

## Memorandum

**To:** All Fellows, Affiliates, Associates and Correspondents of the Canadian Institute of Actuaries and other interested parties

**From:** Geoffrey I. Guy, Chairperson  
Actuarial Standards Board  
Charles C. McLeod, Chairperson  
CV Working Group

**Date:** June 27, 2008

**Subject:** **Exposure Drafts for revised Standards of Practice for Pension Commuted Values (Section 3800) and Capitalized Value of Pension Plan Benefits for a Marriage Breakdown (Section 4300)**

**Comment deadline:** August 29, 2008

*Document 208043*

### INTRODUCTION

The attached exposure drafts were approved by the Actuarial Standards Board (ASB) on June 13, 2008. These drafts reflect the thinking of the ASB on the date they were approved but the final ASB position will be influenced by comments, which we invite, from both members and non-members. This is particularly relevant for the proposed changes to the Marriage Breakdown Standards (Section 4300) which represent more significant changes from current practice than the proposed changes for Pension Commuted Values (Section 3800).

### BACKGROUND

A Notice of Intent to revise the existing standards was published on March 26, 2008.

A report on “Pension Value Consistency”, prepared by the Task Force on Pension Value Consistency (the “Task Force”) was published at the same time as the Notice of Intent. (The Task Force was originally created by the Canadian Institute of Actuaries (CIA) and it continued work under the direction of the ASB upon the latter’s creation). As noted in the Notice of Intent, “the recommendations from the task force will be considered in developing the exposure drafts, but are not to be regarded as a blueprint for the final standards.”

Also as noted in the Notice of Intent, “to ensure that there is an orderly process and that the various parties’ perspectives are fully considered, a project manager has been appointed. Rob Smithen has agreed to fill this role and will report directly to the ASB. He will be consulting actively with the respective practice areas and the task force.”

At the ASB’s direction, Rob Smithen initially contacted Stephen Butterfield, Chairperson of the CIA Committee on Pension Plan Financial Reporting (PPFRC) and Mike Kavanagh, Chairperson of the CIA’s Committee on Actuarial Evidence. They were asked to consider how they would put forward recommended changes to the current Standards respecting pension commuted values (Butterfield) and capitalized values of pension plan benefits for marriage breakdown purposes (Kavanagh). Stephen Butterfield suggested that the PPFRC in its entirety could meet and suggest such changes, while Mike Kavanagh asked Jay Jeffery to lead a small group of marriage breakdown actuarial experts (the Marriage Breakdown Working Group) to recommend changes in their Standard. These two groups produced substantial papers that recommended the changes to their respective current practice-specific Standard of Practice that they felt were important, together with the rationale behind their proposals. The ASB thanks them for the extensive work they have done to help the ASB formulate its current position.

The ASB also received a submission from a representative of the Task Force that provided additional rationale for the recommendations of the Task Force (see Appendix for a brief summary).

The ASB invited representatives of the Task Force, the PPFRC and the marriage breakdown practitioners to one of its meetings to ensure that ASB members understood the perspectives of the three committees/task forces.

In response to the Notice of Intent, written comments were also received from a few other groups including the Office of the Superintendent of Financial Institutions (OSFI), and these are summarized in the Appendix. All were considered by the ASB in its deliberations.

As is required in the ASB’s Due Process, a “Designated Group” (also referred to as the “CV Working Group” or the “Working Group”) was appointed by the ASB to work with the project manager to understand any technical issues involved and to determine the best way forward for the ASB to come to a decision with respect to revised Standards. This group currently consists of Geoff Guy, Malcolm Hamilton, Charles McLeod, David Short and Rob Smithen (ex officio). All of the members of this Designated Group, except Rob Smithen, are also members of the ASB.

The attached exposure drafts reflect the current thinking of the CV Working Group (the Designated Group) and the ASB. Most of the proposed changes to current Standards relate to the mortality and economic (interest and inflation) assumptions, but some of the wording of the marriage breakdown Standards of Practice has been changed to be consistent with the wording of the pension Standards of Practice (in particular, some of the text is now italicized). The rationale for the proposed assumptions is described in this memo, and comments are invited from CIA members and other interested parties. In a few cases, alternatives are provided and we welcome comments on these alternatives. We encourage pension actuaries to distribute this memorandum and the exposure draft(s) to their clients who have defined benefit pension plans and we encourage marriage breakdown practitioners to do the same with family law lawyers. Actuaries and others

wishing to comment on the exposure drafts should direct their comments to Rob Smithen at [rob.smithen@actuaries.ca](mailto:rob.smithen@actuaries.ca) with a copy to Lynn Blackburn at [lynn.blackburn@actuaries.ca](mailto:lynn.blackburn@actuaries.ca) by Friday, August 29, 2008. Rob Smithen and Lynn Blackburn will be responsible for reporting to members of the CV Working Group and the ASB on the content of any submissions received.

A meeting will be scheduled for the ASB to hear the perspectives of marriage breakdown practitioners. No other meetings are planned, but public meetings and/or a webcast will be held if sufficient interest is expressed to Rob Smithen.

The ASB hopes to make final decisions regarding the new Standards in October 2008, with a target effective date of February 1, 2009. Early implementation would be permitted only for pension solvency valuations and hypothetical wind-up valuations with an effective date on or after the publication of the final Standards – and only if permitted by the appropriate pension regulator.

## **GENERAL COMMENTS**

The issue of the value of a pension has been a controversial one within the actuarial profession for many years. Some history about this controversy is contained in the report of the Task Force. In considering this subject, the ASB was presented with three main opinions.

The PPFRC, in general, favours a market-based approach to determining the value of a pension (i.e., what would the market pay for the series of pension payments?). Their recommendations mainly covered updating of existing assumptions as opposed to any major change in approach.

Marriage breakdown practitioners, in general, also favour the continuation of the approach inherent in their current (but different) Standards. The submission by the Marriage Breakdown Working Group contains the following summary:

“The current economic assumptions applicable to Marriage Breakdown valuations are very well accepted both externally (plan members, spouses, the family law bar and judges) and internally (within the Actuarial Evidence practice area), and there is no pressure from the affected parties for major changes to the economic assumptions, or for harmonization with the commuted value assumptions. Despite the above, the Marriage Breakdown Working Group is prepared to accept the recommendations in the Task Force report for harmonized mortality and economic assumptions for personal mortality and economic assumptions for personal pension benefit valuations only if they are adopted for both Marriage Breakdown and Commuted Value purposes. ... If the Task Force recommendations are not adopted for both purposes at this time, then the attempt at compromise and harmonization has failed. In this event, the (Marriage Breakdown) Working Group recommends immediately updating the mortality assumptions for Marriage Breakdown valuations to UP94@2020, and leaving the economic assumptions for Marriage Breakdown valuations unchanged from the present basis pending a more comprehensive review to take place over the next year.”

The Task Force was asked to try to recommend a common mortality/economic basis for both pension and marriage breakdown purposes and it did so. The ASB spent considerable time debating whether this common basis, which moved away from a market approach for certain elements, was appropriate. The ASB concluded that, at least for purposes of calculating the commuted value of pension benefits, the market approach made the most sense and noted that this has been in use since 2005. It felt that moving to a long-term, average interest rate, as recommended by the Task Force, would impose actuarial “guesswork” over a market discipline and therefore rejected it. It did, however, find much merit in the report. The ASB was influenced by the report in coming to its proposals for the approach and specific assumptions regarding the interest rate for marriage breakdown.

The general approach of the ASB was to consider what would be the most appropriate mortality and economic assumptions, based on the input from the Task Force, the PPFRC, and the Marriage Breakdown Working Group, as well as other submissions made. Our current thinking follows.

### **PENSION COMMUTED VALUES (Section 3800)**

In developing the proposed assumptions for pension commuted values, the ASB agreed with and accepted most of the recommendations contained in the PPFRC submission.

The overall rationale in developing the exposure draft was that the commuted value should be the economic value of the obligations discharged by the pension plan by paying commuted values to the beneficiaries. In general, the assumptions represent a market-based approach. In addition, the basis for calculating values should be fair to everyone.

Although the supply of certain bonds (e.g., very long dated bonds) is limited, such bonds do exist and we consider it better to base assumptions on the current yield of those bonds rather than to use, say, a fixed ultimate rate based on historical averages.

### **Mortality**

The proposed assumption is the UP 1994 Table projected to 2025.

In developing this assumption, the ASB was guided by the analysis and comments made by the PPFRC in its submission. The following comments are extracted from that submission.

“The consensus of the PPFRC is that the UP1994@2008 mortality rates likely overstate the average current mortality rates for retired members under Canadian defined benefit pension plans. However, at this time, there is not enough data available in the public domain to prove this fact or to recommend an alternate table. Therefore, the UP1994@2008 table is the preferred table to represent current mortality.”

“Scale AA is the only published table of mortality improvements in general use in Canada. ... There is evidence that past improvements in pensioner mortality rates have been higher than Scale AA. ... Though the PPFRC is concerned that Scale AA may understate future levels of mortality improvements, there is presently no reasonable alternative to using Scale AA improvement rates.”

“... A (projection) period of at least 15-20 years is likely required to reflect the average duration of pensions to which the CV standard applies.”

The ASB understands that the CIA is undertaking a study into pensioner mortality and we encourage its completion as soon as possible. Based on the comments of the PPFRC, it appears that future pensioner mortality could be lighter than the proposed assumption (the UP 1994 Table projected to 2025). If it is found that the proposed mortality assumption does not provide adequately for expected longevity, the impact on pension commuted values could be material.

Serious consideration was given by the ASB to proposing the use of a generational mortality table, since this represents the fairest and most appropriate approach to calculating pension commuted values. We also believe that it would be best to use Canadian data for Canadian mortality projections (the UP1994 table is largely based on U.S. mortality experience). No such generational mortality table exists at present. When a reliable generational mortality table is available, the ASB will likely propose its use for the purpose of pension commuted value calculations. Plan administrators should be aware of this and be prepared to update their systems to accommodate generational tables in the future.

### **Interest**

The proposed assumption is the same as at present except that the addition to the relevant Government of Canada benchmark bond yield is increased from 50 bps to between 75 bps and 100 bps.

There are three main issues – the structure (two-tier or three-tier), the ultimate interest rate, and the addition to the benchmark rate, with the first two of these being related. As was the case with the mortality assumption, the ASB was influenced by the analysis and comments made by the PPFRC in its submission. This submission was accompanied and supported by analysis by two actuaries and one of their colleagues (a CFA) who work for an investment counseling firm.

The ASB did not think that a move from the current two-tier structure to a three-tier structure was justified, and it would create extra complexity. In addition, the ASB did not favour the use of a fixed ultimate rate as proposed by the Task Force. Although a fixed ultimate rate would dampen volatility, it is inconsistent with the prime rationale of developing a fair market value of a pension.

The ASB then considered the appropriate addition to the benchmark yields. The following comments are extracted from the PPFRC submission.

“There are three rationales commonly put forward for including a spread over Government of Canada bond yields:

1. Credit risk
2. Investment expenses
3. Liquidity

The PPFRC rejects both of the first two rationales. We believe that members of registered pension plans should consider their pensions to be secure, with little or no risk of default. We believe that this has been borne out by history, where very

few registered pension plans have reneged on the pension promise and even in situations where the promise has not been fulfilled, the loss has generally only been a fraction of the total entitlement. Therefore, we believe that any adjustment for credit risk should be so small as to be ignored.

With respect to investment expenses, we are assuming that the pension promise would be settled on a one-time basis determined as the market price at the time of settlement. There is no provision in this theory for reinvestment and, therefore, no need to include any provision for re-investment expenses. So, provision for investment expenses would be limited to the one-time transaction of exchanging the pension promise for a lump sum amount. The cost is minimal and, as with the credit risk charge, should be ignored. Therefore, the PPFRC is of the opinion that any spread should reflect a premium for liquidity.”

The ASB agreed that any spread over Government of Canada bond yields should reflect only a premium for liquidity. Pensions resemble a fixed income instrument, with virtually no liquidity – the pension is liquid only in a very limited number of situations. Thus when (if) a pension is liquidated upon termination, the plan participant receives a benefit.

As noted above, the PPFRC approached some investment professionals (Damon Williams FCIA, CFA, Jim Cole FCIA, CFA and Graeme Robertson FCA) with a major investment counseling firm for background on liquidity spreads. The letter provided to the PPFRC (which represents the views of the authors, not necessarily their employer) contains the following conclusion: “Overall, for the purposes of adding a static spread to government of Canada bond rates as a liquidity premium for the conversion of an illiquid pension benefit promise into a liquid cash lump sum, a spread in the range of 75 to 120 bps would seem justifiable in most market conditions.”

The ASB considered that the appropriate discount rate should be based on the yields on very secure and very illiquid fixed income securities. The most likely candidates for the source for those yields are very high quality commercial mortgages. However the yield information on those securities is not in the public domain. At this time the ASB favours an addition of 75 bps or 100 bps (or an intermediate amount) to the yield on Government of Canada bonds to reflect liquidity. This range is selected as being justifiable in most market conditions – it was not influenced by the recent level of large spreads. The ASB recognizes that there is a range of different views on this matter and it invites comments, with reasons, on the amount of the addition.

Consideration was also given to an addition that varied with market conditions (e.g., based on the spread between Government of Canada bonds and those on a group of other fixed income investments). This was rejected because of the additional complexity that would result and the lack of a reliable indicator, but we would be interested in comments on this possible approach.

## **Inflation**

The proposed assumption reduces the break-even inflation rate (“BEIR”), the difference between yields on non-indexed and real-return Government of Canada bonds by 0.25%. The result is that the addition to the relevant Government of Canada bond yields is 25 bps more than the addition for non-indexed bonds.

Fully indexed pensions resemble a fixed income instrument, with very long-dated, indexed cash flows and virtually no liquidity. However, there are almost no available securities with these characteristics. Despite this, the yield on Government of Canada real-return bonds are a reasonable starting point provided that an adjustment is made for liquidity (i.e. an addition to the yields is made). It is believed that the liquidity premium in Government of Canada real-return bonds is at least as great as the liquidity premium inherent in non-indexed Government of Canada bonds, so a larger addition is warranted for indexed pensions. This aligns with the observation that the BEIR has been observed to overstate future inflation and that the BEIR tracks above most explicit forecasts of inflation. For these reasons, the proposed addition to the relevant Government of Canada bond yields is between 100 bps and 125 bps, i.e. 25 bps higher than for non-indexed pensions. The ASB invites comments, with reasons, on the amount of the addition.

### **Time Lag**

No change is proposed to the current Standard of Practice as described in paragraph 3840.02 (i.e., a two-month time lag).

Consideration was given to reducing the time lag by one month (as recommended by the Task Force). This was rejected partly due to possible administrative burdens for plan administrators and partly because the impact of such a change would likely be small.

### **Rounding**

Paragraph 3840.13 of the current Standards of Practice requires that the interest rates calculated in accordance with subsection 3840 be rounded to the nearest multiple of 0.25%. The exposure draft proposes that rounding be done to the nearest multiple of 0.10%.

## **CAPITALIZED VALUE OF PENSION PLAN BENEFITS FOR A MARRIAGE BREAKDOWN (Section 4300)**

The ASB spent considerable time debating whether there should be one Standard of Practice for determining the value of a pension (i.e., not distinguishing whether the purpose of the determination is the commuted value of a pension or the value of a pension for marriage breakdown purposes). The strong feeling of the ASB was that a single Standard would be preferable unless there were good reasons to the contrary.

There is one assumption, namely the interest assumption, where the ASB thinks that there is a good reason for the assumption to differ between the pension commuted value Standard of Practice and the marriage breakdown Standard of Practice. Our rationale follows and we invite comment on this.

As discussed earlier, the underlying philosophy of the pension Standard of Practice is that the commuted value should be the economic value of the obligations discharged by the pension plan by paying commuted values to the beneficiaries. That is the best way to ensure that all the members of the pension plan, both withdrawers and others, are treated consistently. In the vast majority of marriage breakdowns no cash leaves the pension plan, so there is no need to consider the issue of equity to other plan members. The marriage breakdown practitioners argued strongly that the courts look to a replacement value when determining fairness in determining pension plan values (i.e., what would the

spouse logically be able to invest in to replace the lost pension?). The ASB agreed that the replacement philosophy makes sense in a marriage breakdown situation.

The marriage breakdown practitioners strongly oppose the market rate philosophy of the pension practitioners for the reasons stated above and also because of the limited market for such instruments.

Based on the above philosophy the ASB is proposing that the assumptions for determining pension values in a marriage breakdown situation be identical to those for determining the commuted value of pension payments except for the interest assumption. Note that in some cases courts will impose their own valuation methodology in a marriage breakdown situation that will deviate from CIA Standards of Practice. Subsection 1310 provides for this.

### **Interest**

Having decided on a theoretical approach to determining the interest rate (i.e., replacement value), the ASB was faced with a decision as to how to apply the theory in practice. The Task Force had spent considerable time coming up with an interest basis that it felt made sense in a replacement theory environment and that replicates the theoretically more accurate, but more complex result obtained by using the Canada strip bond yield curve. The ASB agreed conceptually with the Task Force's proposal and is suggesting it as the basis for marriage breakdown purposes with some possible adjustments – but invites comments.

The specifics of the proposal are to use a three-tier interest rate structure, with one rate for the first five years, another rate for the next 15 or 20 years, and a fixed rate thereafter. The first two rates would be based on Government of Canada bond yields, essentially as proposed by the Task Force. The initial rates for the first 20 or 25 years would both be increased by 50-75 basis points (comments, with reasons, invited) to reflect the ability of individuals to put together a portfolio of assets that with reasonable assurance can outperform government bonds in yield.

Comments are invited on the advantages of a 20 or a 25 year variable rate structure; the ASB considered both alternatives but does not have a clear preference at this time.

The fixed rate is 6% (an assumption that has historically made sense over time and one that appeals to both marriage practitioners and courts) increased by the same 50-75 basis points addition as for the first 20 or 25 years, i.e. the rate after 20 or 25 years would be 6.5% to 6.75%.

For indexed pensions, the ASB agreed with the Task Force that an explicit inflation assumption should be used to increase the pension payments, and that those payments should be discounted at the same interest rates as for non-indexed plans. The inflation assumption is described below.

For convenience, the proposals for other assumptions are stated here.

Mortality: UP 1994 Table projected to 2025.

Inflation: As with the assumption for pension commuted values, the proposed assumption reduces the implied inflation rate (the difference between yields on non-indexed and real-

return Government of Canada bond yields) by 0.25%. Consistent with the use of a fixed interest rate after 20/25 years, a fixed inflation rate of 3% after 20/25 years is proposed.

Time lag: No change is proposed to the current Standard as described in paragraph 4330.10 of the current Standard (i.e., a two month time lag).

Rounding: Paragraphs 4330.10 and 4330.12 of the current Standards require that the interest rates calculated in accordance with subsection 4330 be rounded to the nearest multiple of 0.25%. The exposure draft proposes that rounding of interest rates and the expected rate of inflation be done to the nearest multiple of 0.10%.

## **OTHER COMMENTS**

### **Volatility**

Some submissions made reference to the increased volatility that could result, for example, from the use of market-based interest rates at longer durations as opposed to fixed ultimate rates. The ASB concluded, particularly in respect of pension commuted values, that reflecting the market value of a pension was more important than reducing volatility.

### **Plan-Specific Assumptions**

The ASB considered, but rejected, the concept that commuted values should be plan specific (e.g., a plan member leaving a well-funded pension plan or the pension plan of a plan sponsor with a high credit rating should receive a larger commuted value than a plan member leaving an underfunded plan or the pension plan of a plan sponsor with a low credit rating). As noted earlier, the credit risk associated with payments from a pension plan has historically been very low. In addition, ASB members had difficulty in rationalizing why two individuals, with identical pension benefits and identical other characteristics (e.g., age), who left two different pension plans should receive different commuted values. As well, legislation in a number of jurisdictions already provides for deferment of a portion of commuted payments where the pension plan is underfunded.

### **Solvency Valuations**

A major application of the pension commuted value Standards is, of course, the determination of the amount due to an individual who leaves a pension plan. In addition, however, the commuted value Standards affect the funding of many pension plans under both federal and provincial legislation. It was pointed out to the ASB that higher commuted values can and do result in higher funding requirements than lower commuted values – which in turn could encourage the termination of defined benefit plans by plan sponsors. The ASB recognizes this but considers that the solution to this should be for the regulators to review funding requirements, not for commuted values to be lower than market value. In addition, the ASB observed that a principal cause of the higher funding requirements is the current low interest environment.

## APPENDIX

### Summary of Received Comments and Submissions

The Notice of Intent contained the following sentences:

“... specific comments on the task force report are not requested at this time, but members and other interested parties may wish to comment on it when the proposed Standards are published in June.”

“Parties wishing to comment on this notice of intent should direct those comments to Rob Smithen ... by April 30, 2008.”

The PPFRC and the AE Committee were asked specifically to recommend what changes they would make to their current Standards and why. They were also asked to comment on all aspects of the Task Force report. As noted earlier, submissions were received from the PPFRC, a Working Group of Marriage Breakdown practitioners and a representative of the Task Force.

Comments made by the PPFRC and the Marriage Breakdown practitioners are referred to in the main part of the memorandum. The submission from the representative of the Task Force included the following comments:

- Arguments as to why a three-tier structure (in which the third tier is a fixed rate) is “more faithful to market indicators” than the two-tier structure in the current pension Standards.
- Reasons for differences between (a) the spread between real and nominal yields and (b) the market’s expectations of inflation.
- The addition to the risk-free rate of return should reflect liquidity and administration but not credit risk.
- “The Task Force consensus on the 0.5% spread was reached a year ago. Since then, liquidity spreads have increased dramatically. From today’s perspective, I might give more serious consideration to a spread that varies with market indicators.”
- “... I prefer a static projection of mortality over a generational projection” (gives reasons why future mortality improvement is or may be unpredictable). “The Task Force proposal to extend mortality projection on the UP94 table from 2015 to 2020 should be regarded as nothing more than a placeholder to maintain the status quo, pending a more thorough review.”

The ASB’s responses to the issues raised by the PPFRC, the Marriage Breakdown practitioners and the Task Force representative, as well as the other submissions summarized below, are covered in the main part of the memorandum.

OSFI was specifically asked for input and provided a formal submission to the ASB that included the following comments:

- “... we believe that the ASB should give considerable weight to the recommendations of the Task Force report as opposed to views that no changes should be made.”

- “... there are potential benefits to plan members and sponsors in avoiding excessive or artificial fluctuations from month to month.”
- “... we would urge the ASB to support the Task Force report recommendation for the discount rate in the adoption of a new CV Standard.”
- “We find these (the Task Force’s) arguments about the limitations of the Canadian real-return bond market for the purpose of determining a market proxy for inflation to have considerable merit, and we support the Task Force report proposal of having an explicit inflation assumption.”
- We support the Task Force report recommendation of updating the mortality projection of the UP94 Table to 2020 and agree that the use of generational mortality tables for the purpose of calculating commuted values is not warranted at this time.”
- “... the two-month lag (re use of bond yield indicators) should be retained in the new Standard.”
- “... we support the proposal (in the Task Force report) to change the rounding of the discount rates to the nearest 0.1%”

Written submissions were also received from the following:

- A. A group of four actuaries who work for or consult to plan sponsors of very large pension funds. Their key message was that “a commuted value must represent the fair economic value of the deferred pension that is being commuted.” (This submission was supported by a fifth actuary.)
- B. An actuary commenting on behalf of all fellows and associates at a major pension consulting firm. The main comments were:
  - “Whatever we decide to do, or not to do, must serve the best public interest (more particularly the key stakeholder publics, the plan members’ and the plan sponsors’) and that is what must drive our decision.”
  - “It is embarrassing for our profession to have two separate bases for commuted value and marriage breakdown purposes.”
  - Three different recommended bases (i.e., Task Force, PPFRC, Actuarial Evidence) for the calculation of pension values would be a “recipe for professional gridlock.”
  - They did not want to see “spurious accuracy, as well as greater volatility, complexity and administrative pain/cost.”

As noted in this memorandum, the CV Working Group and the ASB reviewed all submissions and considered all of them in their deliberations.