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Final

Technical Changes to the DCAT Standards of Practice

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2500 DYNAMIC CAPITAL ADEQUACY TESTING

2510 SCOPE

.01 This section 2500 applies to the appointed actuary of an insurer when preparing a report on the insurer's financial condition pursuant to law.

2520 INVESTIGATION

.01 *The actuary should make an annual investigation of the insurer's recent and current financial position, and financial condition, as revealed by dynamic capital adequacy testing for various scenarios.*

.02 *The actuary should make a report of each investigation in writing to the insurer's Board of Directors (or to their audit committee if they so delegate) or Chief Agent for Canada. The report should identify possible actions for dealing with any threats to satisfactory financial condition that the investigation reveals.*

.03 *The actuary should also make an interim investigation if there is a material adverse change in the insurer's circumstances. [Effective January 1, 2003]*

2530 METHOD

Recent and current financial position

.01 The investigation would review operations of recent years (normally at least three years) and the financial position at the end of each of those years.

Dynamic capital adequacy testing

.02 Dynamic capital adequacy testing examines the effect of various plausible adverse scenarios on the insurer's forecasted capital adequacy. It is the actuary's primary tool for investigation of an insurer's financial condition.

.03 The purpose of dynamic capital adequacy testing is to identify plausible threats to satisfactory financial condition, actions which lessen the likelihood of those threats, and actions that would mitigate a threat if it materialized.

.04 Dynamic capital adequacy testing is defensive: it addresses threats to financial condition rather than the exploitation of opportunity.

Satisfactory financial condition

.05 The insurer's financial condition is satisfactory if throughout the forecast period it is able to meet all its future obligations under the base scenario and all plausible adverse scenarios, and under the base scenario it meets the minimum regulatory capital requirement.

.06 The minimum regulatory capital requirement is the requirement imposed by the regulator requiring the actuary's report on the insurer's financial condition or, in the absence of such a requirement, that selected by the **insurer** and approved by the regulator(s).

Forecast period

.07 The forecast period begins at the most recent available fiscal year-end balance sheet date. The forecast period for a scenario would be long enough to capture the effect of its adversity and the ability of management to react. The forecast period for a typical life insurer would be five fiscal years. The forecast period for a typical property and casualty insurer would be three fiscal years.

Scenarios

.08 The scenarios consist of a base scenario and several plausible adverse scenarios. Each scenario takes into account not only in force policies but also the policies assumed to be sold during the forecast period, and both insurance and non-insurance operations. (For example, the operations of an insurer's trust company subsidiary.)

Base scenario

.09 The base scenario is a realistic set of assumptions used to forecast the insurer's financial position over the forecast period. Normally, the base scenario is consistent with the insurer's business plan. It is awkward if the base scenario is not consistent with the business plan, because that implies a difference in outlook between the insurer's management and the actuary. The actuary would normally accept the business plan's assumptions for use in the base scenario unless these assumptions are so inconsistent or unrealistic that the resulting report would be misleading. The actuary would report any material inconsistency between the base scenario and the business plan

Plausible adverse scenarios

.10 A plausible adverse scenario is a scenario of adverse, but plausible, assumptions about matters to which the insurer's financial condition is sensitive. Plausible adverse scenarios vary among insurers and may vary over time for a particular insurer.

.11 The actuary would consider plausible material risks to the insurer. Scenario testing may be required for the actuary to determine the sensitivity of the insurer's capital adequacy to each risk. It is expected that the actuary would scenario test and report annually on the base scenario, and a minimum of three plausible adverse scenarios posing the greatest risk for the insurer. Fewer than three adverse scenarios may be reported only in the rare event that it is not possible to develop three plausible adverse scenarios.

.12 For life insurers, the actuary would consider threats to capital adequacy under plausible adverse scenarios that include but are not limited to the following risk categories:

mortality,
morbidity,
persistency and lapse,
cash flow mismatch (C-3 risk),
deterioration of asset values (C-1 risk),
new business,
expense,
reinsurance,
government and political,
off balance sheet, and
related companies.

.13 For property and casualty insurers, the actuary would consider threats to capital adequacy under plausible adverse scenarios that include but are not limited to the following risk categories:

claim frequency and severity,
policy liabilities,
inflation,
premium revenue,
reinsurance,
investment,
government and political,
off balance sheet, and
related companies.

.14 To help the actuary determine if a risk is material and plausible, it may be useful to stress test the capital adequacy of the insurer. The actuary might determine how much a base scenario assumption needs to be changed before an adverse scenario gives rise to an unsatisfactory financial condition. The actuary can then judge whether a plausible risk or event exists for the insurer over the forecast period.

Integrated scenarios

.15 In many cases, plausible adverse scenarios are associated with a low probability of occurrence. In such cases, it is usually not necessary for the actuary to construct integrated scenarios by combining two or more low probability adverse scenarios.

.16 In some cases, however, the probability associated with a plausible adverse scenario may be close to the probability associated with the base scenario. For example, a significant asset on the balance sheet may be showing early signs of distress. In such cases, an integrated scenario would be constructed by combining each more probable adverse scenario, with a low probability adverse scenario. The low probability adverse scenario selected would be the one that has the greatest effect on the insurer's financial condition and is plausible when combined with the more probable adverse scenario.

.17 An integrated scenario would be included in the minimum of three plausible adverse scenarios required by 2530.11 if it (i.e., an integrated scenario) was found to be one of the three most adverse scenarios.

Ripple effects

.18 In assuring consistency within each scenario, the actuary would consider "ripple" effects. Although most of the other assumptions used in the base scenario may remain appropriate under the plausible adverse scenario, some may require adjustment to reflect the interdependence of assumptions in the plausible adverse scenario.

.19 Ripple effects include both policyholder action and the insurer's expected response to adversity. Selection of the assumptions for the insurer's response would, where appropriate, take into account:

the effectiveness of the insurer's management information systems and adjustment mechanisms,

the insurer's historical record of promptness and willingness, when faced with adversity, to make difficult decisions, and

the external environment assumed in the scenario.

The actuary would report the expected response, so that users may consider its practicality and adequacy. The actuary may also report the results assuming that the insurer does not respond to the adversity.

.20 Ripple effects also include regulatory action, especially under any plausible adverse scenario where the insurer fails to meet the minimum regulatory capital requirement. The actuary would consider action that could be taken by the Canadian regulator(s) as well as action taken by regulators in foreign jurisdictions. Such regulatory action and associated management response would consider the local assessment of solvency regardless of the insurer's worldwide solvency position as measured by Canadian regulatory standards.

Scope of the investigation and report

.21 The report would contain the key assumptions of the base scenario and the plausible adverse scenarios posing the greatest risk to the satisfactory financial condition of the insurer. The report would disclose each of the risk categories considered in undertaking the dynamic capital adequacy testing analysis, including those identified in this standard. The meaning of satisfactory financial condition under this standard would be disclosed in the report.

.22 The report would also contain the plausible adverse scenarios examined that cause the insurer to fall below the minimum regulatory capital requirement. Even though the actuary may have signed a satisfactory financial condition opinion, the report would make it clear that under these scenarios the regulators may impose restrictions on the operations of the insurer, including its ability to write new business.

.23 If the investigation identifies any plausible threat to satisfactory financial condition, then the actuary would attempt to identify extraordinary management action that would lessen the likelihood of that threat, or which would mitigate that threat, if it materialized. For each such plausible adverse scenario reported upon, the actuary would report the results with the insurer's expected response to adversity but before extraordinary management action, and additionally including the effect of any extraordinary management action. The actuary would report the extraordinary management action so that users may consider its practicality and adequacy. 2530.20

Revaluation of the policy liabilities

.24 Ideally, for each adverse scenario, the policy liabilities would be revalued throughout the forecast period. But their revaluation only at the end of the forecast period may be a suitable compromise, unless the actuary believes, given the financial position at the end of the forecast period, that the financial condition would not be satisfactory at some point during the forecast period if revaluation were performed at that point.

Interim investigation

.25 In rare cases, a material adverse change in the insurer's circumstances since the last annual investigation may be so far reaching that to delay reporting to the time of the next annual investigation would be imprudent. For example, failure to meet the minimum applicable regulatory capital requirement, or adoption of a radically different business plan, may make an immediate report urgent. In such a case, the actuary would undertake and report on an interim investigation.

2540 REPORTING

.01 In the case of a Canadian insurer, the actuary would report to the Board of Directors or to their audit committee if they so delegate. In the case of a Canadian branch of a foreign insurer, the actuary would report to the Chief Agent for Canada and may also report to the responsible senior executive in the parent head office.

.02 In order to give the insurer's senior management an opportunity to react to the results of the investigation, the actuary would normally discuss the report with the insurer's senior management in advance of its submission to the Board of Directors or Chief Agent for Canada.

.03 The report would be in writing, but an additional oral report that permits questions and discussions is desirable. An interpretative report is more useful than a statistical report.

.04 The timing of the report would depend on the urgency of the matters reported and on the desirability of integrating dynamic capital adequacy testing into the insurer's annual financial planning cycle. The annual report would be submitted within twelve months of each fiscal year-end.

2550 OPINION

.01 *The report should contain an opinion signed by the actuary. The purpose of the opinion is to report on the financial condition of the insurer.* [Effective January 1, 2003]

.02 In this opinion, "future financial condition" has the same meaning as "financial condition." The actuary may use the words "future financial condition" in order to comply with legislation or regulation in some jurisdictions.

.03 The wording of the opinion follows: [insert appropriate wording where indicated by square brackets]

> "I have completed my annual investigation of the [future] financial condition of [company name] as at [date] in accordance with accepted actuarial practice.
>
> I have analyzed the forecasted financial positions of the company during the [number] year forecast period under a series of scenarios. A description of these scenarios and their impact on the company is included within this report.
>
> The analysis incorporates assumptions relating to business growth, investments, [mortality, morbidity, claims frequency, capital injections, other policy-related experience] and other internal and external conditions during the forecast period as well as potential management responses to various plausible adverse scenarios. The most significant assumptions are described within this report.
>
> In my opinion, the [future] financial condition of the company [is satisfactory under these assumptions or is not satisfactory for the following reason(s)…].
>
> [Montréal, Québec] [Mary F. Roe]
> [Report date] Fellow, Canadian Institute of Actuaries