



---

AMERICAN ACADEMY *of* ACTUARIES

---

*Objective. Independent. Effective.™*

March 8, 2017

Mr. Robert Neis  
Benefits Tax Counsel  
Department of the Treasury  
1500 Pennsylvania Avenue NW, Room 3064  
Washington, DC 20220

**Re: Exposure Draft—Variable Annuity Plans**

Dear Mr. Neis:

The Pension Committee of the American Academy of Actuaries<sup>1</sup> is pleased to provide you with a copy of the exposure draft, released in December 2015, of our forthcoming practice note regarding variable annuity plans. This practice note is intended to provide actuaries with information on current and developing practices and trends in the valuation of obligations for defined benefit plans that include variable annuity benefits.

The scope of the practice note reflects the valuation of variable annuity benefits for various purposes, including statutory minimum funding, lump sum distribution rules, and non-statutory purposes, such as financial reporting.

We are providing this letter to request guidance from the Internal Revenue Service (IRS) and Treasury to resolve uncertainties that exist under the current regulations as to how such plans should be valued for minimum funding and Internal Revenue Code (IRC) §417(e) purposes. In particular, we request guidance confirming that actuaries can determine obligations for these plans for such purposes at the theoretically correct value, recognizing that future benefit adjustments and the corresponding changes in the underlying asset value offset one another. There have also been questions raised recently about how these plans satisfy various aspects of IRC §411, so we address this topic as well.

The requested guidance is important because of the growing interest in variable benefit programs, including variable annuity plans, market-rate cash balance plans, and the proposed multiemployer composite plans. Variable annuity plans adjust plan benefits periodically to

---

<sup>1</sup> The American Academy of Actuaries is a 19,000-member professional association whose mission is to serve the public and the U.S. actuarial profession. The Academy assists public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.

reflect returns on plan assets (or another specified return index) that exceed or fall short of a specified hurdle rate. These plans provide lifetime income to participants like traditional fixed defined benefit plans, but transfer some or all of the investment risk and reward to participants like defined contribution plans. Guidance from Treasury would remove uncertainties and provide an alternative to defined contribution plans for sponsors who are concerned about their financial risk but would like to provide employees with the security of a lifetime income stream.

We are aware that there are currently different views among actuaries on the appropriate way to value these plans in light of existing regulatory guidance. Further, certain variable plan designs incorporate features that limit the variability of benefits (such as caps or floors on benefit adjustments, or the normal operation of IRC §415 limits), which adds further uncertainty.

Given that the variable benefit design is intended to control funded status volatility by limiting the potential for mismatch between assets and liabilities, we believe that all interested parties would be better served by interpreting current law and regulations to allow the flexibility to apply actuarial principles (as discussed in the next section) when measuring the value of these benefits, rather than attempting to force them into a framework that was designed primarily for traditional fixed dollar benefit plan designs. We discuss below how this view may be accommodated within the existing statutory framework.

Given the range of views on how to apply current regulatory guidance to these plans, we request that any additional guidance on this topic not limit reasonable practices that have been used in the past, and provide for reasonable discretion for actuaries and others involved in valuing and administering these plans to account for plan features with some variable element. Covering the full range of issues is beyond the scope of this letter. We would welcome the opportunity to discuss these issues with you in greater detail, in particular with respect to any concerns that Treasury may have regarding statutory impediments to the proposed methodology.

### **Valuation of Obligations**

One of the key issues in determining the liability for variable annuity benefits is how to apply current statutory and regulatory requirements specifying the discount rates to be used for various purposes, in combination with the appropriate projection of those benefits to future points in time. For a traditional defined benefit plan—with benefits denominated in fixed dollars that are not dependent on the value of the plan assets, an external index, or both—this is relatively easy. The expected benefit payments are simply discounted using the required discount rates, and a present value is determined. When the benefits are themselves dependent on the return on plan assets or an outside index, the answer depends on the interpretation of the applicable statutory and regulatory requirements—which, as described below, may be viewed as ambiguous.

The traditional valuation of variable annuity benefits is described in detail in the draft practice note on pages 13–14. Numerous actuarial papers dating back more than half a century have described this theoretical basis, which essentially devolves to the valuation of a **fixed** benefit discounted at the hurdle rate.<sup>2</sup> This method reflects the fact that the amount needed to fund a

---

<sup>2</sup> Or equivalently, an indexed benefit, where benefit indexing is determined by using the discount rate as the assumed return.

variable benefit (that varies in accordance with the return on the assets that fund the benefit) is not sensitive to changes in market interest rates or asset returns. It is only dependent on the hurdle rate defined in the plan (along with demographic assumptions).

When a variable annuity plan is valued using traditional actuarial methodology, the actuary typically makes an assumption as to the expected return on plan assets, and discounts expected benefit payments at that assumed rate. Under that approach, the obligation should be the same regardless of what anticipated rate of return is assumed. For example, if we assume that a plan's assets earn 6% per year, that benefits are adjusted relative to a hurdle rate of 5% per year, and that therefore benefits increase at a rate of roughly 0.95% per year ( $1.06 / 1.05 - 1$ ), we would determine exactly the same obligation as though the plan earned only 5% per year and the benefits did not change at all. This is because the higher benefit in each and every instance is exactly offset by a higher discount rate. To illustrate in mathematical terms,  $\left(\frac{1.06}{1.05}\right) \times \left(\frac{1}{1.06}\right) = \left(\frac{1.05}{1.05}\right) \times \left(\frac{1}{1.05}\right) = \left(\frac{1}{1.05}\right)$ . Any increase in the value of the plan's benefits is exactly offset by the increase in the plan's assets, and any decrease in the value of the plan's benefits is exactly offset by a corresponding decrease in the plan's assets.

We believe that valuing a fixed benefit at the hurdle rate yields the appropriate result. All other factors remaining equal, a plan that is fully funded on this basis will remain fully funded irrespective of changes in the value of the plan assets to which benefit amounts are indexed.

This analysis is, of course, simplified in that it does not reflect certain complicating factors, such as the effect of IRC §415 limits, plan features such as floors or caps on benefit adjustments, administrative practices that incorporate a delay in making benefit adjustments beyond the end of the period for which asset performance is measured, etc. For example, if a participant has accrued a benefit equal to the §415 limit, it may only be possible for the benefit to decrease, not increase, with changes in the plan asset value. We believe that these complications are secondary issues, and that they can be addressed by the application of accepted actuarial principles within an overall valuation framework.

## **Key Areas to Be Addressed**

The Pension Protection Act of 2006 (PPA) and its implementing regulations introduced uncertainty and the need for interpretation in the valuation of variable annuity benefit obligations where benefits vary based on returns on plan assets. The traditional method of valuation raised few issues in the pre-ERISA and immediate post-ERISA environment, when obligations were generally valued using the actuary's best estimate of returns to be generated on the plan's asset portfolio. This assumption was clearly consistent with the methodology described above.

The appropriate method of valuation and assumptions to use becomes less clear when a statutory discount rate is required and/or regulations require use of an actuary's "best estimate" of projected plan benefits based on anticipated asset returns under the plan. It is therefore critical that current regulations be clarified, or further guidance issued, to ensure the proper valuation of obligations for various purposes, including:

- Funding target calculations under the PPA (and subsequent legislation providing for or extending interest rate stabilization);
- Lump sum and other calculations under IRC §417(e); and
- Current liability calculations for multiemployer and Cooperative and Small Employer Charity (CSEC) plans.

## **The Relationship Between Indexing and Discount Rates**

We believe that the appropriate present value of the benefit obligation for a variable annuity benefit is the amount of assets needed to back that obligation. As discussed above, this is the same as valuing fixed benefits at the plan's hurdle rate if benefits are indexed based on the return on plan assets.

Some difference of opinion exists in cases where the variable benefits change based on assets outside of the plan or on an external index, such as the S&P 500 (a plan with benefits that are *independent* of its own asset return), rather than on the plan's own internal rate of return (a plan with benefits that are *dependent* on its own asset return). This issue is further addressed in the draft practice note. For purposes of this letter, we focus on the simpler case of a plan that indexes benefits based on its own rate of return.<sup>3</sup>

While it is mathematically possible to determine the expected benefits using one assumed rate of return while discounting the resulting payment stream using a different rate, the resulting value would not represent an appropriate present value for the obligation. In fact, the result of such a calculation has no inherent meaning. We believe an appropriate valuation model would tie the two rates together so that they depend upon one another. It is not reasonable to assume that benefits can move based on one rate, when they are being discounted (and therefore the underlying assets on which indexing depends are presumed to change) at another rate.

---

<sup>3</sup> The same concepts would apply to a plan that indexes benefits based on a subset of plan assets.

In short, the theoretically appropriate value of a variable annuity benefit obligation is consistent with the traditional method described above. We note that this approach is consistent with the annuity substitution method of valuing variable lump sums for minimum funding purposes under regulations §1.430(d)-1(f)(4)(iii). Specifically, the funding target for a lump sum subject to §417(e)(3) is based on the value of assets needed to back that obligation, determined using the statutory discount rate as of the valuation date, rather than a projected lump sum amount.

### **Differences in Opinion on Effect of Statutory and Regulatory Requirements**

Despite the general consensus belief as to what the appropriate value should be, opinion varies as to whether current law and regulations permit this treatment. While some actuaries believe that current law not only permits, but even supports, this result, others are concerned that current rules actually require something very different. At its heart, this comes down to two differing interpretations of the Internal Revenue Code and accompanying regulations:

#### **Interpretation 1—Expected Return on Assets (Indexing) Should Be Consistent With Discount Rate:**

- The statutory discount rate, whether for IRC §404, §417, §430, or §431, represents a legally mandated “return scenario” that should or must be reflected in all aspects of the liability calculation that depend upon it, including projection of the plan benefits for that purpose. This is consistent with the purpose of those calculations, as the benefits a participant would actually receive under each of those return scenarios would be different. Under this view, the actuary should be permitted to interpret the IRC §430(h)(1) requirement that non-prescribed assumptions must be individually reasonable and in combination offer the actuary’s best estimate of experience under the plan, by considering the return assumption as a function of the discount rate since the plan terms effectively tie these two rates to one another. Such an interpretation would put variable plans on equal footing with other plans in that if plan assets actually earned returns consistent with the discount rate (and other assumptions are also met), the funding target would, in fact, represent the amount needed currently to provide all promised benefits under the plan.
- The plan’s actual asset allocation is irrelevant to determining the amount needed to provide the benefits. Under a traditional defined benefit plan with fixed dollar benefits, any asset gains serve to reduce future sponsor contributions, while losses increase those future contributions. Under a variable annuity plan, the gains increase participant benefits, and no reduction in employer contributions is realized (and vice versa, in the case of asset losses).
- This interpretation is consistent with the long-held generally accepted definition of a “reasonable funding method.” Any other interpretation will generate gains or losses when each actuarial assumption is exactly realized, which violates actuarial principles and extant pre-PPA regulations (§1.412(c)(3)-1(c)(2)). Consider an example of a plan with a 5% hurdle rate that is exactly fully funded based on an assumed rate of return

on assets of 5.5% and a discount rate of 6%.<sup>4</sup> If both of these assumptions are exactly realized over the course of a year (that is, if plan assets earn 5.5% and the discount rate remains at 6%), then liabilities will grow at the 6% rate, while assets will grow at the 5.5% rate, resulting in a plan that is 0.5% underfunded at year-end. Alternatively, if plan assets were to grow at the 6% discount rate (a result that normally would avoid the growth in underfunding in a traditional plan), then liabilities would grow at a rate of 6.5% (the 6% discount rate, plus a 0.5% loss due to benefits growing faster than anticipated), again resulting in a plan that is 0.5% underfunded at year-end. In other words, this combination of assumptions guarantees that the plan's funded status will deteriorate over the course of a year absent additional employer contributions. The only way to avoid this result is to use the same rate for discounting payments and for determining benefit adjustments.

*Interpretation 2—Expected Return on Assets (Indexing) Should Be Independent of Discount Rate:*

- Expected return on plan assets is an independent assumption used to determine the expected future benefit payments, and it should be based on the asset allocation of the fund to which the benefits are indexed and the actuary's best estimate of expected long term returns on those asset classes.
- Current regulations (§1.430(d)-1(f)(3)) can be interpreted to require this approach.
- If the expected return is viewed as a non-prescribed assumption under IRC §430, this assumption is required to be individually reasonable.

As shown in the example above, Interpretation 2 will lead to gains and losses, even if all assumptions are realized. Some practitioners object to this characterization, as this outcome can be anticipated in advance; however, we believe the policy implications are the same. Said another way, required funding will be either more or less than what is actually needed to provide the promised benefit. As the reasonable funding method regulations do not apply to PPA calculations, some may be comfortable concluding that this outcome is not inconsistent with current guidance. Indeed, the current funding regulations include a market-rate cash balance plan example that appears to accept this outcome—at least with respect to those plans (§1.430(d)-1(f)(9), Example 13).

We request clarification by Treasury whether the “expected return consistent with discount rate” approach (Interpretation 1) is acceptable. If necessary, further regulations or guidance permitting the use of consistent discounting and indexing assumptions would be preferable to ensure that the obligations calculated are actually meaningful and sufficient to support the benefits being provided by the plan.

We believe that similar reasoning can be applied to the calculation of minimum required lump sums under IRC §417(e), and plans should be permitted to reflect this view.

---

<sup>4</sup> For purposes of this example, we have simplified the calculation by using a single effective interest rate, rather than the three PPA segment rates. This simplification has no bearing on the conclusion.

## **Additional Topics Regarding IRC §411**

The draft practice note is not exhaustive, and specifically excludes a variety of topics, including nondiscrimination testing, determination of Pension Benefit Guaranty Corporation (PBGC) premiums and related liabilities, contributory plans, participant choice, etc. These issues can be addressed in other forums at some point in the future.

Notwithstanding the above, two important issues recently have come to our attention concerning IRC §411. The first is an apparent focus by the IRS on the application of the accrual rules in connection with determination letter applications for plans with variable annuity benefits. We are concerned that in the absence of specific standards and a good general understanding on the part of all reviewers of what has been, until recently, a relatively rare post-PPA plan design, inconsistent and anomalous determinations may result.

Anecdotally, we believe there are instances in which reviewers have requested that every possible return scenario be reviewed, or that certain caps be set on downward adjustments, before a favorable determination letter would be issued. We do not believe there is any basis for such requests, and they would in fact result in providing above-market adjustments that are potentially age-discriminatory.

We would urge the IRS and Treasury to review such requests and interpret the accrual rules in a manner consistent with similar plans that do not provide for a variable benefit adjustment. For example, a Career Average (or Accumulation) plan that provides for a benefit of 1.0% of annual compensation for each year of service would comply with the 133-1/3% rule of IRC §411(b)(1)(B). We see no reason that adding a variable benefit feature in conjunction with a reasonable hurdle rate to such a formula should in any way affect this compliance.

We believe that this conclusion can be reached for a number of different reasons:

- On a “share” or “units” basis,<sup>5</sup> the formula clearly complies with IRC §411(b)(1)(B).
- Existing regulations (§1.411(b)-1(b)(2)(ii)(D)) require that “all relevant factors used to compute benefits, *e.g.*, consumer price index, are treated as remaining constant as of the beginning of the current plan year for all subsequent plan years.” This requires not taking into account future changes in share or unit values in determining whether the formula is compliant. We believe that this is a reasonable approach as long as the hurdle rate is reasonable.
- In other instances where fluctuations in values and benefits not related to sponsor actions could materially affect a plan’s compliance with IRC provisions, the IRS has specifically excluded those fluctuations in determining the plan’s compliance. One such instance is in the nondiscrimination regulations under IRC §401(a)(4), which specifically disregard

---

<sup>5</sup> In a variable annuity plan, benefits can be expressed in terms of the current annuity amount (disregarding future adjustments) or equivalently on a share, or unit value basis. The share value changes whenever asset returns differ from the hurdle rate, increasing when there is excess return and declining when return falls short of the hurdle rate. Under this framework, the benefit accrued in any given year can be expressed in terms of the number of shares that are equivalent to that year’s accrual. A higher share value therefore results in a lower number of shares accrued.

gains, losses, income, and expenses in determining the allocation tested under the general testing rules for a defined contribution plan (§1.401(a)(4)-2(c)(2)(iii)). While a variable annuity plan is a defined benefit plan, in this particular characteristic it is very much like a defined contribution plan and should be treated similarly.

The second issue concerning IRC §411 is the rule concerning early and normal retirement benefits. IRC §411(a)(9) provides that the normal retirement benefit is the greater of the early retirement benefit under the plan or the benefit under the plan commencing at normal retirement age. This raises some question as to how changes in the payable benefit resulting from investment experience are treated with respect to this provision.

Consider an example of a variable annuity benefit in a defined benefit plan that has a normal retirement age of 65. This plan provides for unreduced benefits at age 62 for participants with more than 30 years of service.

A participant who has more than 30 years of service retires at age 62 and begins collecting an annual benefit of \$10,000. During the next three years, investment results are less than the hurdle rate of the plan and the annual payment declines to \$9,000 at age 65.

Next consider an identical participant who continues working until age 65. This participant experiences a similar decline in the age 62 benefit (from \$10,000 to \$9,000), which is partially offset by additional accruals. This participant retires at age 65 with an annual benefit of \$9,500. Is the benefit payable to this second participant \$9,500 or \$10,000? Consider the following possible analyses:

1. The participant is entitled to no less than the benefit that would have been received if the participant had retired at age 62. At age 62, the benefit would have been \$10,000, but subsequent investment results would have reduced the payable benefit to \$9,000 at age 65. At age 65, the participant is entitled to the better of the current benefit of \$9,500, or the age 62 benefit, which is currently \$9,000.
2. The participant who retires at age 65 is entitled to \$10,000 per year because this is the amount that would have been payable at age 62, and the normal retirement benefit cannot be less than this amount.

The Pension Committee believes that the analysis in No. 2 is faulty because it does not recognize that the accrued benefit in a variable annuity plan is not a fixed annual payment, but rather an amount that varies by year, based on actual investment results compared to the plan's assumed rate. The analysis in No. 1 provides the age 65 retiree with no less at age 65 than would have been received at age 65 if retirement had occurred at age 62. Said differently, retirement plans pay benefits in units. In traditional plans, the unit is dollars. However, this is not so in a variable plan, where the unit is effectively shares. We believe the intent of the law and regulations is that units cannot decrease.

As with any type of plan, regulations are needed to ensure that plan designs are not developed to avoid existing legal requirements or disadvantage specific plan participants. In this case, that

might be accomplished by setting reasonable minimum and maximum bounds on the level of the hurdle rate.

\*\*\*\*\*

We appreciate the Treasury and the IRS giving consideration to these comments. We urge that guidance and, if appropriate, proposed regulations be issued as we have described in this letter, and hope that the practice note we have prepared will be of value to you in your determinations. We will share the final version of the practice note with you in the near future, as soon as it is completed. We would be very interested in discussing with you the topics covered in this letter. Please contact Monica Konaté, the Academy's pension policy analyst (202-785-7868, [konate@actuary.org](mailto:konate@actuary.org)) if you have any questions or would like to discuss these items further.

Respectfully submitted,

Ellen L. Kleinstuber, MAAA, FCA, FSA, EA, FSPA  
Chairperson, Pension Committee  
American Academy of Actuaries

cc: Harlan Weller, Government Actuary, Department of the Treasury