

**NEW ZEALAND SOCIETY OF ACTUARIES**  
**PROFESSIONAL STANDARD NO. 30**  
**VALUATIONS OF GENERAL INSURANCE CLAIMS**  
**MANDATORY STATUS**  
**EFFECTIVE DATE: 31 DECEMBER 2017**

|           |                                              |          |
|-----------|----------------------------------------------|----------|
| <b>1.</b> | <b>INTRODUCTION</b>                          | <b>3</b> |
| 1.1       | Application                                  | 3        |
| 1.2       | Background                                   | 3        |
| 1.3       | Purpose                                      | 3        |
| 1.4       | Previous versions                            | 3        |
| 1.5       | Legislation                                  | 3        |
| 1.6       | Changes to Referenced Documents              | 3        |
| <b>2.</b> | <b>EFFECTIVE DATE</b>                        | <b>5</b> |
| <b>3.</b> | <b>DEFINITIONS</b>                           | <b>5</b> |
| <b>4.</b> | <b>MATERIALITY</b>                           | <b>6</b> |
| <b>5.</b> | <b>DIVERGENCE FROM PROFESSIONAL STANDARD</b> | <b>7</b> |
| 5.1       | Approach                                     | 7        |
| <b>6.</b> | <b>VALUATION PROCESS</b>                     | <b>7</b> |
| 6.1       | Matters for consideration                    | 7        |
| 6.2       | Valuation Report                             | 7        |
| <b>7.</b> | <b>INFORMATION AND DATA</b>                  | <b>8</b> |
| 7.1       | Information requirements and verification    | 8        |
| 7.2       | Reliances                                    | 8        |
| <b>8.</b> | <b>ACTUAL VERSUS EXPECTED EXPERIENCE</b>     | <b>8</b> |

|            |                                                          |           |
|------------|----------------------------------------------------------|-----------|
| <b>9.</b>  | <b>VALUATION METHODOLOGY</b>                             | <b>8</b>  |
| 9.1        | Selection of valuation methods                           | 8         |
| <b>10.</b> | <b>VALUATION ASSUMPTIONS</b>                             | <b>9</b>  |
| 10.1       | Selection of assumptions                                 | 9         |
| 10.2       | Claims experience assumptions                            | 10        |
| 10.3       | Reinsurance Recoveries and Reinsurance Costs assumptions | 10        |
| 10.4       | Non-Reinsurance Recoveries assumptions                   | 11        |
| 10.5       | Economic assumptions                                     | 11        |
| 10.6       | Expense assumptions                                      | 11        |
| 10.7       | Risk Margin and Diversification Benefit assumptions      | 12        |
| 10.8       | Tax assumptions                                          | 12        |
| 10.9       | Considerations for Future Claim Liabilities              | 12        |
| <b>11.</b> | <b>VALUATION RESULTS</b>                                 | <b>13</b> |
| 11.1       | Control process around valuation results                 | 13        |
| <b>12.</b> | <b>UNCERTAINTY</b>                                       | <b>13</b> |
| <b>13.</b> | <b>VALUATION REPORT</b>                                  | <b>14</b> |
| 13.1       | Requirements for the Valuation Report                    | 14        |
| 13.2       | Content of a Valuation Report                            | 14        |
| 13.3       | Information and data                                     | 15        |
| 13.4       | Valuation methodologies                                  | 15        |
| 13.5       | Valuation assumptions                                    | 15        |
| 13.6       | Valuation results                                        | 16        |
| 13.7       | Reconciliation of change in liabilities                  | 16        |
| 13.8       | Uncertainty                                              | 16        |

## **1. Introduction**

### **1.1 Application**

This Professional Standard applies to a Member undertaking any valuation of the Outstanding Claim Liability or Future Claim Liability of Insurance Contracts required under any New Zealand legislation or regulation or accounting standard, excluding life policies.

### **1.2 Background**

In September 1999 Professional Standard 4 was created to provide guidance to Members performing general insurance Claims valuations. Changes in the regulatory environment led to a need to review the content and classification of this Professional Standard in 2011. A subsequent review was undertaken in 2014 and included amendments to ensure the Standard remains compliant with the Society's Professional Standards Framework. This current review has corrected an editing issue and has made other grammatical changes which do not change substance of the Standard.

### **1.3 Purpose**

The purpose of this Professional Standard is to provide Members with principles and directions that must be followed with regard to a valuation of general insurance Claims.

### **1.4 Previous versions**

Professional Standard 4 was first issued as a Professional Standard in September 1999, and was subsequently revised. This Standard replaced the existing Professional Standard 4.1 that was issued in November 2011.

### **1.5 Legislation**

- 1.5.1 This Professional Standard must be considered in the context of applicable legislation.
- 1.5.2 If there is a conflict between this Professional Standard and any applicable legislation then the legislation takes precedence. In this context, legislation includes regulations, standards, rules and any modifications issued by the Reserve Bank.

### **1.6 Changes to Referenced Documents**

When this Professional Standard refers to another document, the reference relates to the document as it was as at the effective date of this Professional Standard. The referenced document may be amended, restated, revoked, or replaced after the effective date. In such a case, the Member should consider the extent to which the modification is applicable and appropriate to the principles and directions contained in this Professional Standard.



## 2. Effective Date

This Professional Standard applies to all Valuation Reports with a Valuation Date on or after 31 December 2017.

## 3. Definitions

**Advice** has the same meaning as defined in the Code.

**Case Estimates** means the claim-by-claim estimates of the amounts required to settle reported and open Claims.

**Claims** means the claims arising from an Entity's Insurance Contracts.

**Central Estimate** means an unbiased estimate of the mean (statistical expectation) of the Outstanding Claim Liability or the Future Claim Liability.

**Claim Payments** are the amounts an Entity has paid, or is liable to pay in the future, in respect of its exposure to Claims, comprising payments made directly to claimants and Direct Expenses.

**Class of Business** means a grouping of Claims with similar characteristics (such as type of coverage or risk factors) that have a bearing on expected Claims experience and are therefore valued together.

**Code** means the New Zealand Society of Actuaries Code of Professional Conduct.

**Direct Expenses** means third party costs attributable to particular Claims.

**Diversification Benefit** means the amount by which an overall Entity Risk Margin is less than the sum of individually assessed Outstanding Claim Liability and Future Claim Liability Risk Margins by Class of Business, where diversification between them is assumed.

**Entity** means one or more companies, corporations or other bodies with a liability to pay Claims.

**Event** means the insured incident or activity as specified in the Insurance Contract that gives rise to potential Claim Payments.

**Future Claim Liability (FCL)** (also known as "Premium Liability") means the estimated value of Claim Payments and related Indirect Expenses, to be made after the Valuation Date, arising from future Events for which the Entity is liable under its Insurance Contracts.

**Indirect Expenses** means the claims and policy management and administrative expenses incurred by the Entity in relation to the payment of the OCL and the FCL. Indirect Expenses are not attributable to particular Claims.

**Insurance Contract** is a contract of general insurance, as defined in Section 7 of the Insurance (Prudential Supervision) Act 2010.

**Member** means a member of the Society.

**Non-Reinsurance Recoveries** means recoverable amounts arising from Claims. These exclude Reinsurance Recoveries.

**Outstanding Claim Liability (OCL)** means the estimated value at the Valuation Date of Claim Payments and may include related Indirect Expenses, to be made after the Valuation Date, arising from Events occurring on or before the Valuation Date.

**Premium Adjustment** means an increase or decrease of the premium made after the Insurance Contract start date (including premium refunds) on Insurance Contracts in force at the Valuation Date.

**Previous Valuation** means the previous valuation (if any) undertaken at the most recent balance date of the Entity.

**Professional Standard** means a Professional Standard of the Society.

**Reinsurance Costs** means the cost to the Entity of purchasing reinsurance cover in respect of the Claims being valued.

**Reinsurance Recoveries** means recoverable amounts arising from reinsurance agreements.

**Reserve Bank** means the Reserve Bank of New Zealand.

**Risk Margin** means any positive amount added to the Central Estimate of the OCL or FCL with the purpose of increasing the probability of the estimated liability being adequate.

**Society** means the New Zealand Society of Actuaries.

**Unclosed Premiums** refers to the premium revenue, from Insurance Contracts for which the Entity is liable at the Valuation Date, but which has not yet been captured in systems.

**Valuation Date** means the date at which the Claims are being estimated. This is also known as the effective date of the valuation.

**Valuation Report** means the formal written document setting out the Advice arising from the application of this Professional Standard.

#### **4. Materiality**

In case of omissions, understatements or overstatements, the Actuary must assess whether or not the effect is material. The threshold of materiality under which the work is being conducted must be determined by the actuary unless it is imposed by another party, such as an auditor or the party who engages the provider of actuarial services. When determining the threshold of materiality, the Actuary must:

- Assess materiality from the point of view of the intended user(s), recognising the purpose of the actuarial services; thus, an omission, understatement, or overstatement is material if the actuary expects it to

affect significantly either the intended user's decision-making or the intended user's reasonable expectations;

- Consider the actuarial services and the entity that is the subject of those actuarial services; and
- Consult with the party who engages the provider of actuarial services if necessary.

Where materiality has been imposed by another party it should be stated as such.

## **5. Divergence from Professional Standard**

### **5.1 Approach**

- 5.1.1 If a Member is of the opinion that the application of this Professional Standard to a particular aspect of the valuation is not relevant or good practice and departs from this Professional Standard, then the Member must provide in the Valuation Report a description of the departure from this Professional Standard and a reasonable professional explanation for that departure.

## **6. Valuation Process**

### **6.1 Matters for consideration**

- 6.1.1 In undertaking a valuation of Claims, a Member must consider each of the matters listed below:
- purpose and scope of the valuation;
  - materiality;
  - information and data;
  - actual versus expected experience;
  - valuation methodologies;
  - valuation assumptions;
  - valuation results;
  - uncertainty; and
  - any other Material relevant matters.

### **6.2 Valuation Report**

- 6.2.1 A Member must produce a Valuation Report in accordance with Section 13.

## **7. Information and Data**

### **7.1 Information requirements and verification**

7.1.1 The Member must take reasonable steps to verify the completeness and accuracy of the information and data provided by the Entity (for example, the Member should consider undertaking reconciliations against accounts, management reports or Previous Valuation data, if these are available).

7.1.2 The Member must consider:

- policy administration and underwriting processes;
- terms and conditions of cover;
- premium accounting processes;
- Claims administration and accounting processes;
- Non-Reinsurance Recoveries administration and accounting processes;
- reinsurance arrangements, administration and accounting processes; and
- the relevant general economic, industry, accounting and legal environment.

### **7.2 Reliances**

7.2.1 If, in conducting the valuation, the Member relies on someone else's work then the Member must:

- assess the appropriateness of the other person's work for the purpose; and
- perform supplementary analysis if that is thought necessary.

## **8. Actual Versus Expected Experience**

If a Previous Valuation has been conducted and adequate information is available, the Member must consider actual versus expected experience.

## **9. Valuation Methodology**

### **9.1 Selection of valuation methods**

9.1.1 The valuation methods must incorporate actuarial principles that the Member considers reasonable in the circumstances.

9.1.2 The valuation methods and the Class of Business subdivisions selected by the Member must consider:

- the purpose of the valuation;

- the availability, nature and homogeneity of the data;
- the type, amount and maturity of the business being valued;
- the analysis of Claims experience including actual versus expected experience;
- the particular circumstances of the Entity;
- relevant industry experience; and
- any other Material matters identified by the Member.

9.1.3 When selecting valuation methods, the Member must consider whether to analyse the following aspects of Claim experience (by Class of Business):

- Claim frequency;
- Claim size distribution;
- pattern of Claim occurrence (or seasonality);
- development of reporting of Claims;
- development of Claim settlement or finalisation;
- development of reopened Claims;
- development of Claim Payments, Non-Reinsurance Recoveries and Reinsurance Recoveries;
- development of Case Estimates;
- incidence and development of large Claims;
- potential impact of catastrophes or accumulations; and
- any other aspect of Claim experience that may be relevant or appropriate to the valuation.

## **10. Valuation Assumptions**

### **10.1 Selection of assumptions**

10.1.1 In setting the valuation assumptions to estimate the OCL and/or the FCL, the Member must consider:

- the relevant experience of the Entity or, if the relevant experience of the Entity is not sufficiently credible, then the Member must consider any available relevant industry statistics or other information;
- the valuation methods used;
- any special features of, or trends in, the Claims experience;

- the actual versus expected Claims experience; and
- the consistency of the valuation basis as a whole, including consistency between the OCL and the FCL, allowing for changes in underwriting, pricing or similar issues.

## **10.2 Claims experience assumptions**

- 10.2.1 The Member must consider whether analysis of historical development of Claims experience is before or after allowance for Non-Reinsurance Recoveries and/or Reinsurance Recoveries.
- 10.2.2 In the projection of the future Claims experience, the Member must consider the items listed in sections 9.1.2 and 9.1.3 and how these relate to the assumptions about the future that are being made.

## **10.3 Reinsurance Recoveries and Reinsurance Costs assumptions**

- 10.3.1 The Member must consider whether to make an allowance for any future Reinsurance Recoveries.
- 10.3.2 In evaluating any future Reinsurance Recoveries, the Member must consider:
- the past, current and future reinsurance arrangements;
  - the Reinsurance Recoveries Case Estimates (if available);
  - the past Reinsurance Recoveries experience (if available) of the Entity and how these relate to the assumptions about the future that are being made;
  - whether the Reinsurance Recoveries are consistent with the gross Claim Payments and Reinsurance Recoveries Case Estimates to which they relate; and
  - whether to allow for any risk of non-recovery.
- 10.3.3 If an estimate of any FCL net of future Reinsurance Recoveries is being evaluated, the Member needs to consider the Reinsurance Costs associated with Reinsurance Recoveries. The Member must consider the accounting treatment of Reinsurance Costs.

## **10.4 Non-Reinsurance Recoveries assumptions**

- 10.4.1 The Member must consider whether to make an allowance for any future Non-Reinsurance Recoveries.
- 10.4.2 In evaluating any future Non-Reinsurance Recoveries, the Member must consider:
- the Non-Reinsurance Recoveries Case Estimates (if available);
  - analysis of the Entity's past Non-Reinsurance Recoveries experience (if available); and
  - whether the Non-Reinsurance Recoveries are consistent with the gross Claim Payments and Non-Reinsurance Recoveries Case Estimates to which they relate.

## **10.5 Economic assumptions**

- 10.5.1 The Member must consider whether to allow for any future escalation of Claim Payments (often called "claim inflation"). Whether the allowance is explicit or implicit will depend on the valuation methods being used. In setting the escalation assumptions the Member must consider:
- wage and/or price inflation; and
  - superimposed inflation (any residual claim inflation arising for reasons other than wage and/or price inflation).
- 10.5.2 Discount rates used must be based on risk-free rates of appropriate duration, having regard to the liabilities, as at the Valuation Date.

## **10.6 Expense assumptions**

- 10.6.1 Legislative, regulatory and/or accounting requirements may prescribe whether an allowance needs to be made for Indirect Expenses. In that light, the Member must consider the purpose and scope of the valuation and whether to make an allowance for relevant Indirect Expenses.
- 10.6.2 For the OCL, the relevant Indirect Expenses may include Claims administration expenses for incurred Claims (including both reported and unreported Claims).
- 10.6.3 For the FCL, the relevant Indirect Expenses may include:
- policy administration expenses for unexpired policies for which the Entity is on risk; and

- Claims administration expenses for Claims establishment and runoff.

10.6.4 The Member can use either or both of the following to estimate future Indirect Expenses:

- the Entity's historical Indirect Expenses information that is reasonably allocated; and/or
- the Entity's internal information that is available to notionally allocate expenses.

10.6.5 If such information is unavailable or is unreliable, the Member must consider any available external benchmarks to assist in setting an appropriate assumption for the Indirect Expenses, and ensure that the overall expense assumptions adopted for the Entity are reasonable.

## **10.7 Risk Margin and Diversification Benefit assumptions**

10.7.1 If the scope of the valuation includes the estimation of Risk Margins, then the Member must provide a quantitative indication of the variability. The Member should consider examining scenario analyses, sensitivity analyses and/or statistics such as the estimated standard deviation of any assumed probability distribution of claim cost outcomes.

10.7.2 If Risk Margins are required for an Entity, or for multiple Classes of Business, then the estimation process must be reasonable in aggregate and the Member must consider any Diversification Benefit.

10.7.3 If Risk Margins are required for a Class of Business in isolation, then the relevant undiversified Risk Margin must be evaluated before the application of any Diversification Benefit.

## **10.8 Tax assumptions**

10.8.1 The Member must consider how the taxation environment, government charges, levies and duties impact the valuation assumptions. If necessary, the Member must make reasonable allowance for such assumptions.

## **10.9 Considerations for Future Claim Liabilities**

10.9.1 If the FCL is being estimated, then the Member must consider and, where appropriate, make reasonable allowance for:

- expected cashflows arising from future events for which the Entity is liable under its Insurance Contracts at the Valuation Date;

- any projected Premium Adjustments; and
- the Entity's Unclosed Premiums and other commitments arising from its Insurance Contracts.

## **11. Valuation Results**

### **11.1 Control process around valuation results**

11.1.1 The Member must consider the use of control processes around the valuation results. These may include any high-level reasonableness tests undertaken during the valuation, for example:

- comparisons of the Central Estimate of the OCL to the Case Estimates, both gross and net of any Non-Reinsurance Recoveries and Reinsurance Recoveries;
- comparisons by relevant periods of the past Claim Payments plus the Central Estimate of OCL, both gross and net of any Non-Reinsurance Recoveries and Reinsurance Recoveries, to the relevant earned premium, or other relevant measure of exposure;
- reconciliation of the change in the valuation results with the Previous Valuation results;
- consistency checks of the FCL, both gross and net of any Non-Reinsurance Recoveries and Reinsurance Recoveries, to unearned premium, both gross and net of unearned reinsurance premium, less deferred acquisition expenses; and
- a hindsight review of the reasonableness of the FCL estimated at the Previous Valuation, with reference to the assumptions used in estimating that FCL and the subsequent experience.

## **12. Uncertainty**

The Member must consider the sources and the implications of the uncertainty related to the assessment of estimated outcomes and any potential future deviations they may cause to the results obtained.

The Member must consider the implications of the uncertainty identified in key assumptions of the valuation. Sensitivity and/or scenario analyses on key assumptions should be considered as a means of quantitatively understanding the impact of the uncertainty related to the key assumptions. The assumptions used in these analyses must be selected to illustrate the impact on results when a reasonable variation to key assumptions is made. In choosing the key assumptions to sensitivity test, the Member must consider the Materiality, nature and volatility of the Class of Business.

## **13. Valuation Report**

### **13.1 Requirements for the Valuation Report**

13.1.1 The Valuation Report must state:

- to whom the Member's report is addressed;
- the purpose and scope of the valuation;
- the Valuation Date;
- the date on which the report was completed;
- the name of the Member, his/her relevant professional qualification(s), and the capacity in which he/she has prepared the report;
- that the Member's valuation of the Claims has been prepared in accordance with this Professional Standard, any restrictions or limitations placed on the Member and any differences between this Professional Standard and any applicable legislation or accounting standard;
- the reliances associated with the calculations and the resulting conclusions; and
- where and why the valuation process falls short of compliance with this Professional Standard in accordance with Section 5.1.1.

### **13.2 Content of a Valuation Report**

13.2.1 The Valuation Report must include, to an appropriate level of detail, having regard to Materiality:

- the sources, nature, accuracy, validity and adequacy of the data, in accordance with section 13.3;
- a description of the types of business and reinsurance arrangements, and any significant changes to these or the operating environment of the Entity since the Previous Valuation;
- the valuation methodologies, in accordance with Section 13.4;
- the valuation assumptions and their derivations, in accordance with Section 13.5;
- the valuation results, in accordance with Section 13.6;

- a reconciliation of change in liabilities since the Previous Valuation, in accordance with Section 13.7; and
- the uncertainty associated with the valuation results, in accordance with Section 13.8.

### **13.3 Information and data**

13.3.1 The Member must document in the Valuation Report:

- a summary of data and information used for the valuation, and their sources;
- a summary of the steps taken to verify the completeness and accuracy of the data and information used for the valuation;
- a summary of the results of any reconciliations of the valuation data;
- a comment about the adequacy of the data and information including any concerns about the data or information that cannot be resolved with the Entity, together with any consequent qualifications or limitations; and
- any reliance on the work of others and limitations arising from such reliances.

### **13.4 Valuation methodologies**

13.4.1 The Member must document in the Valuation Report:

- a description of the valuation methodologies used for each Class of Business;
- how any roll forward process, if undertaken, is carried out;
- the reasons for selecting the valuation methodologies employed;
- the criteria used for selecting between valuation methodologies, or for weighting the valuation methodologies, with the rationale explained; and
- the reasons for any change to the valuation methodologies adopted since the Previous Valuation, by Class of Business, with the rationale for the changes explained.

### **13.5 Valuation assumptions**

13.5.1 The Member must document in the Valuation Report, by Class of Business:

- the key results of the analysis of the actual versus expected experience;

- the key assumptions adopted;
- the rationale for selection of the key assumptions; and
- any changes to the key assumptions since the Previous Valuation.

### **13.6 Valuation results**

13.6.1 The results of the OCL valuation and/or any FCL valuation must be documented in the Valuation Report. If appropriate and practical, the Member must document the results by Class of Business. The results must separately identify:

- Non-Reinsurance Recoveries;
- Reinsurance Recoveries;
- Indirect Expenses;
- discounting for the time value of money;
- Risk Margin, including any Diversification Benefit; and
- the sum of all the relevant items.

### **13.7 Reconciliation of change in liabilities**

13.7.1 The Member must document in the Valuation Report the change in the Central Estimate of the OCL since the Previous Valuation. The reconciliation must separately identify the impact of:

- the difference between actual and expected Claims experience;
- the difference caused by overall valuation basis change; and
- the additional liability associated with any new exposure of the Entity to Claims since the Previous Valuation.

13.7.2 The Member must document in the Valuation Report a summary of the hindsight review of the reasonableness of the FCL as outlined in Section 11.1.1.

### **13.8 Uncertainty**

13.8.1 The Member must document in the Valuation Report the key sources of uncertainty and their implications for the liabilities estimated.

13.8.2 Where sensitivity testing and/or scenario testing has been undertaken as part of the valuation process, the Member must document in the Valuation Report a summary of the key results of

these tests, making clear that the variations selected do not indicate upper or lower bounds of all possible outcomes.