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Final

Final Standards – Practice-Specific Standards for Pension Plans

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3000 – PENSION PLANS

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3100 SCOPE

.01 The standards in sections 3100 through 3700 apply to an actuary's advice on the financial position or financial condition of a pension plan which provides lifetime retirement income to its members, whether funded or not, whether registered or not, and whether in the private or public sector, except for the following:

A plan for which no unfunded actuarial liabilities may ever exist by reason of the nature of the plan; i.e., a pure defined contribution pension plan. The standards apply, however, to any hybrid of defined contribution and defined benefit pension plans, such as modified defined contribution, target benefit, floor, and cash balance pension plans.

A plan whose benefits are guaranteed by a life insurer.

Social security programs like the Canada Pension Plan, Québec Pension Plan, and the pension provided by the federal Old Age Security Act.

.02 The standards in sections 3100 through 3600 apply to all such advice, including wind-up, hypothetical wind-up and solvency valuations, while the standards in section 3700 apply only to the valuation of a pension plan registered under the Income Tax Act (Canada) which is being wound up, fully or partially, actually or hypothetically, including a solvency valuation.

.03 An actuary's advice on the financial position or financial condition of a pension plan may relate to items such as

its funding,

the application to its funding of the limitations in the federal Income Tax Act *(Canada)* and of the requirements of pension plan legislation,

its solvency, as required by pension plan legislation,

its financial statements,

its accounting in the employer's financial statements, or

the allocation or distribution of its assets if it is wound up or if all or part of the employer's operations are disposed of or shut down.

.04 The standards in section 3800 apply to an actuary's advice on the computation of commuted values in the circumstances described in subsection 3810.

3200 METHODS

.01 *The actuary should select an asset valuation method and an actuarial cost method which are appropriate for the purpose and circumstances of the work.*

.02 *The actuary should not select a forecast actuarial cost method to value a plan's liabilities for giving advice on its funding if it is a registered pension plan under the Income Tax Act.*

.03 *The actuary should assume that the plan continues as a going concern, but may assume otherwise if wind-up liabilities exceed going concern liabilities, and should assume otherwise if wind-up is imminent.* [Effective December 1, 2002] 1450 3200.08 1710

Valuation of assets

.04 For a going concern valuation, the value of assets may be any of

their market value,

their market value adjusted to moderate its volatility,

the present value of their cash flows after the calculation date, and

their value assuming a constant rate of return to maturity in the case of illiquid assets with fixed redemption values.

Actuarial cost methods

.05 For a going concern valuation, actuarial cost methods include:

~~C~~cost allocation methods, which allocate the cost of projected benefits among time periods. They include attained age actuarial cost methods, entry age actuarial cost methods, aggregate actuarial cost methods, and individual level premium actuarial cost methods.

~~B~~benefit allocation methods, which allocate cost for a time period as a function of the change in accrued benefits during the period. They include the accrued benefit actuarial cost method, the unit credit actuarial cost method and the projected unit credit actuarial cost method.

There are also forecast actuarial cost methods, which allocate cost to the forecast period based on

the liabilities at the end of the period including, if appropriate, benefits for those who become members between the calculation date and the end of the period, minus

the corresponding liabilities at the calculation date, brought forward with interest to the end of the period, plus

the benefits expected to be paid during the period, brought forward with interest to the end of the period.

.06 When using a forecast actuarial cost method, the beginning and ending liabilities may be calculated from the perspective of either a wind-up or a going concern valuation. Where appropriate, the actuary would select a sufficiently long forecast period that the valuation reflects the long term cost allocation pattern.

.07 No provision is needed for expenses to be paid by the employer. In case of doubt, it would be prudent to assume that expenses are paid from the plan's assets.

Imminent wind-up

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.08 The actuary would base advice on a wind-up valuation if there is a definitive or virtually definitive decision to wind-up the plan

made on or before the calculation date and effective after that date, or

made after the calculation date and effective on or before that date.

.09 If the decision to wind up is both made and effective after the calculation date, then the actuary would decide between anticipating and not anticipating the wind-up in accordance with the recommendation for subsequent events. 1520

3300 ASSUMPTIONS

.01 *The assumptions for a going concern valuation of the liabilities of an earnings-related pension plan should include an assumption about members' earnings between the calculation date and*

their dates of termination of active membership in the case of a cost allocation method or benefit allocation method, and 1700 1710 1750

at least the end of the forecast period in the case of a forecast method.

.02 *In the case of a career average plan, that assumption about members' future earnings is needed only if it is relevant to the actuarial cost method selected by the actuary.*

.03 *The assumptions used to value liabilities should be consistent with the asset valuation method selected.* 1710

.04 *The actuary should make provision for any expenses that are expected to be paid from the plan's assets.* [Effective December 1, 2002] 1720 1740

.05 The consistency required by paragraph 3300.03 is achieved if the asset valuation method, when considered in conjunction with the assumed rate of investment return, can reasonably be expected to result in gains and losses ~~which~~ that will offset each other over the long term. In assessing this consistency, the actuary may ignore any margins for adverse deviations or compensating adjustments in related assumptions.

3400 FUNDING

.01 The standards in this section apply to advice on funding a plan. Advice on funding does not necessarily include advice on the effect of a proposed change to a plan.

.02 *The actuary's advice on funding should take account of the objectives of funding and of the relationship between the plan's assets and liabilities.*

.03 *The actuary's advice on funding should take account of the plan's benefits at the calculation date, except that, subject to disclosure, that advice*

> *subject to discussion with the plan administrator, may anticipate an expected amendment to the plan which increases its benefits,*
>
> *in respect of funding between the calculation date and the effective date of a pending amendment to the plan, may disregard that amendment,*
>
> *if the law requires, may disregard certain benefits stipulated in law, but the actuary should, unless*
>
> > *the plan is a "designated plan" that has as members only persons "connected" with the employer (as those two terms are defined in the Income Tax Regulations), and*
> >
> > *the sole purpose of the valuation is to determine the maximum contributions permitted under the Income Tax Act,*
>
> *also reports the funding required in accordance with accepted actuarial practice, and*
>
> *if the law permits, may disregard certain benefits stipulated by the terms of the engagement, but the actuary should also report the funding required in accordance with accepted actuarial practice.*

.04 *The actuary's advice on funding should cover at least the period between the calculation date and the next calculation date.* [Effective December 1, 2002]

Objectives of funding

.05 The objectives of funding a plan in accordance with accepted actuarial practice are 3200.04 3200.08

> the systematic accumulation over time of dedicated assets which, without recourse to the employer's assets, secure the plan's benefits in respect of members' service already rendered, and 3400.08 3400.10
>
> the orderly and rational allocation of contributions among time periods.

Range of Contributions

.06 The actuary's advice on funding may allow a range of contributions.

Anticipated funding of expected amendment

.07 The actuary's advice on funding may, subject to disclosure, anticipate an expected amendment to the plan that increases its benefits~~.~~, ~~For~~for example~~,~~:

~~A~~an amendment to take advantage of scheduled relaxation of a limitation in the federal Income Tax Act on the level of benefits which may be funded, or~~.~~

~~A~~an amendment in accordance with custom. For example, the plan, while nominally a career average pension plan, may effectively have been operating, and may be expected to continue to operate, as a final earnings pension plan as a result of periodic increases in accrued benefits to reflect current earnings.

Deferred funding of pending amendment

.08 If, at the calculation date, an amendment to the plan is definitive or virtually definitive, and if the effective date of the amendment is

during the period for which the report gives advice on funding, then the advice on funding up to that effective date may disregard the amendment, but the advice on funding thereafter would take the amendment into account, or

after the period for which the report gives advice on funding, then that advice may, subject to disclosure, disregard the amendment.

.09 "Effective date of the amendment" is the date at which the amended benefits take effect, as opposed to the date at which the amendment becomes definitive.

Next calculation date

.10 The next calculation date would be the latest date which will be appropriate for the next valuation.

3500 ACCOUNTING FOR PENSION COSTS

.01 The standards in this section apply to advice on accounting for a plan's costs and obligations in the employer's or the plan's financial statements. 1410

.02 *If called for by the engagement, the actuary should select methods and assumptions for the valuation of assets and liabilities that are appropriate to the basis of accounting in the employer's or plan's financial statements, as applicable.*

.03 *The assumptions ~~which~~ that the actuary selects should be best estimate assumptions.*

.04 *With respect to the assumptions, the actuary should report one of the following*

> *the preparers of the financial statements have selected the assumptions and the actuary expresses no opinion on them,*
>
> *the preparers of the financial statements have selected the assumptions and they are, or are not, in accordance with accepted actuarial practice, or*
>
> *the actuary has selected the assumptions and they are in accordance with accepted actuarial practice in Canada.* [Effective December 1, 2002]

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.05 The actuary would reflect the accounting standards specified by the terms of the engagement. For work in Canada, the CICA Handbook and other CICA guidance would usually be specified. In particular, if the actuary is aware at the time of preparation of the report of any subsequent event that makes the entity a different entity after the calculation date, the actuary would report an estimate of the financial effect of such subsequent event, or in the rare circumstance that it is impractical to make such an estimate, include a statement to that effect.

.06 If the preparers of the financial statements select the assumptions and they are not in accordance with accepted actuarial practice, Rule 6 (Control of Work Product) may apply. That is so whether or not the actuary expresses an opinion on the assumptions.

3600 REPORTING: EXTERNAL USER REPORT

.01 *In the case of an external user report on work ~~which~~ that includes a valuation of assets and liabilities, the actuary should summarize the result of the valuation and should*

describe the source and verification of data with respect to members, plan provisions, and assets, and the date at which they were compiled,

describe the data with respect to members,

describe the plan's provisions, including the identification of any expected amendment that has been valued,

disclose subsequent events, whether or not the events are taken into account in the work, and, if there are no subsequent events, include a statement to that effect,

describe the method and assumptions for valuation of the liabilities, and 1820.02

describe the method to value the assets, disclose their value, and, if available, their market value and their value in the plan's financial statements, and provide an explanation of any differences among them.

.02 *If the valuation includes no provision for adverse deviations, the actuary should say so and say why.*

.03 *If the report gives advice on funding, then the actuary should*

describe the actuarial cost method in the case of a going concern valuation and the method to value benefits in the case of a wind-up valuation,

if recommending contributions, describe their determination between the calculation date and the next calculation date,

if contributions are fixed, either

report that the contributions are adequate to fund the plan, or

report the required increase in contributions, the required reduction in benefits, or the combination thereof that will address the funding shortfall,

except where

the plan is a "designated plan" that has as members only persons "connected" with the employer (as those two terms are defined in the Income Tax Regulations), and

the sole purpose of the valuation is to determine the maximum contributions permitted under the Income Tax Act,

disclose the amount of funding needed in accordance with accepted actuarial practice if reporting lower funding for a registered plan in accordance with law or the terms of the engagement,

~~name~~ identify the next calculation date,

disclose any pending but definitive or virtually definitive amendment, the funding of which has been deferred beyond the next calculation date,

in the case of a going concern valuation, describe and quantify the gains and losses between the prior calculation date and the calculation date,

disclose the financial position of the plan if it were to be wound up on the calculation date, unless the plan does not define the benefits payable upon wind-up, in which case the actuary should include a statement to that effect, and

if the report gives advice on funding, the description of assumptions should include the rationale for the selection of each assumption that is material to such advice.

.04 *If the report gives advice on accounting, the actuary should*

describe the actuarial cost method,

describe the method and period selected in connection with any amortization of pension costs,

if the valuation is an extrapolation of an earlier valuation, describe the method and any assumptions for, and the period of, the extrapolation,

state whether or not the valuation conforms with the accounting standards specified by the terms of the engagement, and

either opine that the assumptions used are, or are not, in accordance with accepted actuarial practice in Canada, or state that the actuary expresses no such opinion. 1820

.05 *The report should be sufficiently detailed to enable another actuary to examine the reasonableness of the valuation.*

Statements of Opinion

.06 *If the report gives advice on funding, the actuary should provide the following four statements of opinion, all in the same section of the report and in the following order:*

> ~~*1.*~~ *first, a statement as to data, which should usually be as follows: "In my/our opinion, the data on which the valuation is based are sufficient and reliable for the purpose of the valuation.";* 1530
>
> ~~*2.*~~ *second, a statement as to assumptions, which should usually be as follows: "In my/our opinion, the assumptions are, in aggregate, appropriate for the purpose(s) of ...."; 1730*
>
> ~~*3.*~~ *third, a statement as to methods, which should usually be as follows: "In my/our opinion, the methods employed in the valuation are appropriate for the purpose(s) of ...."; and*
>
> ~~*4.*~~ *fourth, a statement as to conformation, which should be as follows: "This report has been prepared, and my/our opinions given, in accordance with accepted actuarial practice in Canada."* [Effective December 1, 2002]

.07 Where different statements of opinion apply in respect of different purposes of the valuation, the above requirements may be modified but would be followed to the extent practicable.

.08 While a separate statement as to assumptions would generally be included in respect of each purpose of the valuation, the statements as to assumptions may be combined where the statements do not differ between some or all of the valuation's purposes. The report would clearly indicate which statement as to assumptions applies to each of the valuation's purposes.

.09 While a separate statement as to methods would generally be included in respect of each purpose of the valuation, the statements as to methods may be combined where the statements do not differ between some or all of the valuation's purposes. The report would clearly indicate which statement as to methods applies to each of the valuation's purposes.

Data

.10 The description of verification of data would include a description of the main tests of the data's sufficiency and reliability and of any assumptions in respect of insufficient or unreliable data.

Assumptions

.11 The description of assumptions would include a description of each nominal change to the assumptions of the prior valuation and a quantification of their aggregate effect. However, if a plan amendment prompts the actuary to change the assumptions, the actuary may report the combined effect of the amendment and the resultant change in assumptions. 1510.13 1750

Methods

.12 The description of the method to value the assets would include a description of any change to the method of the prior valuation and a quantification of the effect of the change.

.13 The description of the actuarial cost method would include a description of any change to the method of the prior valuation and a quantification of the effect of the change.

.14 For a funding valuation, the description of the actuarial cost method would include a description of

the effect of the selected actuarial cost method on the security of benefits and on the pattern of future contributions,

the options with respect to any shortfall or excess of assets over liabilities, and

any anticipated or deferred funding, any taking account of imminent wind-up and, in the case of anticipated or deferred funding, a quantification of its financial effect on the value of benefits and on the pattern of future contributions.

3700 WIND-UP, HYPOTHETICAL WIND-UP, OR SOLVENCY VALUATION

3710 SCOPE

.01 The standards in this section 3700 apply to the valuation of a pension plan registered under the Income Tax Act which is being wound-up, fully or partially, actually or hypothetically, including a solvency valuation. The standards in sections 3100 through 3600 also apply.

.02 This section is not intended to prescribe the manner in which

the assets would be allocated between jurisdictions in the case of wind-up of a pension plan covering members in several jurisdictions,

final benefit entitlements would be determined,

contributions to a pension benefits guarantee fund would be determined,

funding obligations would be determined, or

assets would be allocated between the employer and the members or between the members themselves.

.03 Rather, those issues would be determined in accordance with the law or the plan provisions, or by an entity empowered thereunder to make that determination. It may, however, be appropriate to use the results of the valuation to address one or more of those issues, or to disclose their resolution in the report.

3720 WIND-UP VALUATION

Assumptions and methods

.01 *The selected assumptions should*

be best estimate assumptions,

be determined as at the cut-off date,

in respect of benefit entitlements that are expected to be settled by purchase of annuities, reflect single premium annuity rates, and

in respect of benefit entitlements that are expected to be settled by lump sum transfer, reflect the recommendations respecting capitalized values.

.02 *The actuary should either*

select and report an explicit assumption regarding the expenses of wind-up and offset the resulting expense provision against the plan's assets, or

justify the expectation that expenses will not be paid from the plan's assets.

.03 *The actuary should take subsequent events up to the cut-off date into account. The actuary should report an undertaking to produce a later report if the actuary expects that a later report date would reveal additional subsequent events.*

.04 *The plan's assets should be valued at liquidation value.*

Reporting

.05 *If the report is preliminary, then the actuary should report that the financial position at settlement may differ from that reported. If the report is final and there has been a preliminary report, then the actuary should explain the differences between the reported financial positions.*

.06 *The actuary should report*

the wind-up date, the calculation date, the cut-off date, and the report date,

a description of the events precipitating the wind-up that affect the terms of the wind-up, the benefit entitlements, or the valuation results,

if the actuary relies upon written direction concerning unclear or contentious issues,

each issue on which the actuary relies on written direction,

the identity and basis of authority of the person providing such written direction, and

the written direction relied upon or, where appropriate, a summary thereof,

the determination and amount of any claims to a pension benefit guarantee fund,

the amount of any claims to a trustee in bankruptcy,

either the detailed individual membership data or an offer to provide them on request to the employer, the plan administrator, or the regulator,

any amendments made since the last valuation report ~~which~~ that affect the distribution of assets or benefit entitlements,

assumptions made about missing data,

where the plan participant has a choice which he/she has not yet made between a transfer value and insuring his/her benefits, the assumptions made regarding such choice,

a description of the post-wind-up contingencies ~~which~~ that affect benefit entitlements,

any benefits that have been insured,

if applicable, the method to allocate assets among classes of liabilities, the method to distribute surplus, the justification of those methods, and their effect,

a summary of the assets by major category,

the actuary's role in calculating capitalized values, the standards for their calculation, and an opinion on whether their calculation is in accordance with accepted actuarial practice in Canada,

whether a recalculation of the value of benefit entitlements is required at settlement, and

the sensitivity of the valuation results to the plan's investment policy and to market conditions between the report date and the settlement date. [Effective December 1, 2002]

Dates

.07 The wind-up date ~~is~~ would be the date of termination of the pension plan as determined by law, the plan provisions, the regulator, or the plan administrator, usually in that order of priority.

.08 The calculation date for the plan's financial position ~~is~~ would usually be the wind-up date. The calculation of the benefit entitlements would not be affected by the choice of the calculation date.

.09 The cut-off date ~~is~~ would be the date up to which subsequent events would be recognized in the valuation.

.10 For a particular member,

the date of calculation of benefit entitlement would depends on the circumstances of the wind-up, the terms of the plan, and the law, and may be the date of termination of employment, the date of termination of membership, the wind-up date, or another date, and

the settlement date is would be the date of settlement of his or her benefit entitlement.

Nature of wind-ups

.11 The purpose of a wind-up valuation may be to determine, or to provide the basis for determining

the financial position of the plan,

the total value of the benefit entitlements of all plan members prior to taking account of the financial position of the plan,

any required additional funding,

the amounts and methods of settlement of benefit entitlements, including any adjustment required due to a wind-up deficit, or

the amount and method of distribution of a wind-up surplus.

.12 Plan wind-up is complex and may take a long time. Months and sometimes years might elapse between the wind-up date and the settlement date. Delay may creates difficulties which that may require a series of reports by the actuary. Since the financial position of the plan would determines whether benefit entitlements can be settled in full, the reflection of subsequent events in each report is would be critical.

.13 For example, between the wind-up date and the settlement date

the wind-up liabilities will would fluctuate if there are fluctuations in interest rates and annuity prices, and

the surplus will would fluctuate if there are fluctuations in interest rates and the assets and liabilities are not matched.

.14 The actuary would usually report the value of the benefit entitlements of all plan members and the financial position of the plan. That report would be filed with the regulator for approval. After that approval, the plan administrator would settle the benefit entitlements.

.15 The actuary may prepare or may be required to prepare a final report after settlement of all benefit entitlements. Such report, if any, would document the distribution of the plan's assets by describing those entitlements and their settlement.

Data

.16 The data ~~are~~ would be the responsibility of the plan administrator. The actuary would, however, report on the sufficiency and reliability of the data, including specifically the capitalized values included in the valuation whether or not the plan administrator was the calculator thereof.

.17 The finality of wind-up would call~~s~~ for the actuary to obtain precise data. The actuary may, in rare circumstances, include contingency reserves in the wind-up valuation of the pension plan with respect to missing plan members, if the actuary has reason to believe that additional members still have benefit entitlements under the pension plan but their membership information is missing. 1340

.18 The reported membership data would include details of the amount and terms of payment of each member's benefits.

Use of another person's work

.19 Some aspects of plan wind-up may be unclear or contentious. Examples are

interpretation of the law,

the determination of the wind-up date,

the members, former members or recently terminated members to be included in the wind-up,

whether or not to assume salary increases in determining benefit entitlements,

eligibility for plant closure benefits and permanent lay-off benefits,

eligibility for benefits payable only with the consent of the employer or plan administrator,

the liquidation value of the plan's assets,

the method to allocate the plan's assets among members,

the allocation of surplus between the employer and the members, and

whether or not wind-up expenses are to be paid from the plan's assets.

.20 To decide those aspects, the actuary may rely upon written direction from another person with the necessary knowledge, such as legal counsel or the employer, or the necessary authority, such as a regulator or the plan administrator. The actuary would consider any issues of confidentiality or privilege that may arise. 1610

Settlement methods

.21 Examples of settlement methods are:

> Determine the capitalized value at the wind-up date and then accumulate the result to the settlement date using the interest rate underlying the capitalized value calculation. This method is often required by law.
>
> Determine the capitalized value at the settlement date based on the benefit entitlements at the wind-up date, but with assumptions for capitalized values at the settlement date.
>
> Determine the percentage of the plan's assets payable at the wind-up date to each member based on the pro rata value of the member's benefit entitlements to the value of all benefit entitlements. The member's percentage ~~is~~ would then be multiplied by the actual value of the plan's assets at the settlement date. This method is sometimes referred to as the "unitization" method.

.22 Under these and other methods, adjustment would be made for benefit payments and/or contributions between the wind-up date and the settlement date.

.23 Accepted actuarial practice provides no guidance on selection of the settlement method. The actuary may rely upon written direction on its selection from the plan administrator or the regulator.

Assumptions

.24 The best estimate assumptions selected would be chosen so as not to distort, favourably or unfavourably, the value of any member's, or former member's, benefit entitlement relative to others.

.25 If a bona fide annuity quotation is unavailable, the actuary may substitute an adjusted capitalized value based on the recommendations for capitalized values. The adjustment would be made in order to approximate more closely ~~approximate~~ an annuity premium by, for example,

> removing the monthly lag in economic indices in the prescribed assumptions for capitalized values,
>
> adjusting the prescribed assumptions to reflect recent historical differences between capitalized values and annuity premium rates, or
>
> adjusting for any commissions payable.

.26 If future benefits depend on continued employment (e.g., the plan is terminating but employment is not), the actuary would consider reflecting contingencies such as future salary increases and termination of employment.

.27 If the plan provides special early retirement allowances that may be reduced if the member has employment income during their term, then the wind-up valuation requires assumptions regarding the likelihood and the amount of the member's future employment income. To extrapolate the plan's historical experience as a going concern ~~is~~ would not necessarily be appropriate in selecting those assumptions. 1730.18

.28 Wind-up expenses usually include

fees related to the actuarial wind-up report,

fees imposed by a pension supervisory authority,

legal fees,

administration expenses, and

custodial and investment management expenses.

.29 The actuary would net wind-up expenses against the plan's assets in calculating the ratio of assets to liabilities as a measure of financial security of the benefit entitlements. However, an exception may be made for future custodial and investment management expenses, which may be netted against future investment return in the treatment of subsequent events. 3720.31

Benefit entitlements

.30 Post-wind-up contingencies may affect benefit entitlements. Examples are

member election of optional forms of benefits,

salary increases, and

change in marital status.

Subsequent events

.31 In contrast to a going concern valuation, in a wind-up valuation all subsequent events would ideally be reflected. This ensures that the financial position of the plan ~~is~~ would be presented as fairly as possible as of the report date. However, it ~~is~~ would be impossible to recognize subsequent events right up to the report date. Accordingly, the actuary would select a cut-off date which is close to the report date.

.32 The actuary would ascertain that no subsequent events that would significantly change the plan's financial position have occurred between the cut-off date and the report date ~~that would significantly change the plan's financial position~~, otherwise the actuary would select a later cut-off date. For clarity, a subsequent event may be material yet not be so significant as to require selection of a later cut-off date.

.33 It may be appropriate to have more than one cut-off date. For example, the actuary may select one cut-off date for the active membership data and another cut-off date for the inactive membership data.

.34 Common subsequent events are

contributions,

expenses paid from the plan's assets,

the actual investment return on the plan's assets,

a change in annuity purchase rates,

a change in assumptions for the calculation of capitalized values,

data corrections, 1520.13

deaths of members, and

elections of optional forms of benefits by members.

.35 An accepted practice for taking account of subsequent events ~~is~~ would be to determine the liabilities as of the cut-off date and then discount such liabilities back to the calculation date at an interest rate equal to the rate of investment return, net of investment expenses, earned on the assets between the calculation date and the cut-off date. The assets would be determined at the calculation date, but adjusted for the subsequent events (such as contributions and non-investment expenses) which affect assets.

.36 There may be situations where, due to the law or practical considerations, subsequent events ~~are~~ would not be recognized, at least in a preliminary report. Current examples of such situations relate to certain reports submitted to the regulator of the Ontario Pension Benefits Guarantee Fund and to reports submitted to the Québec regulator. In such reports, the effect of subsequent events may be quantified in an approximate manner provided that the financial position of the plan as indicated in the valuation report does not have a direct bearing on the members' eventual settlement. Where the effect of subsequent events is provided in a later report, it may be practical in that report to use a calculation date corresponding to the cut-off date.

3730 PARTIAL WIND-UP VALUATION

.01 A partial wind-up occurs when a subset of the members terminates membership in circumstances ~~which~~ that require wind-up with respect to those members. Such wind-up does not apply to the continuing members, although it may be necessary for legal or other reasons ~~to~~ also to value the benefits of the continuing members.

.02 The laws regarding partial wind-ups vary by jurisdiction. As a result, their application ~~can~~ may cause a partial wind-up to range from an insignificant change in the plan to something similar to a total wind-up.

.03 The standards for a partial wind-up ~~are~~ would be the same as the standards for a "full" wind-up. Their application may be easier, however, when the partial wind-up applies to relatively few members. For example,

the standard of materiality for determination of benefit entitlements may be less rigorous for continuing members than for those to whom the partial wind-up applies, and

the standards for reporting may be abbreviated; for example, the reporting of immaterial wind-up expenses is unnecessary.

3740 HYPOTHETICAL WIND-UP VALUATION

.01 This subsection applies to a hypothetical wind-up valuation

to provide an alternative funding basis to a going concern valuation (that is, wind-up is not imminent, but wind-up liabilities exceed going concern liabilities), or

to illustrate the financial position of the plan if it were wound up.

.02 The standards for a wind-up valuation apply to a hypothetical wind-up valuation except

as superseded by the following recommendations and

detailed individual membership data need not be reported.

.03 *The actuary should determine benefit entitlements on the premise that the pension plan has neither a surplus nor a deficit.*

.04 *The actuary should include contingent wind-up benefits in the valuation when the valuation is to illustrate the financial position of the plan if it were wound-up.*

.05 *The actuary should assume that the wind-up date, the calculation date and the settlement date are coincident.*

.06 *The actuary should report any explicit assumption of expenses payable from the plan's assets required to wind-up the plan, including any assumptions with respect to the solvency of the employer in deriving the expense assumption.* [Effective December 1, 2002]

Membership data 3740.09

.07 The precision of the data on plan membership ~~is~~ would be less critical for a hypothetical wind-up valuation than for an actual wind-up valuation.

.08 Since an actual wind-up is not occurring, pertinent membership data may not be available (e.g., actual final average earnings). The actuary would make appropriate assumptions regarding such missing data. For example, it may be appropriate to retroject current earnings based on aggregate historical pay increases in order to estimate final average earnings.

Contingent wind-up benefits

.09 Contingent wind-up benefits are those benefit entitlements ~~which~~ that depend on the circumstances of the wind-up. For instance, some benefit entitlements may apply only if the plan wind-up is concurrent with the closure of a plant or if employment continues. Accordingly, the effect of contingent wind-up benefits on the valuation may depend on the scenario that the actuary postulates. The actuary may postulate any internally consistent scenario, except that a scenario which maximizes wind-up liabilities would be used if the purpose of the valuation is to illustrate the financial position of the plan if it were wound-up.

Subsequent Events

.10 The actuary may reflect subsequent events in the valuation provided that doing so either increases the liabilities or reduces the assets of the plan.

Valuation of assets

.11 It is not necessary to determine the value of assets whose market value is not readily available, unless the value of these assets has a material effect on the financial position of the pension plan.

.12 The actuary may use a reasonable approximation for the market value and disclose the approximation in the valuation report.

Wind-up expenses

.13 Since the actuary would assume that the plan has neither a surplus nor a deficit, wind-up expenses related to the resolution of surplus or deficit issues need not be considered.

3750 SOLVENCY VALUATION

.01 A solvency valuation is a hypothetical wind-up valuation ~~which~~ that is prescribed by legislation and ~~which~~ that imposes a floor to required contributions and a ceiling on what may be transferred out of the plan's assets upon termination of membership.

.02 The actuary would apply to a solvency valuation the standards for a hypothetical wind-up valuation unless

otherwise required by legislation, or

otherwise permitted by legislation and if called for by the terms of the engagement.

.03 For example, in some jurisdictions,

> the actuary may opine that the plan is solvent without making the valuation, but the actuary would then report the assumptions that he or she would use if making the valuation,
>
> the actuary may reflect smoothing in the valuation of the plan's assets or the selection of the investment return assumption, or
>
> the actuary may assume that wind-up does not trigger contingent wind-up benefits, provided that is consistent with the scenario that the actuary postulates and that the actuary also reports the scenario that would result in the highest wind-up liabilities, including a quantification of those liabilities.

.04 Wind-up expenses may be ignored altogether in a solvency valuation if their inclusion would not decrease the solvency ratio below 100%. If included in the valuation, wind-up expenses would be deducted from the plan's assets in calculating the solvency ratio. 1310 1320 3740.09

3800 PENSION COMMUTED VALUES

3810 SCOPE

.01 The standards in this section 3800 apply to an actuary's advice on the computation of commuted values, including commuted values to be paid from a pension plan that is registered under an Act when the method of settlement is a lump sum payment in lieu of an immediate or deferred pension resulting from death or individual termination of plan membership except for the specific circumstances that are described below in paragraph 3810.03. In particular, the standards in this section 3800 apply,

in a jurisdiction whether or not there is legislation in that jurisdiction that specifically provides for portability of pension benefit credits,

regardless of limits imposed by the Income Tax Act (Canada) on amounts that may be transferred to other tax-sheltered retirement plans, and

under a reciprocal pension agreement between plan sponsors where the result of the reciprocal agreement is either to establish a pension amount determined on a defined contribution basis or to establish an account balance under a defined contribution provision of a plan, whether the account balance is to be converted immediately or subsequently into a pension.

.02 The standards in this section 3800 also apply to the determination of a lump sum payment from the pension plan in lieu of an immediate or deferred pension to which a plan member's former spouse is entitled after a division of the member's pension on marital breakdown.

.03 The standards in this section 3800 do not apply,

under a reciprocal pension agreement between plan sponsors where the result of the reciprocal agreement is to provide defined pension benefits for the plan member,

to the determination of commuted values of pensions and deferred pensions payable from pension arrangements that are not registered under an Act,

to the conversion of defined pension benefits to a defined contribution arrangement where there is no termination of active employment,

to the determination of commuted values of pensions that have commenced payment and where commutation is at the discretion of the member, except as explicitly required under paragraphs 3810.02 or 3860.01, or

when calculating the capitalized value of pension benefits for actuarial evidence purposes, pursuant to part 4000, where such value does not relate to a commuted value payable from a registered pension plan.

Act

.04 For the purposes of this section 3800, "Act" means a pension benefits standards act of a province or the federal government of Canada or the Income Tax Act (Canada).

Retirement Compensation Arrangements

.05 Since Retirement Compensation Arrangements (RCAs) are not required to be registered under the Income Tax Act (Canada), this section 3800 applies to commuted values payable from an RCA only if the RCA is registered under a pension benefits standards act of a province or the federal government of Canada.

3820 METHOD

.01 *The commuted value should be independent of the financial position of the pension plan at the valuation date.*

.02 *The actuary should establish the period for which the commuted value applies before recomputation is required, taking into account the requirements of applicable legislation and the plan rules. Commuted values paid after the end of such period should be recomputed on the basis of a new valuation date.*

.03 *The commuted value should be adjusted for a reasonable rate of interest, taking into account the requirements of applicable legislation, between the valuation date and the first of the month in which the payment is made.*

.04 *The commuted value should reflect the plan member's full benefit entitlement as a deferred or immediate pensioner, as may be applicable, determined under the terms of the pension plan. In the case of a deferred pensioner, the commuted value should include the value of the death benefit that would have applied before commencement of the deferred pension.*

.05 *The actuary should not calculate a commuted value using methods or assumptions that produce a commuted value smaller than the value computed in accordance with this section 3800.* [Effective April 1, 2009]

Valuation date

.06 The valuation date means the date as of which a value is being computed. Generally, this would be the date upon which the plan member becomes entitled to an immediate or deferred pension resulting from death or individual termination of plan membership, or as of such other date as may be determined either by legislation, by the plan rules, or by a plan administrator who is empowered to do so, on which the right to receive a commuted value becomes effective.

.07 In the event that recomputation is required in accordance with this standard, the actuary would establish a new valuation date. The actuary would make calculations at the new valuation date in accordance with the standard in effect on the new valuation date.

Conditions attached to payment

.08 Applicable legislation or the plan provisions may attach conditions to the payment of a portion of the commuted value when the plan is less than fully funded on a plan termination basis.

Benefit entitlement

.09 Where, at the valuation date, a plan member has the right as a deferred or immediate pensioner, as may be applicable, to optional forms of pension or optional commencement dates, and where such right is contingent on an action that is within the member's control and where it is reasonable to assume that the member will act so as to maximize the value of the benefit, the option that has the greatest value would be used in the determination of the commuted value. For example, where a member has terminated employment and, upon application, is eligible for a particular benefit that has a value, it is reasonable to assume that, upon acquiring expert advice, the member will apply for the benefit.

.10 However, where such right is contingent upon an action that is within the member's control and where it is not reasonable to assume that the member will act so as to maximize the value of the benefit, an appropriate allowance would be made for the likelihood and timing of such action. For example, where a member is continuing in employment and is entitled to an unreduced pension that commences upon termination of employment, it may not be reasonable to assume that the member will immediately terminate employment in order to maximize the value of the benefit. In determining the likelihood and timing of such action, the actuary may use group data, and the actuary would be prepared to justify the allowance that has been made.

.11 The commuted value determined by the actuary using these assumptions made in accordance with the preceding paragraphs 3820.09 and 3820.10 may prove to have recognized certain potential entitlements that are never realized, or may prove to have disregarded certain entitlements that ultimately provide value.

Alternative methods and assumptions

.12 The actuary may calculate a commuted value on methods and assumptions that differ from those prescribed in this standard only if

the resulting value is larger, and

such value is required by the plan terms or applicable legislation, or by a plan administrator who is empowered to specify the basis on which commuted values are to be determined.

3830 DEMOGRAPHIC ASSUMPTIONS

.01 *Except for situations specifically noted below, the actuary should assume,*

separate mortality rates for male and female members, and

if the valuation date is on or before January 31, 2011, mortality rates equal to the UP-94 Table projected forward to the year 2020 using mortality projection Scale AA[1] *(UP-94@2020), or*

if the valuation date is on or after February 1, 2011, mortality rates equal to the UP-94 Table with generational projection using mortality projection scale AA.

.02 *No adjustment should be made to reflect the health or smoker status of the member.*

.03 *The current age of the plan member should be used when valuing an immediate pension.*

.04 *If the plan provides a contingent benefit only to the person who is the plan member's spouse at the date of termination of membership, the actual age of the spouse, if any, should be used in the computation. If this information cannot be obtained, an appropriate proportion married and age difference between the plan member and spouse should be assumed.*

.05 *Where the plan provides a contingent benefit to a plan member's spouse and a change in the member's marital status after the valuation date is relevant to the determination of the commuted value, the actuary should make an appropriate assumption concerning the likelihood of there being an eligible spouse, and the age of that spouse, at the time of death.*

.06 *When valuing deferred pensions, including deferred pensions for a plan member who may also be entitled to an immediate pension, the normal retirement age should be used, except in the situation where the terminated plan member has the right to elect an earlier commencement date and the consequent early retirement pension exceeds the amount that is of actuarial equivalent value to the pension payable at normal retirement age. The retirement age should be determined in a manner consistent with paragraph 3820.09.* [Effective April 1, 2009]

.07 The demographic assumptions would be the same for all types of immediate and deferred pensions.

[1] The UP-94 Table and Projection Scale AA were published in the Transactions of the Society of Actuaries, Volume XLVII (1995).

Mortality

.08 The actuary would calculate commuted values that do not vary according to the sex of the plan member where the actuary is required to do so by applicable legislation or by the provisions of the plan or by the plan administrator if the administrator is so empowered by the provisions of the plan. In this case, the actuary would adopt a blended mortality approach by either developing a mortality table based on a combination of male and female mortality rates, or computing the commuted value as a weighted average of the commuted value based on male mortality rates and that based on female mortality rates. The relative proportions of males versus females would be appropriate for the particular plan.

.09 If the requirement that commuted values do not vary according to the sex of the plan member is legislated and applies only to benefits earned after a particular date or only to a subgroup of plan members, the actuary may extend the use of a blended mortality approach to commuted values of benefits earned prior to such date or to commuted values of benefits of all members.

3840 ECONOMIC ASSUMPTIONS

.01 *The actuary should select economic assumptions that vary depending on whether the pension is fully indexed, partially indexed or non-indexed.*

.02 *If the valuation date is on or before January 31, 2011, the actuary should select economic assumptions that depend on the reported rates for the applicable CANSIM series for the second calendar month preceding the month in which the valuation date falls. If the valuation date is on or after February 1, 2011, the actuary should select economic assumptions that depend on the reported rates for the applicable CANSIM series for the calendar month immediately preceding the month in which the valuation date falls.*

.03 *The actuary should calculate two interest rates, one applicable to the first ten years after the valuation date and the second applicable to all years thereafter.*

.04 *The commuted value of a fully or partially indexed pension should be at least equal to the commuted value applicable to a non-indexed pension in the same amount and having similar characteristics.*

.05 *The actuary should determine from the CANSIM series the following three factors.*

CANSIM Series	Description	Factor
V122542	7-year Government of Canada benchmark bond yield, annualized (final Wednesday of month)	i_7
V122544	Long-term Government of Canada benchmark bond yield, annualized (final Wednesday of month)	i_L
V122553	Long-term real-return Government of Canada bond yield, annualized (final Wednesday of month)	r_L

Note that the factors determined above are not the reported CANSIM series, but the annualized value of the reported figure.

.06 *The actuary should also determine a fourth factor, calculated as:*

$$r_7 = r_L * (i_7 / i_L)$$

.07 *The actuary should determine the interest rates from the following.*

	Non-Indexed	Indexed
First 10 Years	$i_{1\text{-}10} = i_7 + 0.90\%$	$r_{1\text{-}10} = r_7 + 0.90\%$
After 10 Years	$i_{10+} = i_L + 0.5 * (i_L - i_7) + 0.90\%$	$r_{10+} = r_L + 0.5 * (r_L - r_7) + 0.90\%$

.08 *The actuary should calculate the commuted value of a non-indexed pension using a two tier interest rate of*

$i_{1\text{-}10}$ *for the first ten years and* i_{10+} *thereafter.*

.09 *The actuary should calculate the commuted value of a pension that is fully indexed to increases in the Consumer Price Index using a two tier-interest rate of*

$r_{1\text{-}10}$ *for the first ten years and* r_{10+} *thereafter.*

.10 *For pensions that are partially indexed to increases in the Consumer Price Index, the actuary should determine the implied rates of increase in the Consumer Price Index in the first 10 years and thereafter that make the above assumptions for non-indexed and fully indexed pensions internally consistent. The actuary should then determine the rates of pension escalation that are produced by applying to those implied rates of increase in the Consumer Price Index the partial indexing formula of the plan. The actuary should determine the adjusted interest rates applicable to partially indexed pensions by appropriately reducing on a geometric basis the non-indexed rates of interest to reflect the rates of pension escalation.*

.11 *Where increases in pensions are related to increases in the average wage index, the actuary should assume that the average wage index will increase at rates that are one percentage point higher than the implied rates of increase in the Consumer Price Index.*

.12 *A pension that is indexed according to an excess interest approach involves increases that are linked to the excess of formula A over formula B, where A is some proportion of the rate of return on the pension fund or on a particular class of assets, and B is a base rate or some proportion of the rate of return on another asset class. In determining the interest rates under formula A and formula B, the actuary should use the interest rate applicable to a non-indexed pension as a proxy for the rate of return on the pension fund or on any particular asset class for which the rate of return is expected to be equal to or greater than the non-indexed interest rates determined in accordance with paragraph 3840.07.*

.13 *Prior to calculating the commuted value, the actuary should round the rates of interest determined in accordance with this subsection 3840 to the nearest multiple of 0.10%. The actuary should round only the interest rates to be used in the calculation of the commuted value. The actuary should not round any rates of interest, increase or escalation used in calculations prior to the final step of the determination.* [Effective April 1, 2009]

Pension index frequency

.14 For an indexed pension, the actuary would apply the indexed interest rates as determined above without adjustment only if the frequency of indexing is equal to the payment frequency. Reasonable approximations may be used to calculate an adjustment that takes into account the specific circumstances of the situation regarding payment frequency, indexing frequency, and time and amount of the first increase.

Pension indexed on an excess interest formula

.15 If the pension is indexed on an excess interest formula and the particular asset class is one for which the rate of return is expected to be less than the non-indexed interest rates determined in accordance with paragraph 3840.07, the actuary would appropriately reduce the rate of interest to reflect the actuary's expectation of the difference between the non-indexed interest rates determined in accordance with paragraph 3840.07 and the rate of return on the particular asset class. In determining the expected rate of return on a particular asset class for this purpose, the actuary would be guided by the current economic environment as well as long-term historical experience.

Other modifications

.16 Where benefit adjustments are based on one of the above approaches but are either modified by applying a maximum or minimum annual increase, with or without carry forward of excesses or deficiencies to later years, or modified by prohibiting a decrease in a year where the application of the formula would otherwise cause a decrease in pension, the actuary would adjust the interest rates otherwise applicable, based on the likelihood of the modification causing a material change in the pension payable in any year. In determining such likelihood, the actuary would be guided by the current economic environment as well as long-term historical experience. The actuary would be prepared to justify any such adjustment or lack of adjustment to the interest rates.

.17 Where increases in benefits are not determined by reference to increases in the Consumer Price Index, the actuary would ensure that the commuted value is not inconsistent with the values of non-indexed pensions and fully indexed pensions.

Alternative calculation method

.18 For pensions that are either fully or partially indexed, rather than using the implicit approach described above, the commuted value may be determined explicitly by indexing each expected payment based on the indexing rate that makes the assumptions for non-indexed and fully indexed pensions, prior to rounding under paragraph 3840.13, internally consistent.

3850 DISCLOSURE

.01 *When communicating the amount of the commuted value of a member's pension, the actuary should provide*

a description of the benefit entitlements involved,

a description of the actuarial assumptions used in determining the commuted value and the rate of interest to be credited between the valuation date and the date of payment,

a statement of the period for which the commuted value applies before recomputation is required,

when the payment of a portion of the commuted value is subject to a condition based on the financial position of the plan, the additional contribution required for the payment of the full commuted value to be made or the recommended schedule for payment of the balance of the commuted value, if applicable, and

a statement as to whether the commuted value has been computed in accordance with this standard of practice.

.02 *Where the commuted value has not been determined in accordance with this standard of practice, the actuary should clearly state that the calculation is not in compliance with this standard and disclose all areas of noncompliance and the reasons for the noncompliance.*

.03 *When communicating to the plan administrator an actuarial basis to be used in determining commuted values, the actuary should provide a statement that the actuarial basis is in accordance with this standard of practice.*

Disclosure of plan values which differ from this standard

.04 *In a situation where the use of commuted values (called plan values in this subsection 3850) that are different from those computed in accordance with this section 3800, is required by the plan terms or applicable legislation, or by a plan administrator who is empowered to specify the basis on which commuted values are to be determined, the following disclosure requirements are applicable:*

> *if the plan values are lower, the actuary should disclose that the commuted values so calculated are in accordance with the plan or the applicable legislation but not in accordance with the standard, or*
>
> *if the plan values are higher, the actuary should disclose that the commuted values so calculated are in accordance with the plan or the applicable legislation and the standard.*

.05 *Where the actuary is required to calculate commuted values that do not vary according to the sex of the plan member, and where that requirement applies only to benefits earned after a particular date or only to a subgroup of plan members, the actuary should describe the extent to which the actuary's blended mortality approach has been extended to benefits earned before the particular date or to benefits of all members.*

.06 *Where the actuary uses assumptions or methods described in this standard to calculate a commuted value in a situation where this standard does not apply, the actuary should not state or imply that the commuted value has been computed in accordance with this standard.* [Effective April 1, 2009]

3860 REDUCED LIFE EXPECTANCY

.01 The standard in this subsection 3860 applies to an actuary's advice on the computation of commuted values, from a registered pension plan, where the right to receive the lump sum is based on subsection 51.1 of the regulations to the *Ontario Pension Benefits Act*. This standard may also be applicable in other directly comparable situations.

.02 This standard does not apply where the right to receive a lump sum is not conditional upon medical certification, under legislation or plan provisions, even if the former member is known to be terminally ill.

.03 All standards set out in preceding subsections of section 3800 apply, except as superseded by the following recommendations.

.04 *The commuted value should be calculated as of the date of the medical certificate specifying that the former member has life expectancy less than two years , even if other conditions for payment of the benefit (such as spousal consent) are not met until a later date.*

.05 *The commuted value should be adjusted for interest and benefits paid to the date of payment.*

.06 *The computation should not be adjusted to reflect the actual death or change in health of the former member after the valuation date. However, if a former pension plan member becomes eligible for immediate commencement of a pension after the date of the medical certificate and prior to payment of the benefit, this eligibility should be reflected in the calculation.*

.07 *If the former member is entitled to a commuted value transfer based on plan provisions or legislation that is not conditional on reduced life expectancy, the amount payable should be the greater of the amount calculated in accordance with this subsection 3860 and the amount computed in accordance with subsections 3820 through 3840 without regard to shortened life expectancy.* [Effective April 1, 2009]

Benefit Entitlement

.08 The commuted value would reflect the plan member's full benefit entitlement as a deferred or immediate pensioner, as may be applicable, determined under the terms of the pension plan.

There are three possible cases:

(a) a former member with deferred pension entitlement, not eligible for immediate commencement of pension.

In this case, the commuted value would reflect the present value of the death benefits that would be payable in respect of the former member. For this purpose, the value of the death benefit would be calculated as of the valuation date, assuming the former member died as of the valuation date.

(b) a former member with deferred pension entitlement, eligible for immediate commencement of pension.

In this case, the lump sum value would be the greater of the amount determined as in (a) above and a value determined as if the ~~individual~~ member had retired at the date of valuation and elected the most favourable combination of the highest surviving spouse pension permitted by the plan (if there is an eligible spouse) and the longest guaranteed period available under the plan. This value ~~sh~~would be determined as for pensioners in (c) below.

(c) a former member in receipt of pension.

In this case, the commuted value would reflect the present value of pension payments for a period certain of four months from the valuation date, any additional guaranteed payments and any survivor benefits potentially payable.

Disclosure

.09 When communicating the amount of the commuted value of a member's pension, the actuary would also provide a description of the survival period assumption.