



FINAL

**STANDARD OF PRACTICE FOR DETERMINING
PENSION COMMUTED VALUES**

Effective date: September 1, 2004

COMMITTEE ON PENSION PLAN FINANCIAL REPORTING

FEBRUARY 2004

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MEMORANDUM

TO: All CIA Fellows, Associates and Correspondents practising in the area of pension plans
FROM: Luc Farmer, Chairperson of the Practice Standards Council
DATE: February 23, 2004
SUBJECT: **Standard of Practice for Determining Pension Commuted Values**

Attached is the final version of the Standard of Practice for Determining Pension Commuted Values (the CV Standard), which has been approved by the Practice Standards Council (the PSC) at its meeting on February 3, 2004 for an interim period of up to three years effective September 1, 2004.

The PSC is satisfied that the CV Standard meets the requirements of due process within the Institute for the adoption of standards of practice. This includes both the current and prior due processes (the CV Standard was initially proposed under the prior due process). In coming to this conclusion, the PSC considered each of the requirements in both due processes. The PSC had the most difficulty in determining if the requirement for “general acceptance” had been met. In that determination, the PSC considered the following critical issues:

- The discount rate assumption under the CV Standard is based on a two-tier variable rate system, covering the first ten years, and beyond ten years, using yields under CANSIM series as reference points. This replaces the previous methodology, which used a single variable for the first fifteen years, followed by a flat annual rate of 6% (non-indexed) or 3.25% (indexed.)

Although the two-variable rates basis is acceptable to a large majority of our members, a significant minority favours the previous methodology.

- The discount rate assumption provides for an addition of a net adjustment of 0.50% for both indexed and non-indexed pensions. The previous standard provided for an adjustment of 0.50% for non-indexed pensions and 0.25% for indexed pensions.

The PSC is satisfied that there is general acceptance for this level of adjustment within the membership. The PSC noted, however, that the standard itself does not identify any specific reason for the adjustment. It appears that different groups of actuaries agree on the need for an adjustment but arrived at this conclusion based on different reasons (such as security and liquidity considerations, ability to replicate benefits in the annuity market, fairness to ongoing plan members, and employer credit risk). The PSC need not, and does not, endorse any single reason for the adjustment but is satisfied that there is general acceptance for this level of adjustment.

- The CV Standard does not apply to the determination of the value of a pension entitlement on marriage breakdown. Those values continue to be governed by the Practice-Specific Standards for Actuarial Evidence (the AE Standard). The discount rate assumption currently incorporated in that standard is consistent with the previous commuted value standard. The Committee on Actuarial Evidence (the AEC), which has the mandate to recommend changes to the AE Standard, has indicated that it cannot agree to a recommendation for the updating of the AE Standard in line with the CV Standard.

The PSC considered these issues in depth, discussed them at each monthly meeting over several months, and reached the following conclusions:

- “General acceptance” does not require that there be only one rationale for a position that is acceptable to a large majority of the membership; a compromise position is sufficient, especially if key internal and external stakeholders find it acceptable.
- In arriving at the final decision, minority positions need to be seriously considered but once there has been full consultation on the issues, a judgment must be made on whether or not general acceptance has been attained.
- There can be differences between the CV Standard and the AEC standard if they are rooted in theoretical or practical reasons. However, the respective standards must be consistent as to the fundamentals.
- Because of the current market conditions, there is not a major difference in values resulting from the different approaches. Thus the PSC has a window of opportunity to thoroughly examine and resolve the lingering issues. It would be appropriate to take advantage of this window as long as it is long enough not to cause administrative problems for regulators and pension plan administrators.

The PSC, therefore, approved the CV Standard, but only for an interim period of up to three years. During this period it will take actions to resolve the issues and to ensure consistency, if justified, between the CV Standard and the AE Standard. This will lead to either the reconfirmation or the revision of the CV Standard and the AE Standard.

In the remaining memo, we have summarized the process that preceded the approval of the CV Standard by the PSC.

The Committee on Pension Plan Financial Reporting (PPFRC) issued a Discussion Draft of the proposed standard in April 2001, along with a feedback request form. The Discussion Draft was discussed at the April 2001 Pension Seminar and at the June and November 2001 CIA meetings. In November 2001, the PPFRC requested additional feedback regarding the draft standard.

After the PPFRC’s extensive review of the comments, an Exposure Draft was prepared and released in April 2002, not only to all CIA members but also to numerous external stakeholders.

The Exposure Draft was discussed at the April 2002 Pension Seminar and the June 2002 CIA meeting in Halifax. The PPFRC prepared a Communication to Members in February 2003 to assist the PPFRC in ascertaining the membership’s consensus on three issues. The results of this Communication were discussed at the April 2003 Pension Seminar.

After extensive review of the comments received, the following changes were made to the Exposure Draft in creating this final CV Standard:

- The effective date is proposed to be September 1, 2004.
- The mortality assumption is a projected static mortality table. Specifically, it is the UP-94 Table projected to the year 2015 (UP-94@2015). This static table reflects some future mortality improvement, but the improvement reflected is not equivalent to the assumption of mortality improvement forever.
- The net adjustment to the CANSIM series is decreased to 0.50% from 0.75%.
- The Appendix has been merged into the body of the CV Standard.
- Various minor wording improvements were incorporated.

These changes reflect the feedback received from the membership and none of the changes are considered to be significant.

Note that, in accordance with Section 2, the CV Standard does not apply to Retirement Compensation Arrangements (RCAs) that are not registered under a provincial pension benefits standards act since RCAs are not “registered” under the Income Tax Act.

Because the process for revising the CV Standard commenced prior to the adoption of the Consolidated Standards of Practice, the CV Standard is not in CSOP format. It will be revised to conform to the CSOP format.

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SECTION 1 – INTRODUCTION

The Practice Standards Council of the Canadian Institute of Actuaries has approved the following recommendations for the practice of a member (hereinafter called **actuary**) when engaged to compute, or recommend the basis to be used for the computation of, the commuted value of a pension payable from a pension plan (hereinafter called a **plan**) that is registered under either a pension benefits standards act of a province or the federal government of Canada or the Income Tax Act (Canada) (hereinafter called an **Act**).

The commuted value of a pension payable from a plan is herein called the **commuted value** of the pension.

The values determined in accordance with this standard do not represent the only method of determining the value of the entitlement of a plan member or a plan member's beneficiary (hereinafter collectively called **plan member**). However, smaller commuted values are not considered to be in accordance with the Standard. Larger commuted values are considered to be in accordance with the Standard provided that they are 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.

SECTION 2 – APPLICATION

This standard generally applies to 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 which are described below in paragraphs (e) through (j). In particular, the standard applies:

- a) In a jurisdiction whether or not there is legislation in that jurisdiction which specifically provides for portability of pension benefit credits;
- b) Regardless of limits imposed by the Income Tax Act (Canada) on amounts that may be transferred to other tax-sheltered retirement plans;
- c) 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 money purchase basis or to establish an account balance under a money purchase provision of a plan, whether the account balance is to be converted immediately or subsequently into a pension; and
- d) 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.

This standard does not apply:

- e) 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;
- f) To the determination of commuted values of pensions and deferred pensions payable from pension arrangements that are not registered under an Act;
- g) To the conversion of defined pension benefits to a money purchase arrangement where there is no termination of active employment;
- h) To the determination of commuted values in the event of certified shortened life expectancy;
- i) To the determination of commuted values of pensions which have commenced payment and where commutation is at the discretion of the member, except as explicitly required under (d) above; or
- j) To the determination of the value of a pension entitlement on marriage breakdown.

This standard of practice supersedes all previous standards, including the *Recommendations for the Computation of Transfer Values from Registered Pension Plans* effective September 1, 1993.

This standard of practice is effective on the effective date noted on the front cover.

More specifically, this standard of practice applies to all pension commuted value determinations where the valuation date is on or after the effective date of this standard.

SECTION 3 – GENERAL PRINCIPLES

A. Reflect Financial Market Conditions

The underlying principle in this standard is that the commuted value should, to the extent possible, reflect financial market conditions as of the valuation date and the value the market places on payments made in the future. In view of the length of the period involved and the inherent complexities of financial markets, estimation of future market conditions is a difficult task and the commuted value determined by the actuary using these recommendations may ultimately be proven to have been either insufficient or excessive to produce the defined benefit.

B. Independent of Plan's Financial Position

The commuted value computed by the application of this standard is independent of the financial position of the pension plan at the valuation date. 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.

C. Valuation Date

The valuation date means the date as at which a value is being computed. Generally, this will be the date on 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.

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. The commuted value calculated in accordance with this standard 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. Commuted values paid after the end of such period should be recomputed on the basis of a new valuation date.

D. Benefit Entitlement

The commuted value must 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. The death benefit that would have applied before commencement of a deferred pension should be reflected.

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 which 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 which has the greatest value should 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.

However, where such right is contingent upon an action which 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 should 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 should be prepared to justify the allowance that has been made.

The commuted value determined by the actuary using these assumptions may prove to have recognized certain potential entitlements that are never realized, or may prove to have disregarded certain entitlements that ultimately provide value.

SECTION 4 – ACTUARIAL ASSUMPTIONS

There are many types of immediate and deferred pensions, but two distinct classes or types have to be considered separately. The two classes are:

- nonindexed pensions
- indexed pensions

Indexed pensions are those that increase periodically to reflect part or all of the increase in the Consumer Price Index since the previous increase, or since pension benefit determination in the case of the first such increase.

A. Demographic Assumptions

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

Mortality:

Except for situations specifically noted below, the actuary should assume:

- Separate rates for male and female members, and
- Mortality based on the UP-94 Table projected forward to the year 2015 using mortality projection Scale AA (UP-94@2015).

The mortality rates required to be used under this Standard will be reviewed on a regular basis.

The actuary may 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 should 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 should be appropriate for the particular plan. 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.

No adjustment shall be made to reflect the health or smoker status of the member.

Proportion married and age and mortality of spouse:

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.

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.

In the event that the actuary is required to calculate commuted values that do not vary according to the sex of the member, and the actuary has developed a mortality table for the member based on a combination of male and female mortality rates, and if the plan provides a contingent benefit to the member's spouse, the approach for combining male and female mortality rates for the spouse should be consistent with the approach used for combining male and female mortality rates for the member. This may be illustrated by an example. Suppose that the actuary has adopted a mortality table for the plan member that is based on a combination of 80% male mortality rates and 20% female mortality rates, and that the actuary is valuing a joint and survivor pension. The actuary should then use 20% male mortality rates and 80% female mortality rates for the spouse. If applicable, an adjustment should be made to the mortality rates for the spouse in respect of same sex spouses (e.g. if 50% of the males in the plan are assumed to have same sex spouses, the mortality rates for the spouses should be 60% male and 40% female in the above example). If the actuary assumes that husbands are three years older than their wives on average, the assumed spouse's age would be 1.8 years younger than the member, regardless of the sex of the member (that is, 80% times -3 plus 20% times +3).

Retirement age:

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

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 which is of actuarial equivalent value to the pension payable at normal retirement age.

The retirement age should be determined in a manner consistent with Section 3D.

B. Economic Assumptions

The economic assumptions will vary depending on whether the pension is fully indexed, partially indexed or nonindexed. The commuted value of a fully or partially indexed pension should be at least equal to the commuted value applicable to a nonindexed pension in the same amount and having similar characteristics. The interest rates, prior to rounding, should be determined as follows:

The basis used will be a two-tier system, covering the first ten years, and beyond ten years. Both indexed and nonindexed pensions will be valued using the two-tier system.

The CANSIM series used will be:

CANSIM Series	Description	Symbol
B14070 (V122542)	7 year Gov't of Canada benchmark bond yield, annualized	i_7
B14072 (V122544)	Long term Gov't of Canada benchmark bond yield, annualized	i_L
B14081 (V122553)	Long term real return Gov't of Canada bond yield, annualized	r_L

Note that the symbols provided do not reflect the reported CANSIM series, but the annualized value of the reported figure. In respect of a valuation date in a specific month, the applicable CANSIM series rate is the reported rate for the second calendar month preceding the month in which the valuation date falls.

A further factor, r_7 the theoretical yield on a 7-year Real Return Government of Canada bond, if such a bond existed, will be calculated as follows:

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

The interest rates for the two tiers will be determined as follows:

	Non-Indexed	Indexed
First 10 Years	$i_{1-10} = i_7 + 0.50\%$	$r_{1-10} = r_7 + 0.50\%$
After 10 Years	$i_{10+} = i_L + 0.5 * (i_L - i_7) + 0.50\%$	$r_{10+} = r_L + 0.5 * (r_L - r_7) + 0.50\%$

For fully indexed pensions, the indexed interest rates in the above table may be applied without adjustment only if the frequency of indexing is equal to the payment frequency. Alternatively, each individual payment may be indexed using implied inflation as determined by the formula set out in the following paragraph, and then discounted using the nonindexed interest rates. Reasonable approximations may be used that take into account the specific circumstances of the situation regarding payment frequency, indexing frequency, and time and amount of the first adjustment. For example, in the situation of monthly payments, annual indexing, and with the first annual adjustment a year from now, the resulting annuity factor could be adjusted by multiplying it by $[1 - 11/24 * u]$, where u is the implied inflation. Implied inflation should be determined by the formula set out in the following paragraph.

For pensions that are partially indexed to increases in the Consumer Price Index, the actuary should determine the underlying rates of increase in the Consumer Price Index in the first 10 years and thereafter that make the above assumptions for nonindexed and fully indexed pensions internally consistent. The formula to be used for each future year is:

(1 + the deemed rate of Consumer Price Index increase in the year) equals
 (1 + the interest rate applicable to that year for nonindexed pensions) divided by
 (1 + the interest rate applicable to that year for fully indexed pensions).

The actuary should then determine the rates of pension escalation that would be produced by applying those rates of increase in the Consumer Price Index to the partial indexing formula of the plan. The interest rates applicable to nonindexed pensions should be appropriately reduced on a geometric basis to reflect the rates of pension escalation.

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 above mentioned underlying rates of increase in the Consumer Price Index each year. The interest rates applicable to nonindexed pensions should be appropriately reduced on a geometric basis to reflect the rates of pension escalation.

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. The interest rate in each period should be equal to the interest rate applicable to a nonindexed pension reduced geometrically by the excess, if any, of the interest rate under formula A over the interest rate under formula B. In determining the interest rates under formula A and formula B, the interest rate applicable to a nonindexed pension should be used as a proxy for the rate of return on the pension fund and on any particular asset class for which the rate of return is expected to be equal to or greater than the rate of return on long-term provincial bonds. If the particular asset class is one in which the rate of return is expected to be less than the rate of return on long-term provincial bonds, the interest rate should be the interest rate applicable to a nonindexed pension, appropriately reduced to reflect the actuary's expectation of the difference between the rate of return on long-term provincial bonds 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 should be guided by the current economic environment as well as long-term historical experience.

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 should 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 should be guided by the current economic environment as well as long-term historical experience. The actuary should be prepared to justify any such adjustment or lack of adjustment to the interest rates.

Where increases in benefits are not determined by reference to increases in the Consumer Price Index, the actuary should ensure that the commuted value is not inconsistent with the values of nonindexed pensions and fully indexed pensions. For example, where an excess interest approach is used and is based on the excess of the fund rate of return over a low base rate such as 3.00%, the value should not differ materially from the value of a fully indexed pension.

The unrounded rates of interest determined as above should then be rounded to the nearest multiple of 0.25%. For all calculations, including the calculation of interest rates for partially indexed pensions, no rounding is done before the final step of the determination.

A deferred pension that is indexed only after the expiry of the deferral period should be valued using the interest rate applicable to a nonindexed pension during the deferral period and the interest rate applicable to the particular type of indexed pension after the commencement date of the pension.

A deferred pension that is indexed only during part or all of the deferral period should be valued using the interest rate applicable to the particular type of indexing in the appropriate portion of the deferral period, and the interest rate applicable to a nonindexed pension thereafter.

SECTION 5 – DISCLOSURE

When communicating the amount of the commuted value of a member's pension, the actuary shall provide:

- a) a description of the benefit entitlements involved;
- b) 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;
- c) a statement of the period for which the commuted value applies before recomputation is required;
- d) 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
- e) a statement as to whether the commuted value has been computed in accordance with this standard of practice.

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

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

The following disclosure requirements are applicable where the use of commuted values (herein called **plan values**), that are different from those computed according to the preceding sections of this standard of practice, are 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:

- a) 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; and
- b) 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.

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.

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.