
h. identifying those written representations that may be considered necessary to support other audit evidence relevant to the financial statements or one or more specific assertions in the financial statements

13 When appropriate, this Guide lists considerations that are specific to audits of financial statements of specific types of entities (for example, insurance enterprises, employee future benefit plans or plan sponsors). Not all considerations listed are relevant to every engagement and the list is not necessarily complete.

Determining the need for an auditor's actuary

14 In planning the overall strategy of the engagement,[3] an auditor needs to determine whether to use the work of an auditor's expert (i.e., auditor's actuary for the purposes of this Guide) if expertise in a field other than accounting or auditing is necessary to obtain sufficient appropriate audit evidence. Actuarially determined amounts include complex accounting estimates and computations requiring the specialized expertise of an actuary. The auditor, who is skilled in accounting and auditing, may not possess the necessary expertise to audit the actuarially determined amounts. The engagement partner is required to be satisfied that the engagement team, including any external parties engaged to act as auditor's experts who are not part of the engagement team, collectively have the appropriate competence and capabilities to perform the audit engagement.[4] Further, the auditor is required to ascertain the nature, timing and extent of resources necessary to perform the engagement.[5]

15 Considerations when deciding whether to use an auditor's actuary may include:

a. whether management has used an actuary in preparing the financial statements
b. the nature and significance of the matter, including its complexity
c. the risks of material misstatement in the actuarially determined amounts to the financial statements taken as a whole

16 The amounts, as described in the examples below, are significant to the overall financial statements:

a. Many of the financial statement items in the financial statements of an insurance enterprise (including entities with insurance business segments) or a public personal injury compensation plan are dependent on the actuarially determined amounts or affect the valuation performed by the actuary involved in the preparation of the financial statements.
b. Pension and other employee future benefit plans may prepare financial statements that include or disclose the plan's actuarially determined benefit obligations, or the value of buy-in annuity contracts, while in other circumstances and where permitted by law or regulation, they may prepare financial statements to report only the net assets available for benefits. When a pension or other employee future benefit plan prepares financial statements that include or disclose the plan's actuarially determined benefit obligations or buy-in annuity values, those liabilities or assets are normally significant to the financial statements.

3 See also CAS 220, *Quality Management for an Audit of Financial Statements,* paragraphs 29-34 on direction, supervision and review of the engagement.

4 See CAS 620, *Using the Work of an Auditor's Expert*, paragraph 9.

5 See CAS 300, *Planning an Audit of Financial Statements*, paragraph 7(e).

17 In addition to being significant to the financial statements, the actuarially determined amounts in respect of insurance and similar indemnity arrangements, defined-benefit pensions and other benefit obligations discussed in paragraph 16:

a. are complex accounting estimates that require computations based on actuarial mathematics that would normally require the specialized expertise of an actuary
b. the risk of material misstatement may increase as expertise in a field other than accounting is needed for management to prepare the financial statements (for example, because of this complexity)

In an audit of these actuarially determined amounts, an auditor needs to obtain sufficient appropriate audit evidence about the:

a. accuracy of the actuarial calculations
b. appropriateness of the judgments and the methods chosen
c. overall results of the actuarial calculations

Based on all of these considerations, the auditor may find it necessary to use an auditor's actuary to assist in performing these audit engagements.

18 For audits of the financial statements of entities that are not insurance enterprises, public personal injury compensation plans or pension or future benefit plans, professional judgment is required in determining whether the use of an auditor's actuary is necessary, and if so, the extent of actuarial assistance required by the auditor. The considerations discussed in paragraph 15, as well as whether the auditor possesses the necessary expertise to audit these amounts, may be factored into this determination. For example, a plan sponsor's financial statements may contain actuarially determined defined benefit employee future benefit costs and obligations. These actuarially determined amounts may or may not be material or significant to the entity's financial statements taken as a whole. In some circumstances, these benefit costs and obligations can be highly significant to an entity's financial position, results of operations and cash flows. Since the auditor is reporting on the plan sponsor's financial statements, and not on the employee future benefit plan statements, the auditor is concerned with possible misstatements that may be material to the financial statements as a whole. The auditor would keep this in mind when planning the audit of the plan sponsor's financial statements, when determining the nature and extent of audit procedures to be applied and when evaluating the results of such procedures, including determining whether an auditor's actuary may be necessary, and the nature and extent of actuarial assistance required by the auditor.

19 In some circumstances, the management of an entity might make estimates of items that would normally be determined using actuarial expertise and calculations without the use of an actuary. When management does not employ or engage experts to obtain the needed expertise to prepare the financial statements, this may significantly increase the risks of material misstatement, particularly the risk of material understatement of liabilities, making judgments as to the potential materiality of the estimate difficult. Where an appropriately qualified actuary is not used by management for an estimate ordinarily requiring the use of actuarial expertise and methods, the auditor may consider the use of an auditor's actuary to address the risk of material misstatement.

CAS 540 includes guidance about criteria for evaluating the method(s) used by management (paragraph 23), evaluating significant assumptions (paragraph 24), and considering the data used in the making the estimate (paragraph 25).

Risk assessment procedures and sources of information about the entity and its environment, including internal control

Risk assessment procedures and related activities

20 Paragraph 14 of CAS 315, *Identifying and Assessing the Risks of Material Misstatement*, requires the auditor to perform the following risk assessment procedures:

a. inquiries of management, and of other appropriate individuals within the entity, including individuals within the internal audit function (if the function exists)

b. analytical procedures

c. observation and inspection

21 When an actuary is involved in the preparation of the financial statements, the auditor obtains an understanding of the role and responsibilities of the actuary in performing such risk assessment procedures, including the actuary's professional standing, competence, capabilities and objectivity. Much of this understanding will be obtained by communicating with the actuary involved in the preparation of financial statements throughout the audit process. As stated in paragraphs 11 and 14 of the "Joint Policy Statement Concerning Communications between Actuaries Involved in the Preparation of Financial Statements and Auditors" appended to CAS 500, certain aspects of this communication process would be in writing.

22 The auditor may make inquiries of management, those responsible for financial reporting, an actuary involved in the preparation of financial statements, and of other appropriate individuals within the entity and other employees with different levels of authority, as they may offer the auditor varying perspectives when identifying and assessing risks of material misstatement as it relates to the actuarially determined amounts. If there is an internal audit function, inquiries of the appropriate individuals within the function may assist the auditor in understanding the entity and its environment, and the entity's internal control, in the identification and assessment of risks related to actuarially determined amount. Inquiries may be made of the members of the board and its respective committees, the investment committee or senior management such as the chief financial, risk, investment, information and human resources officers, as well as senior line-function actuarial staff, to:

a. identify actuarially determined amounts and/or assumptions, where the greatest use of judgment is used, where new accepted actuarial practice is being used or where there are changes in systems or practices

b. determine the extent to which a service organization is used by the entity in the operation, administration or accounting

Considerations specific to plan sponsors

c. identify employee future benefit costs of a plan sponsor and determine:
    i. the materiality of employee future benefit costs, assets and obligations in relation to the plan sponsor's financial statements taken as a whole
    ii. the number and type of employee future benefit plans and the provisions of each plan, including the nature of the benefits provided
    iii. the timing of the employee future benefit plan valuations, the need for extrapolations and the involvement of management and an actuary in determining the employee future benefit costs, assets and obligations
    iv. sociological and demographic factors regarding plan members, such as age, employment history

23 Analytical procedures may be helpful in identifying the existence of unusual transactions or events, and amounts, ratios and trends that might indicate matters that have financial statement and audit implications. Such procedures may be a source of audit evidence about the reasonableness of the actuarially determined amounts. An actuary involved in the preparation of financial statements and other members of management normally will prepare analyses to evaluate the reasonableness of the actuarial valuation or elements of it. Types of analytical procedures performed as risk assessment procedures may (1) include both financial and non-financial information and (2) use data aggregated at a high level that may provide a broad initial indication about the likelihood of a material misstatement.

24 Observation and inspection may support the responses received with respect to inquiries of management, an actuary involved in the preparation of financial statements and others and may provide information about the entity and its environment. Such audit procedures with respect to the audit of the actuarially determined amounts may include:

a. reading the investment policy and funding policy of a public personal injury compensation plan, pension plan or other future benefit plan
b. reading reports of an actuary involved in the preparation of financial statements, internal audit, risk management and regulator
c. reading reports of any peer review or other external actuarial review of the work of an actuary involved in the preparation of financial statements
d. reading publicly available forecasts of economic conditions
e. reviewing information obtained from external sources such as insurance, pension or benefits industry publications and regulatory instructions that may also be useful in obtaining information relating to the actuarially determined amounts

Consideration specific to insurance enterprises

f. inspecting documents such as business plans, strategies, management's commentaries on quarterly results and management's measurement of the amount of, and trends in, available and required capital for regulatory and other purposes (for example, regulatory capital requirement tests)

Considerations specific to plan sponsors

g. reading available assumptions and valuation methods of other plan sponsors or post employment plans

h. reviewing minutes, including human resource and compensation committee minutes, and union contracts (A review of communications with employees and executives may be useful in obtaining information to determine the number and type of employee future benefit plans and the provisions of each plan.)

25 The auditors may consider obtaining information from a variety of sources such as using information obtained from the auditor's previous experience with the entity and from audit procedures performed in previous audits. The auditor shall evaluate whether such information remains relevant and reliable as audit evidence for the current audit.

Discussion among the engagement team

26 Paragraph 17 of CAS 315 requires the engagement partner and other key engagement team members to discuss the application of the applicable financial reporting framework and the susceptibility of the entity's financial statements to material misstatement. The engagement partner is also required to determine which matters are to be communicated to engagement team members not involved in the discussion. As many of the financial statement items in the financial statements of an entity, within the scope of the Guide, may be dependent on the valuation of the actuarially determined amounts valued by an actuary involved in the preparation of financial statements, or affect the actuary's valuation, members of the engagement team need to understand how the results of the audit procedures they perform may affect the audit of the actuarially determined amounts.

27 An auditor's actuary, when involved in the engagement, may be able to assist the engagement team in:

a. corroborating the information obtained about the entity and its environment

b. documenting the actuarial valuation processes and related control structure

c. performing a walk-through of the procedures to confirm the actuarial valuation processes

d. understanding the susceptibility of the valuation of actuarially determined amounts to material misstatements arising from fraud or error, and in designing further audit procedures to address assessed risks of material misstatement of actuarially determined amounts
e. considering the relative position of the actuarially determined amounts within a range of reasonable actuarial estimates, and how that may have changed as compared to the prior year, which may be an indicator of possible management bias
f. determining that the standards within the applicable financial reporting framework have been appropriately applied in the valuation of actuarially determined amounts
g. understanding the risk features associated with source data

Consideration specific to insurance enterprises

h. understanding the risk features of existing and new insurance products

Consideration specific to employee future benefit plans

i. understanding the risk features associated with employee future benefit costs

Consideration specific to public personal injury compensation plans

j. understanding the risk features associated with benefits and rules

Understanding the entity and its environment, including its system of internal control

28 Paragraph 19(a) of CAS 315, *Identifying and Assessing the Risks of Material Misstatement*, requires the auditor to obtain an understanding of following aspects of the entity and its environment:

a. the entity's organizational structure, ownership and governance, and its business model, including the extent to which the business model integrates the use of IT

b. industry, regulatory and other external factors

c. the measures used, internally and externally, to assess the entity's financial performance

External factors

29 External factors are conditions, circumstances and influences that affect operations but are beyond management's control. Expectations regarding future industry conditions are significant to the assumptions underlying the determination of the actuarially determined amounts. Current industry conditions and trends are a major source of information in developing expectations about the future. Examples of matters that may be considered in developing an understanding of current industry conditions and trends include the following:

a. Changing sociological and demographic factors — Changes in mortality, disability and retirement ages may have a significant effect on the assumptions used to calculate the costs and obligations.

b. The position of the industry in the current business cycle — Over the long term, each industry goes through various business cycles. Such business cycles range from those where profitability is rising, to those where profitability is falling. Each entity responds in different ways depending on where its industry is in the current business cycle. Understanding where the industry is in the current business cycle provides useful information about the reasonableness of assumptions used in the valuation of actuarially determined amounts.

c. Changes in regulation (see paragraph 30), accounting standards and accepted actuarial practice — Such changes may alter requirements, assumptions or calculation methodologies.

d. Changes in general economic, legal and social conditions — Such changes may mean that actual results deviate from those assumed.

Consideration specific to insurance enterprises

Such changes may result in increased anti-selection by policyholders.

Consideration specific to employee future benefit plans

Such changes may change the number of retirements and the age of retirement.

e. Changes in financial markets — Such changes may mean that actual results deviate significantly from those assumed.

Consideration specific to insurance enterprises

Such changes may significantly affect the entity's continued ability to manage risks related to liquidity, rates of return on investments, foreign exchange, hedging, credit losses and the relationship between the asset portfolio and the discount rate, minimum investment returns guaranteed on insurance products and the availability of affordable reinsurance.

Consideration specific to employee future benefit plans

Changes in discount rates to reflect the time value of money, inflation and return on plan assets may have a significant effect on the entity's costs and obligations for employee future benefits.

Consideration specific to public personal injury compensation plans.

Changes in discount rates to reflect the time value of money and return on plan assets may have a significant effect on the determination of benefit costs and liabilities.

f. Changes in the social environment and consumer preferences.

Consideration specific to insurance enterprises

Changes in insurance policyholder needs may make older products obsolete and create increasing demand for newer products. Affecting the insurance enterprise's product mix in this way can have significant implications on the valuation of insurance contracts.

Consideration specific to employee future benefit plans

Changes in plan member needs and behaviours may affect the level and nature of employee future benefits claims made by members.

Regulatory factors

30 As most insurance enterprises and pension plans are subject to regulation, the auditor would be familiar with relevant regulatory material issued by regulators within whose jurisdiction these entities operate.

Considerations specific to pension plans

Pension legislation generally requires pension plans to file annual financial statements. The applicable financial reporting framework is defined by specified regulatory requirements. Financial statements prepared in accordance with regulatory requirements, and only intended for the purpose of filing with the regulator, are generally considered to be special purpose rather than general purpose financial statements.

Pension legislation or contractual commitments also generally require(s) actuarial valuations of pension plans for funding purposes to be filed with pension regulators every one to three years (unless the plan sponsor or regulator wishes to file more frequently). Usually, actuarial valuations for accounting purposes are prepared at the same time as those for funding purposes. Extrapolations are prepared for fiscal years between actuarial valuations unless changes (to plan provisions, membership group, etc.) between scheduled valuations are of such significance that, for accounting purposes, a new valuation is required.

Applicable financial reporting framework

31 CAS 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with Canadian Auditing Standards*, discusses management's responsibilities when an audit is conducted. Among other things, management is responsible for the preparation of the financial statements in accordance with the applicable financial reporting framework, including, where relevant, their fair presentation. CAS 210, *Agreeing the Terms of Audit Engagements*, requires the auditor to establish whether the preconditions for an audit are present before accepting or continuing with an engagement. One of the preconditions is to determine whether the financial reporting framework to be applied by management in the preparation of the financial statements is acceptable. Entities preparing financial statements in accordance with Canadian generally accepted accounting principles (GAAP) will apply accounting standards in determining the actuarially determined amounts, based on the type of reporting entity (as set out in the Preface to the *CPA Canada Handbook – Accounting*).

Consideration specific to insurance enterprises

An insurance enterprise is a publicly accountable enterprise and applies the International Financial Reporting Standards (IFRS), as set out in Part I of the *CPA Canada Handbook – Accounting*.

Consideration specific to employee future benefit plans

General purpose financial statements prepared for pension plans, and benefit plans that have characteristics similar to pension plans and provide benefits other than pensions, apply the accounting standards for pension plans, as set out in Part IV of the *CPA Canada Handbook – Accounting*.

Consideration specific to plan sponsors

Appropriate accounting standards to follow for plan sponsors of employee future benefit plans are dependent on whether the plan sponsor is:

i. a private enterprise that applies either accounting standards for private enterprises, as set out in Part II of the *CPA Canada Handbook – Accounting,* or IFRS in Part I;
ii. a publicly accountable enterprise that applies IFRS in Part I;
iii. a not-for-profit organization that applies either accounting standards for not-for-profit organizations in Part III of the *CPA Canada Handbook – Accounting* or IFRS in Part I; or
iv. a public sector entity. Entities within the scope of the *CPA Canada Public Sector Accounting Handbook* refer to the Introduction to that Handbook to determine the basis of accounting for purposes of their financial reporting.

32 Entities may also use a financial reporting framework that is not Canadian GAAP. For example, an entity may need to report under foreign jurisdictions using generally accepted accounting principles and accepted actuarial practice for that jurisdiction or may need to report to a regulatory body requiring compliance with that body's legislation. The auditor will need to consider whether the engagement team, and any auditor's actuary who is not part of the engagement team, includes members with sufficient relevant knowledge and experience in auditing financial statements prepared by entities using financial reporting frameworks other than Canadian GAAP in the *CPA Canada Handbook – Accounting*.

33 An understanding of the entity's selection and application of accounting policies, including any changes thereto as well as the reasons, therefore, may encompass such matters as:

i. the methods the entity uses to recognize, measure, present and disclose significant and unusual transactions
ii. the effect of significant accounting policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus
iii. changes in the environment, such as changes in the applicable financial reporting framework or tax reforms that may necessitate a change in the entity's accounting policies
iv. financial reporting standards and laws and regulations that are new to the entity and when and how the entity will adopt, or comply with, such requirements

Organizational structure, ownership and governance, and business model

34 Paragraph 19(a)(i) of CAS 315 requires the auditor to obtain an understanding of the entity's organizational structure, ownership and governance, and its business model, including the extent to which the business model integrates the use of IT.

35 Obtaining an understanding of the structure of the entity's IT environment would help in understanding the complexity of the IT environment, through which data flows for actuarially determined amounts. For example, implementation of IFRS 17, *Insurance Contracts* would result in implementation of new IT systems and new data feeds.

36 Understanding the entity's objectives, strategy and business model helps the auditor to understand the entity at a strategic level, and to understand the business risks the entity accepts and faces. An understanding of the business risks assists the auditor in identifying specific risk factors relating to actuarially determined amounts. Examples of matters that the auditor may consider in obtaining an understanding of the entity's business model includes industry developments, new products and business lines, new types of contracts and new accounting requirements.

Considerations for insurance enterprises and public personal injury compensation plans

37 The auditor obtains an understanding of those product lines that are significant in the determination of insurance contracts and reviews the features of products within those lines that are likely to be significant to the assumptions and data used in the actuarial valuation. Similarly, the auditor of a public personal injury compensation plan obtains an understanding of those indemnities that are significant in the determination of liabilities and reviews the features that are likely to be significant to the assumptions and the data used in the actuarial valuation.

Consideration for employee future benefit plans

Examples of matters the auditor may consider include:

a. the provisions of the plan, including the nature of the benefits provided
b. administration of the plan, including the use of annuity contracts

Consideration for plan sponsors

Examples of matters that may be considered include:

c. the number and type of employee future benefit plans and the provisions of each plan, including the nature of the benefits provided
d. the significance of the plans in relation to the sponsor's financial statements taken as a whole
e. the administration of each employee future benefit plan, including the use of annuity contracts

38 In obtaining an understanding of the entity's operations, the auditor determines whether the entity uses a service organization. If so, the auditor obtains an understanding of how the entity uses the services of a service organization in the entity's operations, including if the services are relevant to the entity's financial reporting. CAS 402, *Audit Considerations Relating to an Entity Using a Service Organization*, provides guidance in these matters.

39 As discussed in paragraph 21, the auditor obtains an understanding of the role and responsibilities of an actuary involved in the preparation of financial statements. Examples of matters that may be considered in obtaining an understanding of the role and responsibilities of an actuary involved in the preparation of financial statements and the actuarial methods used include the following:

a. The actuarial methods used in the calculation of the actuarially determined amounts and how an actuary involved in the preparation of financial statements ensures that these conform with accepted actuarial practice in Canada and are appropriate for the entity consistent with the applicable financial reporting framework.

b. The extent to which approximations are used in calculating the actuarially determined amounts and the procedures for ensuring their reasonableness, including if those approximations remain reasonable as circumstances change.

c. How the actuary communicates with the rest of the organization, including how the actuary becomes informed about the following matters:

Considerations specific to insurance enterprises

i. underwriting decisions including new products, changes in underwriting philosophy or marketing methods that may affect actuarial assumptions

ii. the frequency, severity and duration of claims, the structure and processes of the claims department, and the existence of backlogs so that these are taken into account in the valuation of insurance contracts

iii. the nature and extent of the insurance enterprise's reinsurance activities, including alternative risk transfer agreements and the impact of the reinsurance program on insurance contracts

iv. the asset/liability management function including asset default experience and allocations of assets and related liabilities

v. insurance business in other jurisdictions

vi. the underwriting and claims handling practices, including those of third-party administrators and of ceding companies, and the results of audits

vii. how source data is determined

Considerations specific to employee future benefit plans

i. changes to provisions of an employee future benefit plan, including additional or terminated plans or use of annuity contracts
ii. how source data for employee future benefits are determined (for example, salary changes, new hires, terminations, retirements) and are determined to be relevant, complete and appropriate

Considerations specific to public personal injury compensation plans

i. the assessment rate decisions including changes in process
ii. the frequency, severity and duration of claims, the structure and processes of the claims department, and the existence of backlogs so that these are taken into account in the valuation of liabilities
iii. the claims handling practices
iv. how source data is determined

d. The actuarial assumptions used, including best estimates, risk adjustment for non-financial risk and discount rates, and how the actuary involved in the preparation of financial statements compares assumptions with actual experience.

Consideration specific to employee future benefit plans

For pensions plans or other employee future benefit plans of a long-term nature, expected long-term future events may need to be reflected, without giving undue weight to recent experience. Periodic assessments may need to be made to ensure the assumptions continue to be relevant.

Consideration specific to public personal injury compensation plans

Expected long-term future events may need to be reflected, without giving undue weight to recent experience. Periodic assessments may need to be made to ensure the assumptions continue to be relevant.

Consideration specific to insurance enterprises

The reflection of credit risk, where applicable, in the setting of discount rates in formulating the actuarily determined amounts

40 Not all aspects of the business model are relevant to the auditor's understanding. Business risks are broader than the risks of material misstatement of the financial statements, although business risks include the latter. The auditor does not have a responsibility to understand or identify all business risks because not all business risks give rise to risks of material misstatement.

a. fails to comply, or is at risk of failing to comply, with regulatory capital requirements, or other third-party expectations of financial performance
b. changes underwriting standards

c. changes valuation and other information systems
d. rapidly expands or contracts operations, or restructures or outsources operations, which may affect risk selection, estimates of claims adjustment expenses, or administration of employee future benefit plans
e. introduces new employee future benefit plans, new insurance products, new warranty programs, or complex products, or enters into new reinsurance contracts where there may be a lack of significant experience or appropriate information systems from which to derive appropriate assumptions
f. changes how it manages risks related to liquidity and investments, foreign exchange, hedging, credit losses and the relationship between the asset portfolio and the discount rate
g. expands or acquires foreign operations

Considerations specific to insurance enterprises

h. changes underwriting standards
i. fails to comply with appropriate market conduct practices

Consideration specific to employee future benefits

j. fails to meet the entity's business or human resource objectives due to funding deficits

Consideration specific to public personal injury compensation plans

k. fails to comply with the funding policy

41 In obtaining an understanding of the entity's objectives and strategies and related business risks that may result in a risk of material misstatement of the financial statements, the auditor may consider the entity's:

a. investment practices and strategies, including hedging
b. risk management program, the risks identified and management's responses
c. stress testing performed by the actuary involved in the preparation of financial statements

Considerations specific to insurance enterprises

d. insurance underwriting and product profitability objectives
e. insurance distribution methods, agent and other intermediary selection, compensation and monitoring of sales practices
f. reinsurance programs, including retention limits, exposure to individual or inter-company reinsurers and in aggregate
g. strategic plan, including its attitude toward expansion into new lines of business, management of capital and regulatory compliance
h. claims handling and settlement philosophy

Consideration specific to plan sponsors

i. new offerings of benefit plans as part of the overall compensation plan, or changes to the existing benefit plans

Consideration specific to public personal injury compensation plans

j. claims handling philosophy

Measurement and review of the entity's financial performance

42 Paragraph 19 (a)(iii) of CAS 315 requires the auditor to obtain an understanding of the measures used, internally and externally, to assess the entity's financial performance.

43 In obtaining an understanding of how the entity measures and reviews its performance, the auditor may consider the following:

a. the key performance measures used by the entity, identifying those where actuarial calculations are of significance
b. the identification of the sources of earnings for analyzing the reasonableness of movements in the actuarially determined amounts from one period to the next
c. the use of comparisons of the entity's performance with that of its competitors or peers

Considerations specific to insurance enterprises

d. the extent to which an actuary involved in the preparation of financial statements performs studies of mortality, persistence, lapses, premiums, expenses and the frequency and severity of claims, as an assessment of the reasonableness of actuarial assumptions including reinsurance (where applicable)
e. the use of statistics concerning the economic value added by the entity's activities

Consideration specific to employee future benefits

f. the extent to which an actuary involved in the preparation of financial statements performs studies of mortality, termination rates, disability claims rate, retirement age or changes in salary, as an assessment of the reasonableness of actuarial assumptions for employee future benefits

Consideration specific to public personal injury compensation plans

g. the extent to which an actuary involved in the preparation of financial statements performs studies of mortality, persistence, expenses and the frequency and severity of claims, as an assessment of the reasonableness of actuarial assumptions

System of internal control

44 CAS 315 requires the auditor to obtain an understanding of internal control relevant to the preparation of the financial statements. CAS 315 indicates that the system of internal control consists of the following components:

a. the control environment
b. the entity's risk assessment process
c. the entity's process to monitor the system of internal controls
d. the information system and communication
e. control activities

Control environment

45 Paragraph 21 of CAS 315 requires the auditor to obtain an understanding of the control environment. In obtaining an understanding of the control environment of the entity with respect to the audit of actuarially determined amounts, the auditor considers paragraphs A99-A100 of CAS 315 and such things as management's:

a. commitment to having an actuarial valuation function that:
    i. is appropriately staffed, either employed or engaged by the entity, by competent people with the necessary experience and professional qualifications
    ii. performs its functions with objectivity and in accordance with accepted actuarial practice in Canada
    iii. has appropriate access to the audit committee or equivalent
b. commitment to oversight by conducting regular reviews of financial performance in order to identify unexpected results and take appropriate action
c. communication and enforcement of integrity and ethical values that is clearly reflected in the design, administration and monitoring of financial controls, including those over the valuation of actuarially determined amounts
d. recognition of the need for strong communication links between an actuary involved in the preparation of financial statements and those responsible for managing significant aspects of the entity's operations
e. general philosophy on establishing actuarially determined amounts and monitoring actual-to-expected experience for the underlying assumptions
f. delegation of operational authority to outside parties such as third-party administrators or other service providers, and toward designing appropriate procedures to supervise, control and monitor the performance of those parties

Considerations specific to insurance enterprises

g. policies relating to establishing liabilities for valid exposure and adjusting such liabilities in response to changes in risk exposure

h. general philosophy on setting claim liabilities and management's historical record of claim liability adequacy or experience

Consideration specific to plan sponsors of employee future benefit plans

i. general philosophy on providing employee future benefits

j. understanding of the processes and oversight of setting the valuation assumptions and choosing valuation methodology

k. understating the selection of accounting policy choices and their continued appropriateness

l. coordination between internal resources and external actuaries, plan administrators, investment providers and others

Consideration specific to public personal injury compensation plans

m. general philosophy on setting claim liabilities and management's historical record of claim liability adequacy or experience

46 When considering whether elements of the control environment have been implemented, the auditor may refer to paragraphs A101 - A108 of CAS 315.

The entity's risk assessment process

47 Paragraph 22(a) of CAS 315 requires the auditor to obtain an understanding of the entity's process for identifying business risks relevant to financial reporting objectives, assessing the significance of those risks, including the likelihood of their occurrence, and addressing those risks. The auditor inquires about business risks that management and the actuary involved in the preparation of financial statements have identified at the entity level, and how they have been addressed, and considers whether they may result in material misstatement of the actuarially determined amounts.

48 The auditor may obtain information about the entity's risk assessment process from those responsible for risk management, such as the chief risk officer. The auditor may also obtain an understanding of the effect of business risks on the actuarially determined amounts by reviewing reports prepared for the audit committee or equivalent by the actuary involved in the preparation of financial statement.

The information system and communication

49 Paragraph 25 of CAS 315 requires the auditor to obtain an understanding of the information system and communication relevant to preparation of financial statements. Because of the large number of transactions, most insurance enterprises, public personal injury compensation plans and employee future benefit plans rely heavily on information technology to maintain statistical, employee and accounting records. The auditor considers the information systems relevant to the valuation of actuarially determined amounts. These systems may sometimes be outside the entity's main information systems (for example, computer-based systems and spreadsheets).

50 The auditor obtains an understanding of the following management controls:

a. controls over the integrity of data
b. controls over transferring information between systems, including information from external sources such as reinsurance ceding companies or third-party administrators or service organizations
c. controls for ensuring that valuation data has been established and maintained to calculate the value of the actuarially determined amounts correctly

Consideration specific to insurance enterprises

d. controls over transferring information from the actuarial results to the general ledger

51 In obtaining an understanding of the information system, the auditor considers the risks of material misstatement associated with inappropriate override of controls or bypasses to controls over the valuation of the actuarially determined amounts. In particular, the auditor may consider such things as the opportunity for management to override controls over:

a. actuarial assumptions
b. valuation methods
c. risk adjustment for non-financial risk
d. adjustments to computer-produced valuations
e. discount rates

Control activities

52 Paragraph 26 of CAS 315 requires the auditor to obtain an understanding of the control activities component. In the context of the preparation of actuarially determined amounts, control activities are the policies and procedures that help ensure that directives of management and the actuary involved in the preparation of financial statements are carried out. Examples of control activities relating to actuarially determined amounts may include:

a. proper authorization of transactions and activities — written guidelines are in place that assign appropriate individuals the responsibility for initial approval and subsequent changes of actuarial assumptions and calculation methodologies
b. independent checks on calculation of recorded amounts — actuaries are responsible for selection of actuarial methods and calculations of liability amounts, and policies and procedures are in place to evaluate those methods and calculations and the resulting liability amounts by appropriate personnel
c. design of adequate controls over documents and records

   Consideration specific to insurance enterprises

   i. there are procedures to ensure that fictitious or duplicate in-force file records, such as insurance contract records for insurance enterprises are not included in the records and to prevent and detect the omission of valid transaction or records

   Consideration specific to employee future benefits

   ii. there are procedures to ensure that fictitious or duplicate employee records for entities offering employee future benefits, are not included in the records and to prevent and detect the omission of valid transactions or records

   Consideration specific to public personal injury compensation plans

   iii. there are procedures to ensure that fictitious or duplicate records are not included in the records and to prevent and detect the omission of valid transactions or records

d. adequate safeguards of access to and use of assets and accounting records (i.e., data files and production programs have adequate safeguards against unauthorized access)
e. segregation of duties between incompatible functions
f. effective general IT controls and application controls — General IT controls are controls over the entity's IT processes that support the continued proper operation of the IT environment, including the continued effective functioning of information processing controls and the integrity of information (i.e., the completeness, accuracy and validity of information) in the entity's information system. Application controls are manual or automated procedures that typically operate at a business process level. Application controls can be preventative or detective in nature and are designed to ensure the integrity of the accounting records. Accordingly, application controls relate to procedures used to initiate, record, process and report transactions or other financial data.

Process to monitor the system of controls

53 Paragraph 24 of CAS 315 requires the auditor to obtain an understanding of the entity's process for monitoring the system of internal control relevant to the preparation of the financial statements. The effectiveness of internal control over actuarially determined amounts may be monitored in the following ways:

a. ongoing management reviews of internal control performance
b. independent audit assessments as part of the compliance with regulatory standards for sound business and financial practices
c. evaluations by internal audit
d. reviewing reports from regulators resulting from their reviews of regulatory filings and regulatory examination reports
e. internal actuarial reviews
f. external actuarial reviews

Consideration specific to insurance enterprises

g. reviews by reinsurers

Controls relevant to the preparation of actuarially determined amounts

54 Controls relevant to the preparation of actuarially determined amounts may include:

a. policies and procedures to collect, record and process information used for developing assumptions, and to enhance the reliability of this information, such as:
    i. comparing actual results to past valuation assumptions
    ii. performing cash flow projections and sensitivity analyses to determine the effect on the valuation of various changes in critical assumptions

    Consideration specific to insurance enterprises

    iii. obtaining insurance enterprise-specific and industry-wide studies to assess emerging experience for products
    iv. making comparisons of valuation assumptions with those used in product pricing, particularly for new products

    Consideration specific to employee future benefits

    v. obtaining industry-wide studies to assess emerging experience for products or provisions of employee future benefit plan
b. policies and procedures an actuary involved in the preparation of financial statements and other members of management established and maintained to enhance the reliability of the capture and processing of source data, such as:

i. access controls, systems development controls and change controls over programs used in the capture and processing of data, either at the entity or at a service organization if activities are outsourced
ii. access controls over in-force databases such as investment, claims, personnel data files and valuation data files
iii. record counts and input/output reconciliations to control the transfer, processing and aggregation of source data

Consideration specific to insurance enterprises

iv. controls over the quality and timeliness of information provided by other insurers that cede insurance to the entity (for example, by audits to assess compliance with the administration, underwriting and claims handling policies and procedures of the insurance enterprise), and over the timely processing of such information

Consideration specific to employee benefit plans

v. controls over the quality and timeliness of information provided by third-party pension or benefit administrators and additionally, controls to ensure consistency of data between those at source (employer), data used for administration (administrator), and data used for valuation (actuary)

c. policies and procedures an actuary involved in the preparation of financial statements may establish and maintain to ensure the valuation models continue to reflect the significant attributes of the business, such as:
   i. access controls, systems development controls and change controls over the programs used in the calculation process
   ii. reconciliation controls, reconciliation of system outputs to data used to derive the valuation assumptions (for example, reconciliation of total expenses and premiums to the general ledger)
   iii. comparison of current period results with the results projected by prior valuations (for example, comparison of current year claims to the claims projected by the previous year’s model)
   iv. comparison of the model and significant product features (for example, a 25-year term product would not have cash flows in year 26) or provisions of the plan (for example, post-employment benefits may change upon the death of a retired employee)

d. policies and procedures an actuary involved in the preparation of financial statements may establish and maintain to enhance the reliability of the actuarial calculation process, such as:
   i. access controls, systems development controls and change controls over programs used in the calculation process

ii. access controls over data containing calculation parameters

iii. access controls, systems development controls and change controls over calculation tools, such as spreadsheets and modelling software and controls to ensure that such tools are being used for the purpose for which they are intended

iv. controls over the process for estimating assumed amounts

v. controls over the process for considering, justifying and selecting methods used in calculations

vi. independent checks of logic used in deriving calculations

vii. independent checks of calculations

viii. identifying sources of earnings

ix. comparisons of current actuarial calculations with those used in prior years, with investigation of any variations that were not anticipated

Identifying and assessing the risks of material misstatement

55 Paragraph 28 of CAS 315 requires the auditor to identify the risks of material misstatement and determine whether they exist at:

a. the financial statements level

b. the assertion level for classes of transactions, account balances and disclosures

56 Paragraph 30 of CAS 315 specifies that for identified risks of material misstatement at the financial statement level, the auditor shall assess the risks and:

a. determine whether such risks affect the assessment of risks at the assertion level

b. evaluate the nature and extent of their pervasive effect on the financial statements

57 Paragraph 31 of CAS 315 states that for identified risks of material misstatement at the assertion level, the auditor shall take into account how, and the degree to which:

a. inherent risk factors effect the susceptibility of relevant assertions to misstatements

b. the risks of material misstatement at the financial statement level effect the assessment of inherent risks of material statements at the assertion level

58 CAS 315 further states that auditor shall determine whether any of the assessed risks of material misstatement are significant risks and the auditor shall determine whether substantive procedures alone cannot provide sufficient and appropriate audit evidence for any of the risks of material misstatement at the assertion level.

59 Examples of risk factors relating to actuarially determined amounts include factors discussed in paragraph 28 and business risks discussed in paragraph 40.

60 Actuarially determined amounts are, in many cases, complex accounting estimates and computations involving assumptions about future events and requiring the specialized expertise of an actuary. Those risks of material misstatement relating to actuarially determined amounts may be considered significant risks, particularly if the actuarially determined amount is a material component of the financial statements taken as a whole. For example, it is likely that the auditor considers insurance contracts of an insurance enterprise, the benefit liability of a public personal injury compensation plan or the pension liability in a pension plan's financial statements to be significant risks, whereas an actuarially determined liability for an employee future benefit plan may not be a significant risk or material to the financial statements of the plan sponsor. CAS 315 para. 19-27 require the auditor to obtain an understanding of the entity and its environment, the applicable financial reporting framework and the entity's system of internal control.[6] Risk assessment procedures to obtain audit evidence about the design and implementation of controls may include inquiring of entity personnel, observing the application of specific controls, inspecting documents and reports, and tracing transactions through the information system relevant to financial reporting. Inquiry alone is not sufficient for such purposes.

The auditor's responses to assessed risks

Overall responses

61 Paragraph 5 of CAS 330, *The Auditor's Responses to Assessed Risks*, requires the auditor to design and implement overall responses to address the risks of material misstatement at the financial statement level. Such responses may include:

a. emphasizing to the audit team the need to maintain professional skepticism
b. assigning more experienced staff or those with special skills, or using experts
c. providing more supervision
d. incorporating additional elements of unpredictability in the selection of further audit procedures to be performed

Additionally, the auditor may make general changes to the nature, timing or extent of audit procedures (for example, performing substantive procedures at the period end instead of at an interim date or modifying the nature of audit procedures to obtain more persuasive audit evidence).

62 The auditor may use an auditor's actuary on the audit. Determining the need for an auditor's actuary is discussed in paragraphs 14-19. The role of the auditor's actuary, when used by the auditor, will depend on the circumstances of the audit and may range from extensive involvement in all phases of the audit to more limited participation in specifically identified areas.

6 Examples of risk assessment procedures are included in CAS 315, paragraph 21.

63 An accounting estimate is a monetary amount for which the measurement, in accordance with the requirements of the applicable financial reporting framework, is subject to estimation uncertainty. Actuarially determined amounts are considered to be an accounting estimate that may have a significant or pervasive effect on the financial statements, depending on the circumstances. Management is responsible for the accounting estimates included in financial statements, including establishing policies and procedures for the preparation of accounting estimates, which would normally include matters such as gathering the necessary data on which to base estimates, developing assumptions as to the most likely outcome, determining the amounts of estimates and considering statement disclosures.

64 The determination of actuarially determined amounts, including the establishment of policies and procedures with respect to the preparation of the actuarially determined amounts, may be performed by the actuary involved in the preparation of the financial statements. In this regard, the actuary is functioning as management, as management's expert, whether or not they are an employee or external consultant. If information to be used as audit evidence has been prepared using the work of a management's expert, paragraph 8 of CAS 500, *Audit Evidence*, requires the auditor, to the extent necessary, having regard to the significance of that expert's work for the auditor's purposes to:

- evaluate the competence, capabilities and objectivity of that expert
- obtain an understanding of the work of that expert
- evaluate the appropriateness of that expert's work as audit evidence for the relevant assertion

When the financial statements prepared by management include amounts determined by or with the assistance of an actuary, communications between the auditor and the actuary are guided by the *Joint Policy Statement Concerning Communications between Actuaries Involved in the Preparation of Financial Statements and Auditors* appended to CAS 500.

65 An understanding of the work of the management's expert includes an understanding of the relevant field of expertise. An understanding of the relevant field of expertise may be obtained in conjunction with the auditor's determination of whether the auditor has the expertise to evaluate the work of the management's expert, or whether the auditor needs an auditor's expert for this purpose. As discussed in paragraphs 14-19, if the auditor does not possess the necessary expertise to audit actuarially determined amounts prepared by an actuary and the amounts are material to the financial statements taken as a whole, the auditor would likely use an auditor's actuary to obtain sufficient appropriate audit evidence regarding those amounts. Accordingly, in these cases, developing overall responses to the assessed risks, the auditor may use the information produced by the entity, (i.e., by the actuary involved in the preparation of financial statements). However, the auditor is responsible for obtaining sufficient appropriate audit evidence with respect to information produced by the entity. When

using information produced by the entity, paragraph 9 of CAS 500 requires the auditor to evaluate whether the information is sufficiently reliable for the auditor's purposes, including as necessary in the circumstances:

a. obtaining audit evidence about the accuracy and completeness of the information

b. evaluating whether the information is sufficiently precise and detailed for the auditor's purposes

66 CAS 620, U*sing the Work of an Auditor's Expert*, provides guidance to the auditor when the work of an auditor's actuary is used to assist the auditor in obtaining sufficient appropriate audit evidence, including evaluating the adequacy of the auditor's actuary's work.

Audit procedures responsive to the assessed risks of material misstatement at the assertion level

67 Paragraph 6 of CAS 330, requires the auditor to design and perform further audit procedures whose nature, timing and extent are based on and are responsive to the assessed risks of material misstatement at the assertion level (see paragraphs 55-57). In some cases, the auditor may determine that only by performing tests of controls may the auditor achieve an effective response to the assessed risk of material misstatement for a particular assertion. In other cases, the auditor may determine that performing only substantive procedures is appropriate for particular assertions and, therefore, the auditor excludes the effect of controls from the relevant risk assessment. This may be because the auditor's risk assessment procedures have not identified any effective controls relevant to the assertion, or because testing controls would be inefficient and therefore, the auditor does not intend to rely on the operating effectiveness of controls in determining the nature, timing and extent of substantive procedures, or a combined approach using both tests of controls and substantive procedures is an effective approach. However, as required by paragraph 18 of CAS 330, irrespective of the approach selected, the auditor designs and performs substantive procedures for each material class of transactions, account balance and disclosure. This may require substantive testing of the computations, modelling and reasonableness of assumptions used in determining the insurance contracts of an insurance enterprise or liabilities of a public personal injury compensation plan or an employee future benefit plan, as these are likely to be material account balances to the financial statements taken as a whole.

Tests of controls

68 Paragraph 8 of CAS 330 requires the auditor to perform tests of controls to obtain sufficient appropriate audit evidence as to the operating effectiveness of controls if the auditor's assessment of risks of material misstatement at the assertion level includes an expectation that controls are operating effectively (i.e., the auditor intends to rely on the operating effectiveness of controls in determining the nature, timing and extent of substantive procedures), or substantive procedures alone cannot provide sufficient appropriate audit evidence at the assertion level. Tests of the operating effectiveness of controls, such as tests relating to the controls discussed in paragraph 44, may include the same types of audit procedures used to evaluate the design and implementation of controls; however, inquiry and observation alone are not sufficient to test operating effectiveness of controls. Accordingly, other audit procedures are performed in combination with inquiry and observation, such as inspection or reperformance of the application of the control by the auditor. The auditor would refer to CAS 330 for further guidance and requirements on tests of controls. If the auditor plans on relying on controls over a risk considered to be a significant risk, paragraph 15 of CAS 330 requires the auditor to test those controls in the current period.

Substantive procedures responsive to significant risks

69 Paragraph 21 of CAS 330 requires the auditor to perform substantive procedures that are specifically responsive to significant risks. When the approach to a significant risk consists only of substantive procedures, those procedures need to include tests of details. The auditor performs substantive procedures to address such risks. Examples of possible audit procedures to address the assessed risks of material misstatement are presented in the Appendix. The Appendix includes examples of responses to the auditor's assessment of the risks of material misstatement for life insurance and property and casualty insurance enterprises, including reinsurance enterprises, public personal injury compensation plans, defined benefit employee future benefit obligations of plan sponsors or defined future employee benefit plans.

70 The following are areas where the auditor's actuary may assist in performing substantive procedures on those actuarially determined amounts where the auditor judges the risks of material misstatement to be significant risks:

a. Assessment of the reasonableness of the source data in the actuarial analysis, identification of important source data for testing, evaluation as to whether the source data used is appropriate (relevant, complete and accurate) and inquiry of the actuary involved in the preparation of financial statements as necessary.

b. Reading of reports from the actuary involved in the preparation of financial statements and dialogue with that actuary regarding consistency of the report with that actuary's understanding of the underlying data, methods and assumptions used in developing the actuarially determined amounts as well as industry experience.

c. Review of financial statement footnotes pertaining to actuarially determined amounts for completeness and accuracy.
d. Review of the actuarial analysis for reasonableness, including:
   i. appropriateness of the level of detail used
   ii. appropriateness of methods used (consistency with authoritative practice and industry practice)
   iii. appropriateness of assumptions in light of experience and other information
   iv. judgments made
   v. selections made
   vi. completeness of valuation, including the reflection of all relevant events and changes to the employee future benefit plans or insurance contracts
   vii. completeness of documentation included in actuarial analysis

   Consideration specific to insurance enterprises

   viii. review of reinsurance transactions to assess risk transfer and appropriateness of accounting treatment

   Consideration specific to employee future benefit plans

   ix. review of the timing of employee future benefit plan valuations and the appropriateness and sufficiency of extrapolations performed in between formal valuations
   x. review of any risk-transfer (e.g., annuity purchase) transactions to assess risk transfer and appropriateness of accounting treatment
   xi. review of the impact of benefit changes on the valuation and the appropriateness of accounting treatment

Considerations specific to insurance enterprises

e. Testing of the insurance contracts to determine if they are being calculated consistent with the indicated methodology and assumptions. The testing would confirm that the documented methodology is being accurately applied in the valuation model and that the assumptions are used appropriately. For a life insurance enterprise, the auditor’s actuary may target test-specific insurance contracts and other actuarial balances, typically at the policy or cohort level, depending on the nature of the calculation. For a property and casualty insurance enterprise, the auditor’s actuary may test loss and expense insurance contracts for more significant lines of business and evaluate for reasonableness the loss development patterns and loss ratio assumptions, and the impact of significant business changes, claims handling expenses and other key assumptions.

Consideration specific to public personal injury compensation plans

f. Testing of liabilities to determine if they are being calculated consistent with the indicated methodology and assumptions. The testing would confirm that the documented methodology is being accurately applied in the valuation model and that the assumptions are used appropriately.

g. Discussion of the relationship between the asset portfolio and the discount rate and implications on the actuarially determined amounts with the actuary involved in the preparation of financial statements.

Consideration specific to employee future benefits

h. Testing of member liabilities and service costs to determine if they are being calculated consistent with the indicated methodology and assumptions, and the plan provisions, as described. The testing would confirm that the documented methodology is being accurately applied in the valuation model, and that the assumptions are used appropriately, and that the terms of the plan are interpreted correctly. For an employee future benefits plan, the auditor's actuary may review aggregate liabilities and service costs at the plan level, for a segment of the membership population, or target-test individual plan members' liabilities and service costs.

i. Testing of the annuity buy-in contracts to determine whether they are being calculated consistently with the indicated methodology and assumptions. The testing would confirm that the documented methodology is being accurately applied in the valuation model and that the assumptions are used appropriately.

The extent of assistance would be impacted by such factors as the complexity of the actuarially determined amounts, the auditor's cumulative knowledge of the integrity of the actuarially determined amounts and valuation process, the effectiveness of the internal control structure, the degree and nature of changes in the actuarially determined amounts in the current year, and other changes in areas impacting on the actuarially determined amounts.

Evaluating the sufficiency and appropriateness of audit evidence

71 Paragraphs 25-27 of CAS 330 require the auditor to evaluate the sufficiency and appropriateness of audit evidence. This evaluation is primarily a qualitative matter based on the auditor's judgment. Such an evaluation may provide further insight about the risks of material misstatement of actuarially determined amounts and whether there is a need to perform additional or different audit procedures. The auditor would conclude whether sufficient appropriate audit evidence has been obtained. In developing an opinion, the auditor considers all audit evidence, regardless of whether it appears to corroborate or to contradict the assertions in the financial statements. If the auditor is unable to obtain

sufficient appropriate audit evidence as to whether the assessments of the risks of material misstatement at the assertion level remain appropriate, the auditor is required to express a qualified opinion or disclaim an opinion on the financial statements.

72 If, based on the audit evidence obtained, the auditor concludes that the financial statements are materially misstated, they would request that management address the material misstatement. If management does not appropriately address the misstatement, the auditor modifies the opinion in the auditor's report. If the auditor concludes that there is a material misstatement in the financial statements with respect to actuarially determined amounts due to fraud, they refer to CAS 240, *The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements*.

73 CAS 705, *Modifications to the Opinion in the Independent Auditor's Report*, provides guidance to the auditor regarding the types of modified opinions to be issued in cases where:

a. the auditor concludes, based on the audit evidence obtained, that the financial statements as a whole are not free from material misstatement; or

b. the auditor is unable to obtain sufficient appropriate audit evidence to conclude that the financial statements as a whole are free from material misstatement.

Communicating deficiencies in internal control to those charged with governance and management

74 CAS 265, *Communicating Deficiencies in Internal Control to Those Charged with Governance and Management,* requires the auditor to communicate in writing significant deficiencies in internal control identified during the audit to those charged with governance and management at an appropriate level of responsibility. Other deficiencies in internal control identified during the audit that have not been communicated to management by other parties and that, in the auditor's professional judgment, are of sufficient importance to merit management's attention should also be communicated to management on a timely basis.

75 Paragraph 10 of CAS 580, *Written Representations*, requires the auditor to request management to provide a written representation that it has fulfilled its responsibility for the preparation of the financial statements in accordance with the applicable financial reporting framework. Paragraph 13 of CAS 580 requires the auditor to request one or more written representations that the auditor determines necessary to support other audit evidence relevant to the financial statements or one or more specific assertions in the financial statements. Such written representations may supplement, but do not form part of, the written representation required by paragraph 10 of CAS 580. In the case of actuarially determined amounts, they may include representations about the following:

a. whether the selection and application of accounting policies are appropriate

b. whether matters, such as the following, under the applicable financial reporting framework, have been recognized, measured, presented or disclosed in accordance with that framework:

   i. actuarially determined amounts for employee future benefits, including:

      - the use of specific actuarial assumptions that are management's best estimate assumptions[7]
      - the determination of the discount rate, inflation, salary increase, mortality and other key economic and demographic assumptions
      - the completeness and accuracy of plans included in the valuation, the source data and plan provisions
      - the accuracy of extrapolations, including proper reflection of the effects of changes and events occurring subsequent to the most recent valuation that had a material effect on the extrapolations

   ii. actuarially determined amounts for insurance contracts

   iii. aspects of laws and regulations that may affect the financial statements, including non-compliance

7 CAS 540, paragraphs 26-27, *Management's Selection of a Point Estimate and Related Disclosures about Estimation Uncertainty.*

Appendix

Examples of possible audit procedures to address the assessed risks of material misstatement

The examples provided cover possible audit procedures to address the assessed risks of material misstatement of actuarially determined amounts applicable to many engagements; however, not all matters are relevant to every engagement and the list of examples is not necessarily complete.

This Appendix provides examples regarding the following actuarially determined amounts:

a. insurance contracts of insurance enterprises, including reinsurance activities; and
b. defined benefit or similar employee future benefit obligations of plan sponsors, or defined benefit or similar future employee benefit plans

Examples of possible audit procedures to address the assessed risks of material misstatement of insurance contracts and liabilities

Liability for remaining coverage

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Completeness and existence	Test reconciliation of policy data to valuation models	• Reconcile the policy data file to the input into the valuation model to verify that in-force policies are properly included in the estimate of future cash flows and that the policy attributes are correct. • Assess whether the policy data file is complete by reconciling the underlying data to source administration system. • Obtain an understanding of insurance contracts (i.e., through discussion with management and review of supporting documents). For a sample of policies, confirm the existence of the policy and test attributes such as contract classification, key terms of the contract and contract boundary.	X	X	X

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Valuation	Evaluate models for future cash flows or perform an independent estimation of future cash flows	• Perform procedures to assess whether the method, assumptions and data used are appropriate When the auditor chooses to develop its own point estimate or range to evaluate management's estimate: • Perform an independent estimation of future cash flows for a sample of group of contracts • Compare the outcome of the independent estimates with the entity's results, based on the established testing thresholds.	X	X	
Valuation	Test classification of cash flows (acquisition, fulfilment of existing contracts, other general)	• Evaluate whether the methodology applied to determine the classification of expense cash flows is consistent with the requirements of the accounting standard and has been applied correctly. • Obtain supporting documents on a sample basis to test the expense allocation.	X	X	X
Valuation	Test asset for insurance acquisition cash flows	• Assess the entity's approach to determining the completeness and accuracy of pre-recognition insurance acquisition cash flows. • Assess the existence of pre-recognition insurance acquisition cash flows by agreeing deferred expenses to supporting documentation. • Test the nature of expenses that are included in pre-recognition insurance acquisition cash flows to determine that they are deferred in accordance with the entity's accounting policies and applicable financial reporting framework. • Assess the entity's assessment of impairment of asset for insurance acquisition cash flows based on the requirements of IFRS 17.	X	X	X – not applicable if election made to expense acquisition costs immediately

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Valuation	Evaluate economic and non-economic assumptions	• Determine which economic and non-economic assumptions used in the valuation model are significant and evaluate the reasonableness of significant assumptions. • Consider performing sensitivity analysis to understand the risk and impact and benchmark results. • Assess whether the input of assumptions into the valuation model is appropriately applied. • On a sample basis, test data used in experience studies (e.g., comparing key data points to source documentation).	X	X	
Valuation	Evaluate the discount rate(s) used	• Evaluate the appropriateness of the method used to determine the discount rate(s). • The auditor may choose to either review the calculation of discount rate(s) used by the entity or develop its own discount rate and compare against the results of the insurance enterprise.	X	X	X – if applicable
Valuation	Evaluate risk adjustment	• Test the assumptions used to determine the risk adjustment for non-financial risk. • Assess the appropriateness of the calculation of the risk adjustment for non-financial risk to determine whether methodology and assumptions have been implemented appropriately. • Assess the appropriateness of the input of the risk adjustment for non-financial risk into the model. • Assess whether the risk adjustment reflects the amount of compensation that the entity requires for uncertainty of cash flows related to non-financial risk.	X	X	

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Disclosure	Evaluate accuracy of the disclosure of the confidence level	• Assess whether the confidence level disclosed is consistent with the risk adjustment.	X	X	
Accuracy	Evaluate PAA eligibility (only for PAA)	• Determine whether management's assessment is reasonable in relation to auditor's understanding of the nature of the contracts. • For sample groups of contracts, review management's assessment of the PAA eligibility and test that the eligibility criteria in IFRS 17 is met through inspection of the contract and evaluation of management's assumptions and calculations to support the eligibility criteria.			X
Accuracy	Assess VFA eligibility (only for VFA)	• Determine whether management's assessment is reasonable in relation to auditor's understanding of the nature of the contracts. • Evaluate management's assumptions and calculations to assess the eligibility criteria. • For a sample of contracts, review management's assessment of the VFA eligibility at the inception of the contract and confirm whether the eligibility criteria, as set out in IFRS 17, is met or not met.		X	

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Disclosure	Test level of aggregation and grouping of contracts	• Obtain and evaluate the insurer's methodology for applying the level of aggregation against the requirements of IFRS 17 and the following: — identification of portfolios of insurance contracts — grouping of contracts, including assessment of the profitability of contracts • Perform procedures over the application of this methodology to existing and new contracts. For a sample of new and existing contracts, test that the group assigned is appropriate based on the contract characteristics. • For a sample of new contracts where the risk exists of being or becoming onerous, assess the accuracy of the insurance contract grouping.	X	X	X
Accuracy	Test the contractual service margin (CSM)	For a sample of groups of contracts, test that CSM adjustments are appropriate. For example, do the following: • Assess that the CSM for new business is appropriate and was allocated to the appropriate groups. • Assess impacts to the CSM from accretion, based on the appropriate discount rate of the group. • Assess the appropriateness of the change from assumption adjustment and experience adjustment, based on the relevant discount rate of the group. • Assess the impact of foreign exchange on the CSM of the group. *Note that testing management's calculation or developing an independent calculation are both common approaches to testing the established and subsequent measurement of CSM.*	X	X	

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Accuracy	Test CSM amortization	• For a sample of groups, assess whether the coverage units are appropriate based on the nature of the underlying contracts and that amortization is calculated consistently.	X	X	
Accuracy	Test loss component	• For groups with a loss component, assess whether the adjustments to the loss component are appropriate and that the establishment or subsequent increase in the loss component is recorded as an Insurance Service Expense. • Test that reversals of the loss component are recorded as a negative Insurance Service Expense until the loss component is nil, unless PAA applies; then a CSM is established for the group.	X	X	X
Disclosure	Determine significant financing components	• Assess whether the entity has identified all significant financing components. • When applicable, determine whether the carrying amount of the liability for remaining coverage is adjusted to reflect the time value of money. • Assess appropriateness of interest rates and whether these rates have been determined in accordance with the entity's accounting policies and applicable financial reporting framework. • Assess the accuracy and completeness of the input data to the significant financing component calculation.			X

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Existence and valuation	Test reinsurance contracts held	Generally, the testing of reinsurance-held assets and liabilities should be consistent with the procedures for direct insurance contracts. Specific consideration should be given to the following: • Assess that assumptions used in valuation of fulfilment cash flows are consistent with those used for corresponding direct underlying contracts. • Assess the level of aggregation of treaties and contracts, as they may differ from direct underlying contracts. • Assess that the risk adjustment for non-financial risk reflects the amount of risk transferred to the reinsurer. • Assess whether adjustments to CSM, including amortization, are appropriate. • Assess the risk of non-performance of the reinsurer and changes in non-performance. • Assess the differences in illiquidity of reinsurance-held contracts versus direct underlying contracts • For loss recovery components, perform procedures to test the date of recognition of the reinsurance held compared to the direct underlying contract in a loss component position. Test the roll-forward of the loss recovery component compared to the corresponding loss component on the direct underlying contract and assess recoverability of the loss recovery component based on the requirements of the standard.	X		X

Liability for incurred claims

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Completeness and existence	Test reconciliation of claims data to liabilities for incurred claims	• Assess whether the data entered into the reserving models is complete and accurate by testing the underlying data back to source system. • Assess whether the key data fields have been entered accurately.	X	X	X
Completeness and existence	Test relevant claims attributes	• Test the underlying data in the claims master files and underlying insurance contracts to assess whether the data has been accurately and completely entered and accumulated in the entity's records. • Test key data (e.g., claim number, insured, line of insurance, amount, accident date, report date, transaction date) and verify that it was recorded in the proper period.	X	X	X
Valuation	Evaluate models for future cash flows or perform an independent estimation of future cash flows	• Perform procedures to assess whether the method, assumptions and data used are appropriate. When the auditor chooses to develop its own point estimate or range to evaluate management's estimate, do the following: • Perform an independent estimation of future cash flows for a sample of group of contracts. • Compare the outcome of our independent estimates with the entity's results, based on the established testing thresholds.			

ASSERTION(S)	OBJECTIVE	EXAMPLE AUDIT PROCEDURES	GENERAL MEASUREMENT MODEL (GMM)	VARIABLE FEE APPROACH (VFA)	PREMIUM ALLOCATION APPROACH (PAA)
Valuation	Evaluate internal (unallocated) loss adjustment expense	• For loss adjustment expense, agree the source of the data used by the insurer to supporting documents. • Evaluate whether the methodology applied to determine which expense should be included as a loss adjustment expense is consistent with the requirements of IFRS 17 and has been applied correctly.	X	X	X
Valuation	Evaluate the discount rate used and risk adjustment for non-financial risk	• Consider similar procedures for discount rate and risk adjustment as stated above under loss recovery components.	X	X	X

Examples of possible audit procedures to address the assessed risks of material misstatement of defined benefit or similar employee future benefit obligations of plan sponsors or defined benefit or similar future employee benefit plans

AREA	ASSERTION(S)	PROCEDURES
Test the benefit obligation balance.	Existence, rights and obligations, valuation and allocation	To test the benefit obligation, consider the following: • Examine human resource policies and other documents to ensure that all defined benefit and similar other material employee future benefit plans have been appropriately valued and included in the benefit obligations. • Determine that the policies and procedures for calculating and recording the benefit obligation are appropriate and applied consistently. • Examine the information regarding the actuarial present value of the benefit liabilities and changes therein. • Evaluate the work of the actuary or management, where management makes its own estimate. • Consider involving an auditor's actuary to assist with testing the reasonableness of actuarially determined amounts. • Agree the benefit obligations amount in the confirmation received from the actuary involved in the preparation of financial statements, where used, to the amount recorded in the entity's records. • Test the plan provisions valued by the actuary, or management, against the substantive commitments made by the plan sponsor (for example, by examining the plan documents and member communications).
Test the underlying data and assumptions	Competeness, accuracy, valuation and allocation	To determine that the information is accurate and complete, consider the following: • Evaluate the reasonableness of the procedures employed to ensure that all covered participants, beneficiaries and dependents have been properly included in eligibility records and that information provided to the actuary covers all and only such individuals. • Evaluate the reasonableness of the procedures employed by the entity to ensure that pertinent and accurate participant data (for example, age, sex, family status, years of service, compensation) have been properly included. Pertinent data is dependent on the nature of the calculation that determines the future employee benefit. • Consider the frequency and scope of changes in participant information. • Determine that the policies for providing such information are appropriate and applied consistently. • Evaluate the validity of any data adjustments made by the actuary to the valuation data. • Perform procedures to evaluate the reasonableness of assumptions and methods used in the valuation. • Evaluate the rationale provided to support the selected actuarial assumptions. Determine whether the assumptions are supportable on best-estimate basis and whether they are consistent with current economic conditions, market practices, accounting standards and accepted actuarial practice. • Evaluate the appropriateness of any changes in the assumptions (or appropriateness of any lack of change, as applicable). • Assess the reasonableness of the impact of changes in data, assumptions or methods on the benefit obligation.

AREA	ASSERTION(S)	PROCEDURES
Test the participant data used to measure the benefit obligation.	Completeness, valuation and allocation	To test the participant data used to measure the benefit obligation, consider the following: • Test participant data by performing tests of details or a combination of test of details and substantive analytical procedures. Make a selection of items from the entity's initial payroll disbursements records for the year from listings of terminated participants who have attained full eligibility for benefits and from benefit payment records as of the valuation date using an attribute sampling methodology. • Examine personnel records to determine whether the selected individuals are eligible to participate in the plan. • Compare data for selected participants to determine that the eligible individuals, including dependents and spouses, where appropriate, have been properly included. • Evaluate the reasonableness of the procedures to accurately account for claims and reconcile the claims-paid data provided to the actuary to the amount recorded in the entity's accounting records. • Evaluate the appropriateness of any differences between the source data and the valuation data used by the actuary to determine the benefit obligation. • Consider the use of analytics, on sample or aggregate basis, that may identify data discrepancies leading to material benefit obligation impact.
Test benefit cost by performing tests of details	Existence	To test the current period benefit cost, consider the following procedures: • Determine that the policies and procedures for calculating and recording current period benefit cost are appropriate and applied consistently. • Obtain a schedule showing the components (i.e., service cost, interest cost, etc.) of the current-period amount of the benefit cost. • Evaluate the calculation of any asset ceiling impairment. • Agree the components of the benefit cost provided in the schedule to the confirmation received from the actuary, if applicable, and to the amount recorded in the entity's accounting records. • Review the calculations of the components of the benefit cost for unusual items. • Consider involving an auditor's actuary to assist with testing the reasonableness of actuarially determined amounts.

AREA	ASSERTION(S)	PROCEDURES
Test benefit cost by performing substantive analytical procedures	Existence, rights and obligations, completeness, valuation and allocation	To test benefit cost by performing substantive analytical procedures, consider the following procedures: • Determine the suitability of particular substantive analytical procedures for given assertions, taking account of the assessed risks of material misstatement and tests of details, if any, for these assertions. • Evaluate the reliability of data from which the expectation of recorded amounts or ratios is developed, taking account of source, comparability, nature and relevance of information available, and controls over preparation. • With the help of auditor's actuary, obtain a sample of member data (or entire data set) and recalculate the benefit obligation and service cost for the sample of plan members (or the aggregate amount). Inquire about any significant differences identified with management and obtain appropriate audit evidence.

CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

277 WELLINGTON STREET WEST
TORONTO, ON CANADA M5V 3H2
T. 416 977.3222 F. 416 977.8585
WWW.CPACANADA.CA