Canadian Institute of Actuaries
Institut canadien des actuaires

Final Standards

Enterprise Risk Management (ERM) Practice-Specific Standards (Part 8000) and Part 1000

Actuarial Standards Board

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1100 Introduction

1110 Application

.01 These Standards of Practice apply to actuarial work in Canada. Responsibility for these Standards of Practice vests in the Actuarial Standards Board (Canada) and approval of standards and changes to standards are made through a process that includes consultation with the actuarial profession and other interested parties. They are intended for the benefit of the public. The work in Canada of a member of a professional actuarial organization is expected to conform to these Standards of Practice.

.02 The existence of standards is not a substitute for professional judgment or consideration for the needs of the user(s) when performing specific work.

.03 The authority of these Standards of Practice derives from the powers of those bodies that recognize them for actuarial work in Canada. Among others, these include professional actuarial bodies and relevant laws such as those regulating pensions and insurance. Compliance with these Standards of Practice is also likely to be taken into account when the quality of actuarial work is being considered in a court of law or in other contested situations. However, in such circumstances, deviation from any provision of these Standards of Practice should not, in and of itself, be presumed to be malpractice.

1120 Definitions

.01 Each term set over dotted underlining has the meaning given in this subsection. A term that is not set over dotted underlining has its ordinary meaning.

.02 Accepted actuarial practice is the manner of performing work in accordance with these Standards of Practice. Unless the context requires otherwise, it refers to work in Canada. [*pratique actuarielle reconnue*]

.03 Actuarial cost method is a method to allocate the present value of a benefit plan's obligations to time periods, usually in the form of a service cost and an accrued liability. [*méthode d'évaluation actuarielle*]

.04 Actuarial evidence work is work where the actuary provides an expert opinion with respect to any area of actuarial practice in the context of an actual or anticipated dispute resolution proceeding, where such expert opinion is expected or required to be independent. A dispute resolution proceeding may be a court or court-related process, a tribunal, a mediation, an arbitration, or a similar proceeding. Actuarial evidence work may include the determination of capitalized values in respect of an individual, or the provision of an expert opinion with respect to a dispute involving an actuarial practice area, such as pensions or insurance, or questions of professional negligence. [*travail d'expertise devant les tribunaux*]

.05 Actuarial present value method is a method to calculate the lump sum equivalent at a specified date of amounts payable or receivable at other dates as the aggregate of the present values of each of those amounts at the specified date, and taking into account both the time value of money and, where appropriate, contingent events. [*méthode de la valeur présente actuarielle*]

.06 Actuary, as it is used in these standards, means a member of a professional actuarial organization whose work in Canada is expected to conform to these standards. [*actuaire*]

.07 Anti-selection is the tendency of one party in a relationship to exercise options to the detriment of another party when it is to the first party's advantage to do so. [*antisélection*]

.08 Appointed actuary of an entity is an actuary formally appointed, pursuant to legislation, by the entity to monitor the financial condition of that entity. [*actuaire désigné*]

.09 Appropriate engagement is one that does not impair the actuary's ability to conform to the precepts of ethical and professional conduct such as those that may be found in the Rules of Professional Conduct of the Canadian Institute of Actuaries or relevant law or regulation. Unless the context otherwise requires, wherever the word "engagement" is used in these standards it refers to an appropriate engagement. [*mandat approprié*]

.10 Automatic balancing mechanisms automatically adjust contributions, benefits, and/or parameters of a plan in order to restore the balance between its source of financing and its benefits. The mechanism is prescribed by a set of predetermined measures to be taken, either immediately or later as prescribed, upon being triggered by certain demographic, economic, or financial indicators. [*mécanismes automatiques de compensation*]

.11 Benefits liabilities are the liabilities of a plan in respect of claims incurred on or before a calculation date. [*obligations liées aux prestations*]

.12 Best estimate means without bias. [*meilleure estimation*]

.13 Calculation date is the effective date of a calculation; e.g., the calculation date in the case of a valuation for financial statements. It usually differs from the report date. [*date de calcul*]

.14 Case estimate at a calculation date is the unpaid amount of one of, or a group of, an insurer's reported claims (perhaps including the amount of claim adjustment expenses), as estimated by a claims professional according to the information available at that date. [*évaluation du dossier*]

.15 Claim adjustment expenses are internal and external expenses in connection with settlement and administration of claims. [*frais de règlement des sinistres*]

.16 Claim liabilities are the portion of insurance contract liabilities in respect of claims incurred on or before the calculation date. [*passif des sinistres*]

.17 Contingent event is an event that may or may not happen, or that may happen in more than one way or that may happen at different times. [*éventualité*]

.18 Contribution is a contribution by a participating employer or a plan member to fund a benefit plan. [*cotisation*]

.19 Contribution principle is a principle of policyholder dividend determination whereby the amount deemed to be available for distribution to policyholders by the directors of a company is divided among policies in the same proportion as policies are considered to have contributed to that amount. [*principe de contribution*]

.20 Credibility is a measure of the predictive value attached to an estimate based on a particular body of data. [*crédibilité*]

.21 Credit spread, for a fixed-income asset, is the yield to maturity on that asset minus the yield to maturity on a risk-free fixed income asset with the same cash flow characteristics. [*écart de crédit*]

.22 Definitive refers to a matter that is final and permanent rather than tentative, provisional, or unsettled. [*décision définitive*]

.23 Development of data with respect to a given coverage period is the change in the value of those data from one calculation date to a later date. [*matérialisation*]

.24 Enterprise risk management is a process, effected by an entity’s board of directors, management and/or other staff, applied in conducting business and strategy setting across the enterprise, designed to identify potential risks that may affect the entity, and manage the impact of those risks to be within the entity’s risk appetite, to provide reasonable assurance regarding the achievement of the entity’s objectives. [*gestion du risque d’entreprise*]

.25 Enterprise risk management framework is a set of components, including governance, policies, and practices through which enterprise risk management is effected. [cadre de *gestion du risque d’entreprise*]

.26 Explanatory text is text that appears outside of a box in these standards. [*texte explicatif*]

.27 External user is a user other than the actuary’s client or employer. Internal user and external user are mutually exclusive. [*utilisateur externe*]

.28 External user report is a report whose users include an external user. [*rapport destiné à un utilisateur externe*]

.29 Financial condition of an entity at a date refers to its prospective ability at that date to meet its future obligations, especially obligations to policyholders, members, and those to whom it owes benefits. Financial condition is sometimes called “future financial condition”. [*santé financière*]

.30 Financial position of an entity at a date is its financial state as reflected by the amount, nature, and composition of its assets, liabilities, and equity at that date. [*situation financière*]

.31 To fund a plan is to dedicate assets to its future benefits and expenses. Similarly for “funded” and “funding”. [*provisionner*]

.32 Funded status is the difference between the value of assets and the actuarial present value of benefits allocated to periods up to the calculation date by the actuarial cost method, based on a valuation of a pension plan, post-employment benefit plan, or social security program. [*niveau de provisionnement*]

.33 Going concern valuation is a valuation that assumes that the entity to which the valuation applies continues indefinitely beyond the calculation date. [*évaluation en continuité*]

.34 Indexed benefit is a benefit whose amount depends on the movement of an index such as the consumer price index. [*prestation indexée*]

.35 Indicated rate is the best estimate of the premium required to provide for the corresponding expected claims costs, expenses, and provision for profit. [*taux indiqué*]

.36 Insurance contract is a contract under which one party (the issuer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder. Insurance contract includes group insurance, third-party contracts where the owner of the contract and the person who is compensated (the policyholder) differ, and all like arrangements substantively in the nature of insurance. [*contrat d’assurance*]

.37 Insurance contract liabilities in an issuer’s statement of financial position are the liabilities at the date of the statement of financial position on account of the issuer’s insurance contracts, including commitments, that are in force at that date or that were in force before that date. [*passif des contrats d’assurance*]

.38 Insurer is a federally or provincially licensed insurance company that is an issuer of insurance contracts. Insurer includes a fraternal benefit society and the Canadian branch of a foreign insurer, but does not include a public personal injury compensation plan or a post-employment benefit plan[1]. [*assureur*]

.39 Internal user is the actuary’s client or employer. Internal user and external user are mutually exclusive. [*utilisateur interne*]

.40 Internal user report is a report all of whose users are internal users. [*rapport destiné à un utilisateur interne*]

.41 Issuer is the party under an insurance contract that accepts significant insurance risk. [*émetteur*]

.42 Margin for adverse deviations is the difference between the assumption for a calculation and the corresponding best estimate assumption. [*marge pour écarts défavorables*]

.43 Model is a practical representation of relationships among entities or events using statistical, financial, economic, or mathematical concepts. A model uses methods, assumptions, and data that simplify a more complex system and produces results that are intended to provide useful information on that system. A model is composed of a model specification, a model implementation, and one or more model runs. Similarly for “to model”. [*modèle*]

.44 Model implementation is one or more systems developed to perform the calculations for a model specification. For this purpose “systems” include computer programs, spreadsheets, and database programs. [*implémentation du modèle*]

.45 Model risk is the risk that, due to flaws or limitations in the model or in its use, the actuary or a user of the results of the model will draw an inappropriate conclusion from those results. [*risque de modélisation*]

.46 Model run is a set of inputs and the corresponding results produced by a model implementation. [*exécution d’un modèle*]

.47 Model specification is the description of the components of a model and the interrelationship of those components with each other, including the types of data, assumptions, methods, entities, and events. [*spécifications du modèle*]

.48 New standards means new standards, or amendment or rescission of existing standards. [*nouvelles normes*]

.49 Periodic report is a report that is repeated at regular intervals. [*rapport périodique*]

.50 Plan administrator is the person or entity with overall responsibility for the operation of a benefit plan. [*administrateur d’un régime*]

.51 Policy liabilities in an insurer’s statement of financial position are the liabilities at the date of the statement of financial position on account of the insurer’s policies, including commitments, that are in force at that date or that were in force before that date. Policy liabilities consist of insurance contract liabilities and liabilities for policy contracts other than insurance contracts. [*passif des polices*]

.52 Policyholder is a party that has a right to compensation under an insurance contract if an insured event occurs. [*titulaire de police*]

.53 Premium liabilities are the portions of insurance contract liabilities that are not claim liabilities. [*passif des primes*]

.54 Prescribed means prescribed by these standards. [*prescrit*]

.55 Property and casualty insurance is insurance that insures individuals or legal persons

- Having an interest in tangible or intangible property, for costs arising from loss of or damage to such property (e.g., fire, fidelity, marine hull, warranty, credit, legal expense, and title insurance); or
- For damages to others or costs arising from the actions of such persons (e.g., liability and surety bonds) and for costs arising from injury to such persons (e.g., automobile accident benefits insurance). [*assurances IARD*]

.56 Provision for adverse deviations is the difference between the actual result of a calculation and the corresponding result using best estimate assumptions. [*provision pour écarts défavorables*]

.57 Public personal injury compensation plan means a public plan

- Whose primary purpose is to provide benefits and compensation for personal injuries;
- Whose mandate may include health and safety objectives and other objectives ancillary to the provision of benefits and compensation for personal injuries; and
- That has no other substantive commitments.

The benefits and compensation provided under such public plans are defined by statute. In addition, such public plans have monopoly powers, require compulsory coverage except for those groups excepted by legislation or regulation, and have the authority to set assessment rates or premiums. [*régime public d'assurance pour préjudices corporels*]

.58 Recommendation means text that appears in a box in these standards. Similarly for "recommend". [*recommandation*]

.59 Related experience includes premiums, claims, exposures, expenses, and other relevant data for events analogous to the insured events under consideration other than the subject experience and may include established rate levels or rate differentials or external data. [*expérience connexe*]

.60 Report is an actuary's oral or written communication to users about his or her work. Similarly for "to report". [*rapport*]

.61 Report date is the date the actuary specifies as such in the report. It usually differs from the calculation date. [*date du rapport*]

.62 Scenario is a set of consistent assumptions. [*scénario*]

.63 Service cost is that portion of the present value of a plan's obligations that an actuarial cost method allocates to a time period, excluding any amount for that period in respect of unfunded accrued liabilities. [*cotisation d'exercice*]

.64 Social security program means a program with all the following attributes regardless of how it is financed and administered:

- Coverage is of a broad segment, or all, of the population, often on a compulsory or automatic basis;
- Benefits are provided to, or on behalf of, individuals;
- The program, including benefits and financing method, is mandated by law;
- The program is not financed through private insurance; and
- Program benefits are principally provided or delivered in the form of periodic payments upon old age, retirement, death, disability, and/or survivorship. [*programme de sécurité sociale*]

.65 Subject experience includes premiums, claims, exposures, expenses, and other data for the insurance categories under consideration. [*expérience visée*]

.66 Subsequent event is an event of which an actuary first becomes aware after a calculation date but before the corresponding report date. [*événement subséquent*]

.67 Trend is the tendency of data values to change in a general direction from one coverage period to a later coverage period. [*tendance*]

.68 User means an intended user of the actuary's work. [*utilisateur*]

.69 Virtually definitive refers to a matter that is almost certain, but that lacks one or more formalities like ratification, due diligence, regulatory approval, third reading, royal assent, or proclamation. However, a decision that still involves discretion at an executive or administrative level is not virtually definitive. [*pratiquement définitive*]

.70 Work means work that is commonly, but not necessarily exclusively, performed by actuaries in assessing, measuring, and evaluating risks and contingencies and usually includes

- Acquisition of knowledge of the circumstances affecting the work that the actuary is undertaking;
- Obtaining sufficient and reliable data;
- Selection of assumptions and methods;
- Calculations and examination of the reasonableness of their result;
- Use of other persons' work;
- Formulation of opinion and advice;
- Reporting; and
- Documentation. [*travail*]

1130 Interpretation

Recommendations

.01 These standards consist of recommendations and explanatory text.

.02 A recommendation is the highest order of guidance in these standards.

.03 Each recommendation is in boxed text where it is accompanied by its effective date, shown in square brackets.

8000 – Enterprise Risk Management

Table of Contents

8100 Scope

.01 Part 1000 applies to work within the scope of this part 8000.

.02 The standards in part 8000 apply to an actuary with responsibility for, or significant involvement in, the development, implementation, maintenance or review of some or all of the components of enterprise risk management programs.

.03 The standards apply only to the extent of the actuary's responsibility and involvement.

.04 The purpose of part 8000 is to increase users' confidence that:

- Actuarial work are carried out professionally and with due care;
- The results are relevant to users' needs, are presented clearly and understandably, and are complete; and
- The assumptions and methodology used are disclosed appropriately.

8200 General

8210 Circumstances affecting the work

.01 When performing actuarial work in connection with enterprise risk management programs, the actuary should take into account the circumstances affecting the work. [Effective June 30, 2023]

.02 The actuary would have, or obtain, sufficient understanding of the risk management system and enterprise risk management framework of the entity.

.03 The actuary would consider whether the risk management elements required by regulations are in place, such as:

- risk management policies;
- risk tolerance statements;
- a capital assessment such as the Own Risk and Solvency Assessment (ORSA); and
- the entity's assessment of its regulatory capital requirements.

.04 The actuary would consider proportionality in respect of the nature, scale and complexity of the operations and risk profile of the entity.

8220 Identification, assessment and management of risks

Identifying risks

.01 When identifying risks, the actuary would consider factors including, but not limited to, the following:

- The strategic objectives of the entity;
- The processes for collecting information and whether the staff have adequate qualifications, training and experience to understand and identify the risks;
- Whether the risk identification process is sufficient to identify current and emerging risks that are reasonably foreseeable, relevant, and material including risks that directly or indirectly impact the financial condition and other objectives of the entity (e.g., reputational risk);
- The time frame over which the risks may emerge and may impact the entity;
- The risks that may arise from reasonably foreseeable changes in the business of the entity (operations, markets, products) and from business conduct;
- Whether underlying risks within financial structures that have limited transparency have been sufficiently identified (e.g. off-balance sheet exposures, complex asset or risk transfer structures);
- Whether the reasonably foreseeable causes of risks and their consequences have been sufficiently identified;
- Risks arising or increasing as a consequence of risk management activities (e.g., credit risk arising from the transfer of risk);
- The impact that an entity’s culture, governance structure and remuneration systems may have on the ability and willingness of the management and staff to identify and manage risks, and whether culture, governance structure or remuneration generates, magnifies or mitigates risks; and
- Input regarding the identification of risks from management, other knowledgeable persons within the entity, other subject matter experts and regulators.

Assessing the probability and impact of the entity's risks

.02 When assessing the probability and impact of the entity's risks, the actuary would consider factors including, but not limited to, the following:

- The qualitative assessment of risks in addition to, or instead of, assessing them quantitatively;
- Risk correlations, risk aggregations and tail risks (e.g., catastrophe and pandemic risks, and complex outsourcing risks);
- The appropriateness of the risk modelling, stress testing, reverse stress testing and scenario testing techniques that are applied;
- The extent to which the risk models that measure the probability and impact of risks provide results that are consistent with information expressed by market prices, where applicable, for the risks concerned or related risks;
- The consistency among the various valuation methodologies underlying the enterprise risk management program;
- The operation and effectiveness of the processes and mechanisms used to address risk control and risk mitigation;
- The appropriateness of the assumptions regarding future actions taken by management and by external parties, taking into account prior experiences in the industry with similar actions;
- Input regarding probability and impact from management, other knowledgeable persons within the entity, other subject matter experts and regulators; and
- Consistency of risk assessments over time.

Risk management controls, mitigation, monitoring, and reporting of the entity's risks

.03 When implementing or maintaining risk management controls, mitigation, monitoring or communication and reporting of the entity's risks, the actuary would consider factors including, but not limited to, the following:

- The entity's risk management policies and risk appetite and tolerance statements;
- The relationship between the entity's financial strength and risk profile, and the entity's risk management system;
- Any significant inconsistency in the evaluation of the entity's risk tolerances and risk limits;
- The extent to which the results of the risk models used to measure the economic costs and benefits of risk mitigation are consistent with information expressed by market prices, where applicable, for the risks concerned or related risks;
- The operation and effectiveness of the processes and mechanisms used to address risk control and risk mitigation;
- The appropriateness of the assumptions regarding future actions taken by management and by external parties, taking into account prior experiences in the industry with similar actions;
- The culture within the entity to commit to, and implement, risk mitigation actions when needed;
- The impact of reasonably foreseeable future adverse circumstances on the availability and effectiveness of future risk mitigation practices;
- The existence and effectiveness of feedback loops in the risk management process; and
- How the nature and relative importance of risks may change over time.

8230 Enterprise level risk management

Aggregate risk assessment of the entity

.01 When performing an aggregate risk assessment of the entity, the actuary would, in addition to assessing the elements as addressed in subsection 8220, consider factors including, but not limited to, the following:

- The financial strength, risk profile, business management, governance structure and risk environment of the entity;
- Whether the risk management processes are suitably aligned with the entity's objectives and strategy, regarding aggregate risk taking and regarding each major risk category, as reflected by the risk appetite, risk tolerance and risk limits;
- The interdependence of risks relating to the entity's assets and liabilities, noting that correlation of risks between different asset classes, products and business lines may not be linear, and may change under stressed conditions;
- Off-balance sheet exposures that may revert to the entity in times of difficulty; and
- Diversification benefits that result from aggregation of risks.

Developing, implementing, maintaining or reviewing the enterprise risk management framework framework

.02 When developing, implementing, maintaining or reviewing the entity's enterprise risk management framework, the actuary would, in addition to assessing the elements as addressed in paragraph 8230.01, consider factors including, but not limited to, the following:

- The engagement of the Board in assessing, setting, monitoring and reviewing the entity's risk appetite and risk profile, and whether the interests of its clients and other relevant stakeholders are considered appropriately within those processes;
- The adequacy of the risk management resources and capabilities within the entity for the current and expected risk profile and risk management strategies;
- The quality, extent and effectiveness of independence, challenge and monitoring reflected in the framework;
- The extent and results of recent reviews and audits of control effectiveness, and management's response to the findings;
- The management of potential conflicts of interest;
- The extent to which risk management and risk assessments are used in the decision-making practices of the entity;
- The effectiveness of risk communication channels within the entity, including risk escalation processes, and with its regulators;
- The effectiveness and timeliness of the reporting of, and response to, incidences and breaches related to the operation of the enterprise risk management framework within the entity;
- The operational quality and effectiveness of key enterprise risk management framework related policies, processes and mechanisms, including, but not limited to, third party management, business continuity management (including pandemic response management), whistle blowing policies, fraud and privacy risk management, model risk management and business conduct risk management;
- The extent to which the enterprise risk management framework is adaptive to changes to the entity and to its environment;
- The extent that the enterprise risk management framework complies with regulatory requirements and guidelines applicable to it;
- The adequacy of the entity's Own Risk and Solvency Assessment (ORSA); and
- Contingency plans to restore the entity's financial strength and viability in severe adverse circumstances.

Entity is part of a group

.03 In applying paragraphs 8230.01 and 8230.02 for an entity that is part of a group, the actuary would consider factors including, but not limited to, the following:

- The risks and benefits of belonging to a group structure, recognizing potential limits on fungibility of capital and on transfer of assets between separate legal entities;
- Reasonably foreseeable changes in the group structure which could impact the capital and solvency of the entity and its ability to continue in business;
- Risk modelling, stress testing, reverse stress testing and scenario testing should include changes in the group structure and in the support that the entity receives from other members of the group;
- Assumptions that may be suitable for a self-standing entity may not be suitable when the entity is part of a larger group;
- Imposition of risk management controls and tolerance limits by group management;
- Differences in legal and regulatory requirements between jurisdictions; and
- Contagion effect of adverse circumstances in other members of the group which could impact the entity (e.g., the entity’s capital and solvency).

8240 Own Risk and Solvency Assessment (ORSA)

.01 When developing, implementing, maintaining or reviewing an ORSA, the actuary would consider, in addition to the items in subsections 8220 and 8230, factors including, but not limited to, the following:

- The time horizon considered by the ORSA;
- Whether the qualitative and quantitative risk assessments and the financial projections used in the ORSA are appropriate for their intended purpose;
- Any changes to the entity's risk profile and risk appetite since the previous ORSA;
- The various accounting bases of the entity;
- Reasonably foreseeable changes in the external environment;
- Allowance for new business, and for the run-off of existing and new business;
- Access to new capital in times of financial stress;
- Differences between the entity's regulatory capital requirements and the entity's own assessment of its capital needs;
- The quality and adequacy of the entity's capital resources in relation to quality and adequacy criteria established by the regulatory body;
- The degree of severity reflected in the risk modelling, stress testing, reverse stress testing and scenario testing; and
- The circumstances that may trigger an ORSA to be performed at a time other than during the regular review schedule.