5000—Public Personal Injury Compensation Plans

Table of Contents

5100 Scope

.01 Part 1000 applies to work within the scope of this part 5000.

.02 The standards in this part apply as follows:

- Section 5200 applies to an actuary's work on the valuation of benefits liabilities of a public personal injury compensation plan for the purpose of its financial statements; and
- Section 5300 applies to an actuary's work on the valuation of benefits liabilities of a public personal injury compensation plan for the purpose of providing input into its funding arrangements.

.03 The standards in this part do not apply to an actuary's work for an employer on the valuation of benefits liabilities and other related items in respect of its employees who are covered by a self-insured element of a public personal injury compensation plan, where such work is covered by the Practice-Specific Standards for Post-Employment Benefit Plans. Nevertheless, the standards in this part may provide useful guidance for such work.

.04 The standards in this part may also provide useful guidance for other work of an actuary for a public personal injury compensation plan, such as work on the costing of benefits or policy changes, the development of assessment rates or premiums, or work on experience-rating programs.

5200 Valuation for Financial Reporting Purposes

.01 This section 5200 applies to work and advice an actuary provides with respect to financial reporting for a public personal injury compensation plan's benefits liabilities and costs.

5210 Circumstances affecting the work

.01 The actuary's work on the valuation of the benefits liabilities or other items for the purpose of the financial statements of a public personal injury compensation plan should take into account the circumstances affecting the work. [Effective December 15, 2019]

.02 For the purposes of section 5200, the circumstances affecting the work would include

- Terms of the relevant statute and regulations;
- Relevant accounting standards and policies;
- Relevant policies and practices of the public personal injury compensation plan; and
- Terms of an appropriate engagement under which the work is being performed.

.03 The terms of an appropriate engagement would define the role of the actuary and the purpose of the work. The work of the actuary may be limited to the valuation of the benefits liabilities, or the work may also include advice on its financial position, its financial condition, and any other actuarial item required under the terms of an appropriate engagement.

.04 The terms of an appropriate engagement may specify applicable policies of the public personal injury compensation plan relevant to the work of the actuary. These policies may include an accounting policy, operational policies and practices, and an investment policy.

.05 Significant terms of an appropriate engagement may stipulate one or more of

- Use of a specified asset value or method of asset valuation;
- The treatment of self-insured employers;
- The conditions considered in the liability for potential future occupational disease claims; and
- Depending on the circumstances affecting the work, treatment of definitive amendments and other pending changes.

.06 The purpose of the work may influence one or more of

- The assumptions chosen for the valuation, including the discount rate;
- The methods used in the valuation; and
- The provision for adverse deviations included in the valuation, if any.

.07 For valuations for financial reporting purposes, the actuary would consider the plan's accounting standards and policies.

5220 Data

.01 Where sufficient, reliable, and relevant data are not available for the valuation of a specific benefit, the actuary should make appropriate assumptions or introduce appropriate methods to compensate for any perceived deficiencies in the data. [Effective February 1, 2018]

.02 The actuary would attempt to rectify insufficient or unreliable data by obtaining corrected data. If corrected data is not available, the actuary would consider making assumptions or introducing methods to compensate for the perceived deficiencies in the data, where appropriate.

.03 The plan's historical experience data may not be directly relevant for the liability valuation in various circumstances. For example,

- The relevant statute may have been amended to provide a new or revised benefit;
- An applicable policy of the public personal injury compensation plan may have been revised recently;
- The public personal injury compensation plan's claim adjudication practices or administration practices may have changed recently;
- A recent appeal decision may be expected to have a material effect on future benefit payments; or
- Economic conditions or health care practices in the relevant jurisdiction may have changed, which may be expected to have a material effect on benefits.

.04 Where the data are not sufficiently relevant to expected future experience for a specific benefit, the actuary would consider adjusting the data and historic claim settlement patterns to make them more representative of expected experience going forward.

5230 Methods

.01 The actuary should value the benefits liabilities assuming that the public personal injury compensation plan continues indefinitely as a going concern entity. [Effective February 1, 2018]

.02 The value of the benefits liabilities is the value, by the actuarial present value method, of cash flows after the calculation date with respect to

- All claims incurred before that date, whether reported or not; and
- Workplace exposures that have occurred prior to that date. The workplace exposures should include those which may potentially lead to occupational disease claims, in accordance with the policy of the plan for recognizing such claims. [Effective December 15, 2019]

.03 The cash flows after the calculation date on account of all claims and exposures incurred before that date should include all expenses expected to be incurred after the calculation date which are related to those claims and exposures, including relevant administration expenses. [Effective December 15, 2019]

.04 The actuary's work should take into account the benefits, relevant policies and administration practices of the public personal injury compensation plan as of the calculation date, and should take into account any definitive or virtually definitive amendment to these items that is expected to have a material effect on benefits, unless the circumstances affecting the work require otherwise. [Effective December 15, 2019]

.05 The benefits liabilities should include an amount in respect of benefits for employees of a self-insured employer, unless the exclusion of such benefits is in accordance with the circumstances affecting the work. [Effective February 1, 2018]

Occupational disease

.06 For the purpose of this part, occupational disease refers to diseases or conditions arising from the cumulative effects of long-term exposure to repetitive activities or environmental hazards in the workplace. Latency refers to the period from exposure to a causative factor to the manifestation of the occupational disease.

.07 The actuary would include in the benefits liabilities an appropriate allowance for occupational disease claims expected to arise after the calculation date as a result of exposures incurred in the workplace prior to the calculation date. This allowance would be in respect of occupational diseases with a long latency period as recognized by the public personal injury compensation plan, by legislation, by regulation, or by appeal, regardless of the plan's approach to funding such claims.

5240 Assumptions

.01 The actuary should set assumptions that reflect the expectation that the public personal injury compensation plan will continue indefinitely as a going concern entity, but may make adjustment for short-term considerations, where appropriate. [Effective February 1, 2018]

.02 The actuary should select either best estimate assumptions or best estimate assumptions modified to incorporate margins for adverse deviations to the extent, if any, required by law or by the circumstances affecting the work, and should provide the rationale for the decision made with respect to margins. [Effective December 15, 2019]

.03 Where a public personal injury compensation plan has an established practice of providing ad hoc increases to benefits, or a periodic update to rates or tables used in the administration of the plan, the actuary should recognize such established practice when valuing the benefits liabilities by assuming the continuation of such practice, unless a policy decision to discontinue such established practice has been taken by the plan. [Effective December 15, 2019]

5250 Economic assumptions

.01 The economic assumptions chosen for the valuation would depend on the purpose of the valuation. For valuations for financial reporting purposes, the assumptions would be consistent with the plan's accounting standards and policies.

.02 The economic assumptions that are needed would depend on the nature of the benefits that are being valued, and may vary by year. Generally, the needed economic assumptions would include a discount rate and various inflation rate assumptions such as general inflation, wage inflation, and health care inflation.

.03 The economic assumptions chosen for the valuation would be internally consistent. In particular, the chosen assumptions would generally be appropriate for a similar time horizon. For example, a long-term investment rate of return assumption would generally not be combined with an inflation assumption based on short-term expectations. Similarly, the valuation would generally not mix assumptions based on current market prices (e.g., market-implied inflation expectation) with those not based on current prices.

.04 When determining a best estimate assumption for the expected rate of investment return, the actuary would take into account the expected investment return on the assets of the public personal injury compensation plan at the calculation date and the expected investment policy after that date.

.05 In establishing the assumption for the expected rate of investment return, the actuary would assume that there would be no additional returns achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy except to the extent that the actuary has reason to believe, based on relevant supporting data, that such additional returns will be consistently and reliably earned over the long term.

.06 The expected investment expenses would depend on the investment policy of the plan, the types of investments held and projected to be held in the future, and the nature of investment operations.

.07 The actuary may adopt an assumption for the expected rate of investment income that varies depending on the part of the public personal injury compensation plan being valued and the assets backing the liabilities in that part.

.08 The economic assumptions need not be a flat rate but may vary from period to period.

5260 Non-economic assumptions

.01 When setting non-economic assumptions, the actuary would reflect all material contingencies.

.02 The actuary would recognize the effect of varying experience and settlement patterns that result from definitive or virtually definitive revisions to the plan's benefits or claims practices and would consider the relevance of historical claims experience.

.03 When setting the assumptions for wage loss, disability, pension, and other benefits, the actuary would take into account all applicable material contingencies, including the possibility of recoveries, relapses, mortality improvements, changing benefit levels, and the intermittence of income replacement and rehabilitation benefits throughout the lifetime of claimants. Further, the actuary would consider the potential effect on future benefit payments of factors such as changing economic conditions, employment levels, the claimant's occupation, and industry and seasonal variations.

5270 Margins for adverse deviations

.01 The actuary should not include a margin for adverse deviations when the circumstances affecting the work require a best estimate calculation. [Effective December 15, 2019]

.02 The actuary should include margins for adverse deviations when the circumstances affecting the work require such margins. A non-zero margin should be sufficient, without being excessive, and should have the effect of increasing the benefits liabilities or reducing the reported value of the offsetting assets, the computation of which falls within the scope of the work of the actuary. In addition, the provision resulting from the application of all margins for adverse deviations should be appropriate in the aggregate. [Effective February 1, 2018]

.03 If the actuary is required by legislation, regulation, accounting standards, or the accounting policy of the plan to use a margin for adverse deviations that is outside the range that the actuary considers appropriate, the actuary may use such an imposed assumption, but the actuary should disclose that the margin is outside of the appropriate range and disclose the reason for using such margin. [Effective December 15, 2019]

.04 The actuary's decision with respect to margins for adverse deviations may reflect considerations such as

- Accounting policy of the public personal injury compensation plan;
- Underlying adaptability of the plan to changes in financial position;
- Legislative requirements regarding margins;
- Intergenerational equity among employers and other groups;
- Level of uncertainty inherent in the assumptions;
- Level of reliability or credibility of the data or historical information upon which the assumptions are based;
- Asset/liability mismatch risk;
- Propensity for ad hoc changes to be made to plan conditions; and
- Legislative or other restrictions on the ability to mitigate past losses.

.05 Examples of situations where the circumstances affecting the work might require a best estimate calculation include

- Legislation governing the plan may require a best estimate calculation;
- The relevant accounting standards or the accounting policy of the plan may require the use of best estimate assumptions; or
- The plan's financial reporting may recognize the monopoly nature of the plan and place a high priority on equity among generations, employers and other groups.

5280 Gain and loss analysis

.01 The actuary should conduct a gain and loss analysis, including a comparison of actual and expected experience for the period between the prior calculation date and the current calculation date. [Effective February 1, 2018]

.02 The actuary should also conduct a reconciliation of the surplus or deficit position of the plan, provided that such reconciliation is in accordance with the terms of the engagement. [Effective February 1, 2018]

.03 The actuary's analysis would include all material gains and losses. At a minimum, the actuary's gain and loss analysis would consider the impact of any significant changes to the assumptions or methods used, any significant changes to the benefits or policies of the plan, legislative changes, investment returns on the plan's assets different from the assumed basis (if reconciling the surplus or deficit position of the plan), and any other areas where the difference between actual and expected experience is significant.

.04 The actuary would report a change in assumption if the current assumption differs nominally from the corresponding prior assumption, unless the change in the nominal amount results from the application of the same calculation method. For example, if certain rates used in the valuation are based on historical claims experience and calculated using the same averaging formula, the difference in assumed rates between the calculation date and the prior calculation date would not normally be considered as a change in assumptions. Nevertheless, the actuary may choose to disclose the effect of the updated rate assumption on the valuation results.

5290 Sensitivity testing

.01 The actuary should perform sensitivity testing of adverse scenarios, to illustrate and aid the understanding of the effect of adverse changes to assumptions. [Effective February 1, 2018]

.02 The adverse scenarios that the actuary tests should include at least

- A decrease of 100 basis points in the gross discount rate used for the valuation; and
- An increase of 100 basis points in the assumed general rate of inflation while maintaining the gross discount rate at the value used in the underlying valuation. [Effective December 15, 2019]

.03 The actuary should consider other scenarios that, in the actuary's judgment, represent plausible material risks to which the plan may be exposed, and provide sensitivity testing of those scenarios where appropriate given the circumstances affecting the work. [Effective December 15, 2019]

.04 When selecting the assumptions and scenarios for sensitivity testing, the actuary would consider the circumstances affecting the work, and would select those assumptions that have a material impact on the benefits liabilities. The actuary may consider testing integrated sensitivity scenarios, for example, the effect of a deep and prolonged recession.

.05 The actuary may also perform sensitivity testing of favourable scenarios.

5295 Reporting

.01 For work pursuant to section 5200, the actuary should prepare a report in accordance with the circumstances affecting the work. [Effective December 15, 2019]

.02 An external user report on work pursuant to section 5200 should

- State the calculation date and the prior calculation date;
- Identify the legislation or other authority under which the work is completed;
- Describe any significant terms of the appropriate engagement that are material to the actuary's work, including the purpose of the work;
- Describe the sources of data, benefit provisions, and policies used in the work, and any limitations thereon;
- Summarize the data used for the valuation, the data tests conducted to assess the accuracy and completeness of the data used in the work, issues regarding insufficient or unreliable data, and any assumptions and methods used in respect of insufficient or unreliable data;
- Describe the plan's benefits, significant policies, and relevant administration practices, including the identification of any amendments made since the prior calculation date, and the effect of such amendment on the benefits liabilities;
- Describe any pending definitive or virtually definitive amendment, policy change, or change to administration practice, confirm whether or not such amendment or change has been reflected in the benefits liabilities, and identify the effect of such amendment or change on the benefits liabilities;
- Identify any significant changes to the relevant statute, strategic direction, or management policy, or any significant appeal decision that changes management policy or practice, since the prior calculation date and the consequent effect on the benefits liabilities;
- Describe the assumptions and methods used to calculate the benefit liabilities;
- Summarize the benefits liabilities;

- Disclose any imposed margins that the actuary has used in accordance with paragraph 5270.03 that, in the opinion of the actuary, are outside of the appropriate range;
- Report the aggregate provision for adverse deviations included in the benefits liabilities or state that there is no provision for adverse deviations where that is the case;
- Describe the treatment of benefits liabilities for self-insured employers;
- Disclose subsequent events of which the actuary is aware, whether or not the events are taken into account in the work, or, if there are no significant events of which the actuary is aware, include a statement to that effect;
- Describe and quantify the gains and losses between the prior calculation date and the current calculation date, and provide an analysis and explanation of the significant gain and loss items; and
- Describe the treatment of the liabilities for occupational disease claims. [Effective December 15, 2019]

.03 If the report does not include the results of the sensitivity testing that was completed, the actuary should prepare a separate report for the management of the public personal injury compensation plan that does include such sensitivity testing results. [Effective February 1, 2018]

.04 An external user report for work pursuant to section 5200 should provide the following five statements of opinion, all in the same section of the report and in the following order:

- A statement regarding data, which would usually be, "In my opinion, the data on which the valuation is based are sufficient and reliable for the purpose of the valuation.";
- A statement regarding assumptions, which would usually be, "In my opinion, the assumptions are appropriate for the purpose of the valuation.";
- A statement regarding methods, which would usually be, "In my opinion, the methods employed in the valuation are appropriate for the purpose of the valuation.";
- A statement regarding appropriateness, which would usually be, "In my opinion, the amount of the benefits liabilities makes appropriate provision for all personal injury compensation obligations and the financial statements fairly present the results of the valuation."; and
- A statement regarding conformation, which should be, "This report has been prepared, and my opinions given, in accordance with accepted actuarial practice in Canada." [Effective December 15, 2019]

.05 An external user report should be sufficiently detailed to enable another actuary to examine the reasonableness of the valuation. [Effective December 15, 2019]

.06 The circumstances affecting the work may result in a deviation from accepted actuarial practice in Canada. For example, the applicable legislation or the terms of the engagement may require that the actuary use a margin for adverse deviations that is outside the range that the actuary considers appropriate, or require that the actuary exclude the benefits liabilities in respect of certain occupational disease claims. In such case, the actuary would disclose such deviation in the report.

.07 The descriptions required in an external user report may be satisfied by reference to another report where appropriate. For instance, the liability estimate for potential future occupational disease claims or future administrative expenses may be based on a previous study of the plan's experience that is updated periodically. The details underlying these estimates could be incorporated by referencing the last study on which they are based rather than incorporating that material directly into the valuation report. Similarly, a report prepared for one purpose (e.g., funding) may reference material in a report prepared for another purpose (e.g., financial reporting) where appropriate.

.08 An internal user report may appropriately abbreviate the reporting requirements for an external user report. The degree of abbreviation would take into consideration the circumstances affecting the work and the intended audience.

5300 Valuation for Funding Purposes

.01 This section 5300 applies to the work and advice an actuary provides with respect to the financial position, financial condition, and funding of a public personal injury compensation plan.

5310 Circumstances affecting the work

.01 The actuary's work on the valuation of the benefits liabilities or other items for the purpose of providing input into its funding arrangements should take into account the circumstances affecting the work. [Effective December 15, 2019]

.02 For the purposes of section 5300, the circumstances affecting the work would include

- Terms of the relevant statute and regulations;
- Relevant policies and practices of the public personal injury compensation plan; and
- Terms of an appropriate engagement under which the work is being performed.

.03 The terms of an appropriate engagement would define the role of the actuary and the purpose of the work. The work of the actuary may be limited to the valuation of the benefits liabilities, or the work may also include advice on the funding of the public personal injury compensation plan, its financial position, its financial condition, and any other actuarial item required under the terms of an appropriate engagement.

.04 The terms of an appropriate engagement may specify applicable policies of the public personal injury compensation plan relevant to the work of the actuary. These policies may include a funding policy, operational policies and practices, and an investment policy.

.05 Significant terms of an appropriate engagement may stipulate one or more of

- Use of a specified asset value or method of asset valuation;
- The treatment of self-insured employers;
- The conditions considered in the liability for potential future occupational disease claims; and
- Depending on the circumstances affecting the work, treatment of definitive amendments and other pending changes.

.06 Objectives of funding specified by the terms of an appropriate engagement may include, but are not limited to, a specific funding target, the security of benefits, a principle of equity among various groups of employers or various groups of individuals or among generations, or a funding approach for occupational disease claims.

.07 The purpose of the work may influence one or more of

- The assumptions chosen for the valuation, including the discount rate;
- The methods used in the valuation; and
- The provision for adverse deviations included in the valuation, if any.

.08 For valuations for funding purposes, the actuary would consider the plan's funding and investment policies.

.09 For the purposes of section 5300:

- New injury costs refers to the actuarial present value of benefits payable by the plan in respect of all new injuries incurred in a period, whether reported or not.
- Required revenue is an estimate of the amount necessary to fund the plan including new injury costs, plan administrative expenses, and any revenue adjustment required by the plan's funding policy to respond to its financial position.

.10 A funding valuation may be completed to determine the following:

- The plan's financial position under the funding valuation basis;
- An estimate of new injury costs for periods following the calculation date;
- An estimate of required revenue for periods following the calculation date; and
- The sufficiency of proposed premium or assessment rates.

5320 Data

.01 Where sufficient, reliable, and relevant data are not available for the valuation of a specific benefit, the actuary should make appropriate assumptions or introduce appropriate methods to compensate for any perceived deficiencies in the data. [Effective February 1, 2018]

.02 The actuary would attempt to rectify insufficient or unreliable data by obtaining corrected data. If corrected data is not available, the actuary would consider making assumptions or introducing methods to compensate for the perceived deficiencies in the data, where appropriate.

.03 The plan's historical experience data may not be directly relevant for the liability valuation in various circumstances. For example,

- The relevant statute may have been amended to provide a new or revised benefit;
- An applicable policy of the public personal injury compensation plan may have been revised recently;
- The public personal injury compensation plan's claim adjudication practices or administration practices may have changed recently;
- A recent appeal decision may be expected to have a material effect on future benefit payments; or
- Economic conditions or health care practices in the relevant jurisdiction may have changed, which may be expected to have a material effect on benefits.

.04 Where the data are not sufficiently relevant to expected future experience for a specific benefit, the actuary would consider adjusting the data and historic claim settlement patterns to make them more representative of expected experience going forward.

5330 Methods

.01 The actuary should value the benefits liabilities assuming that the public personal injury compensation plan continues indefinitely as a going concern entity. [Effective February 1, 2018]

.02 The value of the benefits liabilities is the value, by the actuarial present value method, of cash flows after the calculation date with respect to

- All claims incurred before that date, whether reported or not; and
- Workplace exposures that have occurred prior to that date. The workplace exposures should include those which may potentially lead to occupational disease claims, in accordance with the policy of the plan for recognizing such claims. [Effective December 15, 2019]

.03 The cash flows after the calculation date on account of all claims and exposures incurred before that date should include all expenses expected to be incurred after the calculation date which are related to those claims and exposures, including relevant administration expenses. [Effective December 15, 2019]

.04 The actuary's work should take into account the benefits, relevant policies, and administration practices of the public personal injury compensation plan as of the calculation date, and should take into account any definitive or virtually definitive amendment to these items that is expected to have a material effect on benefits, unless the circumstances affecting the work require otherwise. [Effective December 15, 2019]

.05 The benefits liabilities should include an amount in respect of benefits for employees of a self-insured employer, unless the exclusion of such benefits is in accordance with the circumstances affecting the work. [Effective February 1, 2018]

Occupational disease

.06 For the purpose of this part, occupational disease refers to diseases or conditions arising from the cumulative effects of long-term exposure to repetitive activities or environmental hazards in the workplace. Latency refers to the period from exposure to a causative factor to the manifestation of the occupational disease.

.07 The actuary would include in the benefits liabilities an appropriate allowance for occupational disease claims expected to arise after the calculation date as a result of exposures incurred in the workplace prior to the calculation date. This allowance would be in respect of occupational diseases with a long latency period as recognized by the public personal injury compensation plan, by legislation, by regulation, or by appeal, regardless of the plan's approach to funding such claims.

5340 Assumptions

.01 The actuary should set assumptions that reflect the expectation that the public personal injury compensation plan will continue indefinitely as a going concern entity, but may make adjustment for short-term considerations, where appropriate. [Effective February 1, 2018]

.02 The actuary should select either best estimate assumptions or best estimate assumptions modified to incorporate margins for adverse deviations to the extent, if any, required by law or by the circumstances affecting the work, and should provide the rationale for the decision made with respect to margins. [Effective December 15, 2019]

.03 Where a public personal injury compensation plan has an established practice of providing ad hoc increases to benefits, or a periodic update to rates or tables used in the administration of the plan, the actuary should recognize such established practice when valuing the benefits liabilities by assuming the continuation of such practice, unless a policy decision to discontinue such established practice has been taken by the plan. [Effective December 15, 2019]

5350 Economic assumptions

.01 The economic assumptions chosen for the valuation would depend on the purpose of the valuation. For valuations for funding purposes, the assumptions would be consistent with the plan's funding policy. Considerations for funding valuations would include, but are not limited to,

- The plan's risk tolerance;
- Stability of premiums or assessment rates; and
- Intergenerational equity among employers.

.02 The economic assumptions that are needed would depend on the nature of the benefits that are being valued, and may vary by year. Generally, the needed economic assumptions would include a discount rate and various inflation rate assumptions such as general inflation, wage inflation, and health care inflation.

.03 The economic assumptions chosen for the valuation would be internally consistent. In particular, the chosen assumptions would generally be appropriate for a similar time horizon. For example, a long-term investment rate of return assumption would generally not be combined with an inflation assumption based on short-term expectations. Similarly, the valuation would generally not mix assumptions based on current market prices (e.g., market-implied inflation expectation) with those not based on current prices.

.04 When determining a best estimate assumption for the expected rate of investment return, the actuary would take into account the expected investment return on the assets of the public personal injury compensation plan at the calculation date and the expected investment policy after that date.

.05 In establishing the assumption for the expected rate of investment return, the actuary would assume that there would be no additional returns achieved, net of investment expenses, from an active investment management strategy compared to a passive investment management strategy except to the extent that the actuary has reason to believe, based on relevant supporting data, that such additional returns will be consistently and reliably earned over the long term.

.06 The expected investment expenses would depend on the investment policy of the plan, the types of investments held and projected to be held in the future, and the nature of investment operations.

.07 The actuary may adopt an assumption for the expected rate of investment income that varies depending on the part of the public personal injury compensation plan being valued and the assets backing the liabilities in that part.

.08 The economic assumptions need not be a flat rate but may vary from period to period.

5360 Non-economic assumptions

.01 When setting non-economic assumptions, the actuary would reflect all material contingencies.

.02 The actuary would recognize the effect of varying experience and settlement patterns that result from definitive or virtually definitive revisions to the plan’s benefits or claims practices and would consider the relevance of historical claims experience.

.03 When setting the assumptions for wage loss, disability, pension, and other benefits, the actuary would take into account all applicable material contingencies, including the possibility of recoveries, relapses, mortality improvements, changing benefit levels, and the intermittence of income replacement and rehabilitation benefits throughout the lifetime of claimants. Further, the actuary would consider the potential effect on future benefit payments of factors such as changing economic conditions, employment levels, the claimant's occupation, and industry and seasonal variations.

5370 Margins for adverse deviations

.01 The actuary should not include a margin for adverse deviations when the circumstances affecting the work require a best estimate calculation. [Effective December 15, 2019]

.02 The actuary should include margins for adverse deviations when the circumstances affecting the work require such margins. A non-zero margin should be sufficient, without being excessive, and should have the effect of increasing the benefits liabilities or reducing the reported value of the offsetting assets, the computation of which falls within the scope of the work of the actuary. In addition, the provision resulting from the application of all margins for adverse deviations should be appropriate in the aggregate. [Effective February 1, 2018]

.03 If the actuary is required by legislation, regulation, or the funding policy of the plan to use a margin for adverse deviations that is outside the range that the actuary considers appropriate, the actuary may use such an imposed assumption, but the actuary should disclose that the margin is outside of the appropriate range and disclose the reason for using such margin. [Effective December 15, 2019]

.04 The actuary's decision with respect to margin for adverse deviations may reflect considerations such as

- Funding policy of the public personal injury compensation plan;
- Relative importance placed on the balancing of competing interests compared to the achievement of full funding;
- Underlying adaptability of the plan to changes in financial position;
- Legislative requirements regarding margins;
- Intergenerational equity among employers and other groups;
- Level of uncertainty inherent in the assumptions;
- Level of reliability or credibility of the data or historical information upon which the assumptions are based;
- Asset/liability mismatch risk;
- Propensity for ad hoc changes to be made to plan conditions; and
- Legislative or other restrictions on the ability to mitigate past losses.

.05 Examples of situations where the circumstances affecting the work might require a best estimate calculation include

- Legislation governing the plan may require a best estimate calculation; or
- The plan's funding policy may recognize the monopoly nature of the plan and place a high priority on equity among generations, employers, and other groups.

5380 Gain and loss analysis

.01 The actuary should conduct a gain and loss analysis, including a comparison of actual and expected experience for the period between the prior calculation date and the current calculation date. [Effective February 1, 2018]

.02 The actuary should also conduct a reconciliation of the surplus or deficit position of the plan, provided that such reconciliation is in accordance with the terms of the engagement. [Effective February 1, 2018]

.03 The actuary's analysis would include all material gains and losses. At a minimum, the actuary's gain and loss analysis would consider the impact of any significant changes to the assumptions or methods used, any significant changes to the benefits or policies of the plan, legislative changes, investment returns on the plan's assets different from the assumed basis (if reconciling the surplus or deficit position of the plan), and any other areas where the difference between actual and expected experience is significant.

.04 The actuary would report a change in assumption if the current assumption differs nominally from the corresponding prior assumption, unless the change in the nominal amount results from the application of the same calculation method. For example, if certain rates used in the valuation are based on historical claims experience and calculated using the same averaging formula, the difference in assumed rates between the calculation date and the prior calculation date would not normally be considered as a change in assumptions. Nevertheless, the actuary may choose to disclose the effect of the updated rate assumption on the valuation results.

5390 Sensitivity Testing

.01 The actuary should perform sensitivity testing of adverse scenarios, to illustrate and aid the understanding of the effect of adverse changes to assumptions. [Effective February 1, 2018]

.02 The adverse scenarios that the actuary tests should include at least

- A decrease of 100 basis points in the gross discount rate used for the valuation; and
- An increase of 100 basis points in the assumed general rate of inflation while maintaining the gross discount rate at the value used in the underlying valuation. [Effective December 15, 2019]

.03 The actuary should consider other scenarios that, in the actuary's judgment, represent plausible material risks to which the plan may be exposed, and provide sensitivity testing of those scenarios where appropriate given the circumstances affecting the work. [Effective December 15, 2019]

.04 When selecting the assumptions and scenarios for sensitivity testing, the actuary would consider the circumstances affecting the work, and would select those assumptions that have a material impact on the benefits liabilities. The actuary may consider testing integrated sensitivity scenarios; for example, the effect of a deep and prolonged recession.

.05 The actuary may also perform sensitivity testing of favourable scenarios.

5395 Reporting

.01 For work pursuant to section 5300, the actuary should prepare a report in accordance with the circumstances affecting the work. [Effective December 15, 2019]

.02 An external user report on work pursuant to section 5300 should

- State the calculation date and the prior calculation date;
- Identify the legislation or other authority under which the work is completed;
- Describe any significant terms of the appropriate engagement that are material to the actuary's work, including the purpose of the work;
- Describe the sources of data, benefit provisions, and policies used in the work, and any limitations thereon;
- Summarize the data used for the valuation, the data tests conducted to assess the accuracy and completeness of the data used in the work, issues regarding insufficient or unreliable data, and any assumptions and methods used in respect of insufficient or unreliable data;
- Describe the plan's benefits, significant policies, and relevant administration practices, including the identification of any amendments made since the prior calculation date, and the effect of such amendment on the benefits liabilities;
- Describe any pending definitive or virtually definitive amendment, policy change, or change to administration practice, confirm whether or not such amendment or change has been reflected in the benefits liabilities, and identify the effect of such amendment or change on the benefits liabilities;
- Identify any significant changes to the relevant statute, strategic direction, or management policy, or any significant appeal decision that changes management policy or practice, since the prior calculation date and the consequent effect on the benefits liabilities;
- Describe the assumptions and methods used to calculate the benefits liabilities;
- Summarize the benefits liabilities;

- Disclose any imposed margins that the actuary has used in accordance with paragraph 5370.03 that, in the opinion of the actuary, are outside of the appropriate range;
- Report the aggregate provision for adverse deviations included in the benefits liabilities or state that there is no provision for adverse deviations where that is the case;
- Describe the treatment of benefit liabilities for self-insured employers;
- Disclose subsequent events of which the actuary is aware, whether or not the events are taken into account in the work, or, if there are no significant events of which the actuary is aware, include a statement to that effect;
- Describe and quantify the gains and losses between the prior calculation date and the current calculation date, and provide an analysis and explanation of the significant gain and loss items;
- Describe the treatment of the liabilities for occupational disease claims;
- Describe the sources of information on the plan's assets;
- Describe the plan's assets, including their market value, the assumptions and methods used to value the assets, and a summary of the assets by major category;
- Report the financial position at the calculation date;
- Describe the determination of new injury costs or required revenue for periods following the calculation date;
- Report the estimate of new injury costs or required revenue for a specified period following the calculation date; and
- If required by the terms of an appropriate engagement, provide an opinion on the sufficiency of proposed premium or assessment rates. [Effective December 15, 2019].

.03 If the report does not include the results of the sensitivity testing that was completed, the actuary should prepare a separate report for the management of the public personal injury compensation plan that does include such sensitivity testing results. [Effective February 1, 2018]

.04 An external user report for work pursuant to section 5300 should provide the following five statements of opinion, all in the same section of the report and in the following order:

- A statement regarding data, which would usually be, “In my opinion, the data on which the valuation is based are sufficient and reliable for the purpose of the valuation.”;
- A statement regarding assumptions, which would usually be, “In my opinion, the assumptions are appropriate for the purpose of the valuation.”;
- A statement regarding methods, which would usually be, “In my opinion, the methods employed in the valuation are appropriate for the purpose of the valuation.”;
- A statement regarding appropriateness, which would usually be, “In my opinion the [amount of the benefits liabilities and estimated funding requirements] make appropriate provision for all personal injury compensation obligations given the plan’s funding policy.”; and
- A statement regarding conformation, which should be, “This report has been prepared, and my opinions given, in accordance with accepted actuarial practice in Canada.” [Effective December 15, 2019]

.05 An external user report should be sufficiently detailed to enable another actuary to examine the reasonableness of the valuation. [Effective December 15, 2019]

.06 The wording in square brackets in paragraph 5395.04 is variable and other wording may be used based on the terms of the engagement for the funding valuation.

.07 The circumstances affecting the work may result in a deviation from accepted actuarial practice in Canada. For example, the applicable legislation or the terms of the engagement may require that the actuary use a margin for adverse deviations that is outside the range that the actuary considers appropriate, or require that the actuary exclude the benefits liabilities in respect of certain occupational disease claims. In such case, the actuary would disclose such deviation in the report.

.08 The descriptions required in an external user report may be satisfied by reference to another report where appropriate. For instance, the liability estimate for potential future occupational disease claims or future administrative expenses may be based on a previous study of the plan's experience that is updated periodically. The details underlying these estimates could be incorporated by referencing the last study on which they are based rather than incorporating that material directly into the valuation report. Similarly, a report prepared for one purpose (e.g., funding) may reference material in a report prepared for another purpose (e.g., financial reporting) where appropriate.

.09 An internal user report may appropriately abbreviate the reporting requirements for an external user report. The degree of abbreviation would take into consideration the circumstances affecting the work and the intended audience.

.10 The actuary's advice on funding may describe a range for required revenue or expected new injury costs. Funding requirements may be expressed in dollars or as a percentage of assessable payroll.