

# Statutory Hybrid Plans

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## A. Background

In the Pension Protection Act of 2006 (“PPA 2006”) which became law on August 17, 2006, Congress addressed certain issues relating to cash balance and other “statutory hybrid” plans. The changes made by PPA 2006 include:

- Requiring plans to provide that, upon plan termination, any variable interest rate (e.g., the rate on 30-year Treasury bonds) used by the plan to credit interest to participants’ hypothetical accounts or to convert account balances to annuities will be averaged upon plan termination;
- Establishing a 3-year vesting requirement for participants in a statutory hybrid plan; and,
- Allowing lump sums to be paid based only on a participant’s hypothetical account balance.

IRS has issued regulations implementing the rules under PPA 2006 for ongoing and terminated cash balance plans and other statutory hybrid plans that have a significant impact on how PBGC administers statutory hybrid plans. First, variable rates become “fixed rates” upon plan termination, i.e., PBGC converts variable rates using an average of the rates used under the plan for the 5-year period before plan termination. Second, in determining and paying de minimis lump sums, PBGC generally uses only the amount of the participant’s account balance at plan termination, instead of comparing the account balance to the present value of the annuity. Lastly, PBGC is providing default rules for plans not in compliance with the PPA 2006 rules.

This Internal Guidance Document conforms to Treasury regulation § 1.411(b)(5)-1, codified in rules issued 10/19/2010 and 9/19/2014. This second edition specifies, pursuant to that regulation, that when a plan’s interest crediting rate is based on the return on the plan’s assets and is to be replaced with the rate under section 430(h)(2)(C) of the Code, the applicable substitution rate is:

- The second segment rate – that is, the interest rate specified under section 430(h)(2)(C)(ii) of the Code –for a statutory hybrid plan whose date of plan termination is during or after the plan year beginning on or after 1/1/2016 (when Treasury’s final rule issued 9/19/2014 became applicable),
- However, PBGC will apply the third segment rate – that is, the interest rate specified under section 430(h)(2)(C)(iii) of the Code – to a statutory hybrid plan whose DOPT is during or before the plan year beginning on or before 12/31/2015 (reflecting the earlier proposed IRS guidance that PBGC had included in its first edition of this Internal Guidance Document).

Moreover, this Internal Guidance Document clarifies that it applies to pension equity plans. This edition of this Internal Guidance Document also makes a number of editorial and formatting changes.

## B. Scope and Effective Date

This Internal Guidance Document applies to cash balance plans, pension equity plans, and other statutory hybrid plans that are subject to the PPA 2006 statutory hybrid plan rules. For most terminated defined benefit plans with a lump-sum based formula, this means that this Internal Guidance Document applies if DOPT was during or after the plan year that begins on or after 1/1/2008. This Internal Guidance Document also applies to any plan created as, or converted to, a statutory hybrid plan on or after 6/29/2005.

For collectively bargained plans that terminate after 1/1/2008 but before the beginning of the 2010 plan year, request guidance by emailing [PSDGuidance@pbgc.gov](mailto:PSDGuidance@pbgc.gov).

For cash balance plans that are not subject to PPA 2006 statutory hybrid plan rules, see Internal Guidance Document Cash Balance Plans (Pre-PPA 2006). Since that Internal Guidance Document does not cover pension equity plans, request guidance by emailing [PSDGuidance@pbgc.gov](mailto:PSDGuidance@pbgc.gov) for pre-PPA pension equity plans.

This Internal Guidance Document is effective upon issuance.

## C. Definitions

### C.1 Definitions of Plan Types and Formulas

**Statutory Hybrid Plan** means a defined benefit plan that contains a statutory hybrid formula, i.e., a lump sum-based formula (or formula with a similar effect) as described under Treasury regulations.

**Lump sum-based formula** means a formula under the terms of which the accumulated benefit of a participant is expressed as the balance of a hypothetical account maintained for the participant (e.g., a cash balance plan), or as the current value of the accumulated percentage of the participant's final average compensation (e.g., a pension equity plan), and includes a formula under which the accrued benefit is calculated as the actuarial equivalent of such a hypothetical account balance or accumulated percentage. A lump sum-based benefit formula that credits interest is subject to IRS Market Rate of Return Rules.

**Cash balance plan** means a defined benefit plan containing a statutory hybrid formula where (i) the accumulated benefit of a participant is expressed as the balance of a hypothetical account maintained for the participant and (ii) the participant's accrued benefit is calculated as the actuarial equivalent of such a hypothetical account balance.

**Pension equity plan (PEP)** means a defined benefit plan containing a statutory hybrid formula where (i) the accumulated benefit of a participant is expressed as the current value of the accumulated percentage of the participant's final average compensation and (ii) the accrued benefit is calculated as the actuarial equivalent of the accumulated percentage. According to IRS Notice 2016-67: "PEPs typically are designed to provide a single-sum distribution equal to the accumulated benefit (that is, the current value of an accumulated percentage of the participant's average compensation) at the time principal credits cease. In addition, for annuity starting dates after principal credits cease, PEPs often provide for increases in the amount of benefits that are payable in order to reflect the time value of money. Some PEPs provide for this increase by explicitly crediting interest on the accumulated benefit after principal credits cease. In the case of such a PEP ("an explicit interest PEP"), a participant is entitled to benefits at an annuity starting date based on the participant's accumulated benefit as of the date principal credits cease, increased by interest credits through the annuity starting date. Other PEPs provide for increases in annuity benefits for annuity starting dates after principal credits cease by applying a deferred annuity factor to the participant's accumulated benefit as of the date principal credits cease. Such a PEP is often referred to as an "implicit interest PEP" because preretirement interest is implicitly reflected in the deferred annuity factor. One example of an implicit interest PEP is a PEP that defines the accrued benefit (that is, the annual benefit payable at a participant's normal retirement age) as the actuarial equivalent of the accumulated benefit determined as of the date principal credits cease (or the current date, if principal credits have not yet ceased), and determines actuarial equivalence using a deferred annuity factor that reflects preretirement interest."

## C.2 Definitions of Rates

**Variable rate** means a rate of interest that is adjusted at least annually under the plan based on an instrument or index that has a floating interest rate, yield, or rate of return, and that otherwise satisfies the requirements of section 204(b)(5) of the Employee Retirement Income Security Act ("ERISA") and section 411(b)(5) of the Code and regulations thereunder. PBGC will also treat as variable rates:

- Rates that are based on the greater of two or more different interest crediting rates, e.g., a fixed rate and a variable rate;
- Rates that were not the same fixed rate **during the entire 5-year period** ending on DOPT, e.g., 4.75% fixed for two years and 5% fixed for three years before DOPT.

**IRS market rate of return rules** mean the market rate of return limitation rules of Section 411(b)(5)(B)(i) of the Internal Revenue Code and Treasury Regulation §1.411(b)(5)-1(d). See F.4.1 below for guidance in cases where the plan may not have satisfied the market rate of return rules.

**Applicable Segment Rate** means the interest rate specified under section 430(h)(2)(C)(ii) of the Code (i.e. second segment rate) if the DOPT of the statutory hybrid plan is during or after the plan year beginning on or after 1/1/2016 or the interest rate specified under section 430(h)(2)(C)(iii) of the Code (i.e. third segment rate) if the DOPT of the statutory hybrid plan is during or before the plan year beginning on or before 12/31/2015.

## C.3 Other Definitions

**Account Balance** means the balance of a hypothetical account maintained for the participant that includes pay credits and interest credits (a cash balance formula) accumulated through a particular date (e.g., DOPT); the current value of an accumulated percentage of the participant's final average compensation (a pension equity formula); or a similar amount.

**Whipsaw Lump Sum** means a lump sum defined under the terms of the plan as equal to the greater of (1) the value of the hypothetical account balance, or a similar amount, and (2) present value of the annuity benefit, in general, using interest and mortality under Section 417(e) of the Code.

## D. 3-Year Vesting

Under the PPA 2006 rules, plans using a statutory hybrid plan formula are generally subject to a 3-year vesting requirement, i.e., if any portion of the participant's accrued benefit is determined under such a formula, the plan must provide that the participant has a nonforfeitable right to 100% of the accrued benefit if the participant has 3 or more years of service.

This requirement applies to the participant's entire accrued benefit under the defined benefit plan, even if only a portion of the benefit is determined under a statutory hybrid benefit formula, e.g., one portion of the benefit is determined under a traditional defined benefit formula and another portion under a cash balance formula, or a traditional defined benefit plan has been converted to a cash balance plan under an A + B formula.

This requirement also applies if a participant is entitled to the greater of two benefits under a plan, one of which is determined under a statutory hybrid benefit formula, even if the statutory hybrid benefit formula produces a smaller benefit than the other formulas. It further applies where there is a statutory hybrid

formula along with a benefit offset among formulas under the plan, or a benefit determined as the greater of a protected benefit under section 411(d)(6) of the Code or another benefit amount.

PBGC will apply the 3-year vesting requirement (regardless of whether the plan was amended to incorporate this requirement) to participants with at least 1 hour of service during or after the 2008 plan year in statutory hybrid plans that were in existence on 6/29/2005 (even if the plan was not a statutory hybrid plan on that date), and to all participants in statutory hybrid plans created on or after 6/29/2005.

## **E. PPA 2006 Termination Rules on Adding Interest Credits, Converting to an Annuity and Calculating the Accrued Benefit**

**E.1. Benefits to Which the PPA 2006 Termination Rules Apply.** Generally, the PPA 2006 termination rules (i.e., PPA 2006 and regulations thereunder) are used to determine benefits with annuity starting dates after the plan's DOPT. A special rule, however, applies to an involuntary termination with a retroactive termination date, i.e., where DOPT is on or before the date of the Notice of Determination ("NOD"). In these cases, PBGC will generally not change the interest crediting rates or conversion factors used by the plan administrator to determine benefits (i.e., under plan provisions that apply absent a termination) for benefits with annuity starting dates after DOPT but on or before the date of the NOD. The same rule applies to a participant who submits a completed application for benefits during this period.

In a distress termination, the PPA 2006 termination rules apply to benefits with annuity starting dates after the proposed DOPT. PBGC generally will not change the interest crediting rate or the conversion interest rate/mortality table used by the plan administrator after the proposed DOPT, except in the following cases:

**E.1.a. Distress Termination Where the Plan Fails to Apply PPA 2006 Termination Rules as of DOPT.** If the plan administrator fails to apply the average interest crediting rate or required conversion factors for annuity starting dates after the proposed termination date, PBGC will re-determine the benefits using the PPA 2006 termination rules.

**E.1.b. Distress Termination Where DOPT is Moved to a Later Date.** If the plan administrator applies the PPA 2006 termination rules for annuity starting dates after the proposed termination date, but the final DOPT is moved to a later date (e.g., a distress termination is delayed or becomes an involuntary termination with a later DOPT), PBGC will re-calculate the benefits using the interest crediting rates or conversion factors that apply under the plan absent a termination, for benefits with annuity starting dates through the final DOPT. (If a distress termination becomes an involuntary termination but DOPT remains the same, the benefits are not re-calculated.)

**E.2. Requirements of the PPA 2006 Termination Rules: General Rule.** When crediting interest to the account balance and determining the monthly annuity benefit, PBGC will follow plan provisions that comply with the PPA 2006 termination rules as described in section E.2 below. To the extent the plan's provisions do not comply with the PPA 2006 termination rules, PBGC will generally use the default rules described in section F below.

**E.2.a. Interest Credits.** A statutory hybrid plan must provide interest credits at rates specified under the plan. Upon termination of the plan, interest credits generally must continue to be added to the participant's hypothetical account until the participant begins to receive benefits.

**E.2.a.1. Variable Rate.** Many plans use a variable rate to determine the plan's interest crediting rate (e.g., indices based on yields on Treasury bonds plus associated margins). The PPA 2006 termination rules (see

Treasury Regulation § 1.411(b)(5)-1(e)(2)) provide that, if the interest crediting rate used to determine the participant's account balance has been a variable rate during interest crediting periods in the 5-year period ending on DOPT, the plan must determine a fixed rate equal to a 5-year average of the rates of interest used under the plan to apply to periods after DOPT (see section E.2.a.2 and section E.2.a.3 below). For purposes of the averaging rules, a variable rate includes any rate that was not the same fixed rate during the applicable interest crediting periods, and interest credits based on the greater of 2 or more rates (e.g., a fixed rate and a variable rate).

**E.2.a.2. Determination of 5-Year Average.** Notwithstanding section E.2.a.3 below, the 5-year average must be based on the arithmetic average of the interest crediting rates used under the plan during an interest crediting period for which the interest crediting date was within 5 years of DOPT, adjusted if necessary to an annual basis. See also section F.1 below.

**Example E-1.** A statutory hybrid plan credits interest annually on December 31, and the plan's DOPT is June 30, 2013. The plan's average interest crediting rate would include the rates applied under the plan on the following interest crediting dates: 12/31/2012, 12/31/2011, 12/31/2010, 12/31/2009 and 12/31/2008.

**E.2.a.3. Rates of return.** If the interest crediting rate used by the plan is a variable rate based on the rate of return on plan assets or a diversified fund, the average rate must be determined by replacing such rate in any interest crediting period with the applicable segment rate for the last calendar month ending before the beginning of the interest crediting period.

**E.2.b. Annuity Conversion.** A statutory hybrid plan must provide an interest rate and mortality table (or factor) used for converting the participant's hypothetical account balance into a benefit payable as an annuity.

**E.2.b.1. Variable rate.** The PPA 2006 termination rules provide that the interest rate and mortality table specified under the plan as of DOPT must be used to determine a participant's annuity benefit payable after DOPT. If the plan uses a variable-interest conversion rate (or a fixed-interest conversion rate that changed) on the date of any rate change within the 5-year period ending on DOPT, the plan must determine a fixed rate equal to a 5-year average of the rates of interest used under the plan.

**E.2.b.2 Determination of 5-Year Average.** The PPA 2006 termination rules provide that a determination of the average interest rate must be based on the arithmetic average of the interest rates that applied under the plan during periods for which the date of each rate change was within 5 years of DOPT.

**Example E-2.** The conversion interest rate for a statutory hybrid plan is determined annually on January 1, based on the applicable interest rate under section 417(e)(3) of the Code. The plan's DOPT is June 30, 2013. The plan's average rate would include the rates on the date of each rate change that occurred between 6/30/2008 and 6/30/2013. See also section F.3 below.

**E.2.b.3 Mortality table.** The PPA 2006 termination rules provide that, if the mortality table specified by the plan is one that incorporates automatic updates for expected improvements in mortality experience (e.g., the applicable mortality table under section 417(e)(3) of the Code), benefits must be determined based on the mortality table as of DOPT taking into account future adjustments for expected mortality improvement through the annuity starting date.

## F. PBGC Default Rules

PBGC will look in general to plan terms as they existed on the date of plan termination (subject to the principles described above) for guidance in administering the Title IV insurance program applicable to hybrid plans. (The date of plan termination — and not the bankruptcy date — applies equally in PPA 2006 bankruptcy terminations.) To the extent the plan's provisions do not satisfy the requirements of the PPA 2006 termination rules, or the plan fails to specify provisions necessary to implement the statutory and regulatory requirements, PBGC will apply the rules of this section.

**F.1. Averaging Interest Rates.** If the methodology for averaging variable interest rates upon plan termination conflicts with section E.2.a.2 or section E.2.b.2, or if the plan's rules on averaging are unclear or unspecified, PBGC will use the 5-year arithmetic average of interest rates under the plan in effect for the applicable 5-year period preceding DOPT.

**F.1.a. DOPT within 5 Years of PPA 2006 Effective Date.** For purposes of the interest crediting rate and annuity conversion rate, 5-year average includes rates in effect prior to the effective date of PPA 2006, i.e., rates during interest crediting periods for which the interest crediting date was prior to the PPA 2006 effective date.

**F.1.b. Statutory Hybrid Formula in Existence for Less Than 5 Years as of DOPT.** If the statutory hybrid plan or formula has been in existence for less than five years as of DOPT, PBGC will calculate the arithmetic average of the interest rates used during the period the statutory hybrid benefit formula was in effect. If the interest rates are unclear or not specified, see section F.2.b below.

**Example F-1.** A statutory hybrid plan was created on 10/15/2006 and used an interest crediting rate that varied on an annual basis, with credits on 12/31. Pay credits are added to the account balance beginning 12/31/2006 and interest credits on 12/31/2007. The plan year is the calendar year. DOPT is 5/15/2009. The average rate for interest credits provided after DOPT will be the arithmetic average of the interest crediting rates in effect for 12/31/2007 and 12/31/2008.

## **F.2. Interest Crediting Rates**

**F.2.a. Partial Periods.** If the plan did not add interest credits for partial periods, PBGC will nonetheless add partial **interest credits** on a pro-rated basis through the relevant calculation date, including Normal Retirement Date ("NRD"), Expected Retirement Date ("XRD"), DOPT, Bankruptcy Petition Date ("BPD"), and the beginning of the 3-year period ending on DOPT ("DOPT-3") or ending on BPD ("BPD-3"), but will follow plan rules with regard to **pay credits**. (For PC3 calculations, see section H below.) If the plan prorated for partial periods, however, PBGC will use the plan's basis for prorating interest and pay credits. This section applies to both annuities and lump sums.

**F.2.b. Unclear or Unspecified Rates.** If the plan is unclear with respect to (or did not specify) the interest crediting rates, PBGC will add interest credits to the account balance at the rate equal to the 5-year average of 30-year Treasury Constant Maturity rates in effect for the calendar month of DOPT and the same calendar month for each of the preceding four years.

**Example F-2.** The DOPT of a statutory hybrid plan is 7/10/2009. Plan provisions do not specify an interest crediting rate. PBGC will set the interest crediting rate equal to the arithmetic average of the 30-year Treasury Constant Maturity rates in effect for July 2009, July 2008, July 2007, July 2006 and July 2005.

**F.2.c. Rates Based on a Rate of Return.** If, for any interest crediting period within the 5-year period before DOPT, the plan's rate for crediting interest to the account balance is based on a rate of return (or a variable rate that can never be in excess of such a rate of return) on plan assets or a diversified investment fund,

PBGC will replace the plan's rate for that period with the applicable segment rate when calculating a 5-year average.

When the plan's interest crediting rate is replaced by the applicable segment rate for purposes of the 5-year average, PBGC will use the applicable segment rate for the last calendar month that ended before the beginning of the interest crediting period. In addition, PBGC will generally follow plan terms with respect to adjusting the applicable segment rates for maximums and minimums, but will not adjust the applicable segment rate for other reductions specified under the plan.

**Example F-3.** A statutory hybrid plan specifies an interest crediting rate equal to the greater of the rate of the return on plan assets less 1% and 4%. For purposes of the 5-year average, PBGC will use an interest crediting rate equal to the greater of the applicable segment rate and 4%.

### F.3. Annuity Conversion

**F.3.a. Unclear or Unspecified Interest Rates.** If the plan is unclear with regard to (or did not specify) the interest rates used for annuity conversions, PBGC will convert the participant's account balance to an annuity by using the interest rate equal to the 5-year arithmetic average of 30-year Treasury Constant Maturity rates in effect for the calendar month of DOPT and the same calendar month for each of the preceding 4 years.

**F.3.b. Unclear or Unspecified Mortality Table.** If the plan is unclear with regard to (or did not specify) the mortality table for annuity conversions, PBGC will convert the account balance to an annuity by using the mortality table provided in section 417(e)(3) of the Code that would apply if the annuity starting date were DOPT (without projection for mortality improvements through the annuity starting date).

**Example F-4.** The DOPT of a statutory hybrid plan is 7/15/2009. The plan provisions do not specify a mortality table for converting the account balance to an annuity. PBGC will use the 2009 mortality table from section 417(e)(3) of the Code (without projection).

**F.3.c. 417(e)(3) and Other Segment Rates.** PPA 2006 allows statutory hybrid plans to convert the participant's account balance to an annuity using the rates under section 417(e)(3) of the Code where the 1<sup>st</sup> segment covers payments made during the first 5 years, the 2<sup>nd</sup> segment for the next 15 years and the 3<sup>rd</sup> segment for subsequent years. For plans specifying the use of segment interest rates, PBGC will determine separately the 5-year arithmetic average of each segment.

**Example F-5.** The DOPT of a statutory hybrid plan is 7/15/2009. The plan offered an **immediate annuity** on an immediate annuity conversion basis. For annuity conversions, the plan refers to section 417(e)(3) of the Code. The plan uses a stability period of one year and look back definition of two months.

To determine the interest rates for annuity conversion factors after DOPT, PBGC will use a 5-year arithmetic average. This average will be calculated from the 30-year Treasury securities rates for November 2004 (4.89%), 2005 (4.73%) and 2006 (4.69%); and the minimum present value segment rates for November 2007 (4.60%, 4.82%, 4.91%) and November 2008 (5.24%, 5.69%, 5.37%). For post-DOPT annuity conversions, PBGC will use the following 5-year arithmetic averages: 4.83% [= (4.89% + 4.73% + 4.69% + 4.60% + 5.24%) / 5] for the 1<sup>st</sup> segment (years 0-5), 4.96% [= (4.89% + 4.73% + 4.69% + 4.82% + 5.69%) / 5] for the 2<sup>nd</sup> segment (years 5-20) and 4.92% [= (4.89% + 4.73% + 4.69% + 4.91% + 5.37%) / 5] for the 3<sup>rd</sup> segment (years 20 and later).

**F.3.c.1. Immediate Conversion Formula.** Unless the plan provisions specify otherwise, for plans with **immediate** annuity conversion the annuity conversion factor will be calculated with the segment rates beginning **on the annuity starting date** so that the rates of the 1<sup>st</sup> segment are effective starting at the annuity starting date, i.e., the 1<sup>st</sup> segment applies for the first 5 years after the annuity starting date, 2<sup>nd</sup> segment for the next 15 years and 3<sup>rd</sup> segment thereafter.

**Example F-6.** The facts are the same as in the Example F-5 above. The participant's annuity starting date is in 2030. For an **immediate-basis annuity**, the annuity conversion factor will use all three segments for the interest rate because the 1<sup>st</sup> segment begins at the annuity starting date.

**F.3.c.2. Projected Annuity Formula.** Unless the plan provisions specify otherwise, for **projected annuity** conversions the annuity conversion factor will be calculated with the segment rates beginning **at DOPT** so that rates of the 1<sup>st</sup> segment are effective starting at DOPT, e.g., only the 3<sup>rd</sup> segment applies if the account balance is projected more than 20 years after DOPT. For PC3 benefits see section H below.

**Example F-7.** The facts are the same as in Example F-5 above. The participant's annuity starting date is in 2030. For a **projected-basis annuity**, the annuity conversion factor will use only the 3<sup>rd</sup> segment for the interest rate because the 1<sup>st</sup> segment begins at DOPT and the annuity starting date is 21 years after DOPT.

**F.3.d. Automatically Updated Mortality Tables.** If the plan specifies a mortality table as of DOPT that is updated automatically in future years to reflect expected improvements in mortality experience (e.g., the applicable mortality table provided under section 417(e)(3) of the Code), PBGC will determine benefits payable under the plan based on the mortality table as of DOPT incorporating future adjustments for expected mortality improvements, but only through the applicable annuity starting date.

**Example F-8.** The facts are the same as in Example F-5 above. A participant's NRD is in 2040 and the annuity starting date in 2030. Regardless of whether the benefit is an immediate-basis or projected-basis annuity, the mortality table for the annuity conversion factor (i.e., 417(e)(3) of the Code) will be the 2009 mortality table projected to 2030.

**F.4. Treatment in other instances where the plan's provisions do not satisfy the requirements of the PPA 2006 rules.** PBGC has handled, and will continue to handle, statutory hybrid plans lacking needed provisions in the same way as with other defective plans, namely case by case based on the facts and circumstances. In many cases, missing criteria that would make the plan compliant can be deduced from plan practice. Where the plan may have violated requirements for statutory hybrid plans, for example, the market rate of return limitation or preservation of capital requirement as described below, request guidance by emailing [PSDGuidance@pbgc.gov](mailto:PSDGuidance@pbgc.gov).

**F.4.a. Market Rate of Return Limitation.** Treasury Regulation § 1.411(b)(5)-1(d)(3) – (6) lists interest crediting rates that satisfy this limitation (which was added by PPA 2006 to address claims of age discrimination where a plan applied a very high interest crediting rate). Examples of acceptable interest rates under the regulation include but are not limited to: Fixed rates up to 6%; treasury rates with associated margins (see Notice 96-8); any of the three segment rates; rate of return on plan assets (all or a subset); annuity contract rates; and acceptable minimum rates such as treasury yields up to 5% annually, corporate bond yields up to 4% annually, and rate of return on plan assets up to 3% cumulatively.

NOTE: The preretirement interest that is implicit in a deferred annuity factor under an implicit interest PEP is NOT subject (as of the date this Internal Guidance Document was issued) to the



market rate of return limitation rules in the final hybrid plan regulations. However, per IRS Notice 2016-67, the Treasury Department and the IRS have been considering whether to propose amendments to those regulations that would subject implicit preretirement interest to the market rate of return limitation.

**F.4.b. Preservation of Capital Requirement.** Treasury Regulation § 1.411(b)(5)-1(d)(2) provides rules on the preservation of capital requirement added by PPA 2006. A statutory hybrid plan must provide that interest credits will not result in a hypothetical account balance (or similar amount) being less than the aggregate amount of the hypothetical allocations. The preservation of capital requirement involves a comparison of the accumulated benefit to the sum of all principal credits and that the requirement is applied only as of an annuity starting date with respect to which a distribution of the participant's entire vested benefit under the plan's statutory hybrid benefit formula as of that date commences.

## **G. Benefit Increases Subject to PBGC's Phase-In Limitation**

**G.1. Increases Subject to Phase-In.** The following are examples of benefit increases that are subject to PBGC's phase-in limitation (this list is not meant to be exhaustive):

**G.1.a.** Changes in the basis, timing, or method of the interest crediting or annuity conversion rates;

**G.1.b.** Changes from one fixed interest crediting rate to another fixed interest crediting rate;

**G.1.c.** Changes from one variable index to another variable index;

**G.1.d.** Changes from a fixed rate basis to a variable rate basis (or vice versa);

**G.1.e.** Changes from one fixed mortality table to another fixed mortality table, or from a fixed mortality table to a mortality table that updates automatically for expected improvements in mortality experience (or vice versa).

**G.1.f.** Changes in the pay credits used in the benefit formula.

**G.2. Increases Not Subject to Phase-In.** The following are examples of benefit increases that are not subject to PBGC's phase-in limitation (this list is not meant to be exhaustive):

**G.2.a.** A change in the vesting schedule to 3-year cliff vesting for statutory hybrid plan participants in accordance with the PPA 2006 vesting rules;

**G.2.b.** A change that is required to comply with the PPA 2006 termination requirements, e.g., a change in the plan's interest rate from a variable rate to an average rate of interest upon plan termination;

**G.2.c.** A change in the interest crediting rate that is permitted, notwithstanding section 411(d)(6) of the Code, pursuant to Treasury regulations (e.g. a change under certain circumstances to an investment grade corporate bond rate), or during the amendatory period under section 1107 of PPA 2006 (or any extension of the amendatory period granted by the Department of the Treasury);

**G.2.d.** An automatic future update in a mortality table specified under the plan as of DOPT that reflects expected improvements in mortality experience, e.g., the applicable mortality table provided under section 417(e)(3) of the Code;

**G.2.e.** An adjustment in the interest rate under a specified variable rate index used by the plan, e.g., a change in the yield on 5-year Treasury Constant Maturities from one date to another.

## **H. Priority Category 3 (PC3) Benefits**

For purposes of assigning plan benefits to Priority Category 3 (PC3), PBGC will determine the participant's account balance as of the PC3 calculation date, i.e., as of the earlier of the (1) actual retirement date and (2) DOPT-3 (or BPD-3 if a PPA 2006 bankruptcy plan). PBGC will convert the PC3 account balance to an annuity payable at the PC3 calculation date. PBGC's other rules on calculating PC3 benefits still apply, such as excluding benefit increases between DOPT-5 (or BPD-5 if a PPA 2006 Bankruptcy Plan) and DOPT. PBGC will calculate the monthly PC3 benefit in statutory hybrid plans generally as follows:

**H.1. Projected Formula.** If the benefit formula projects the account balance to NRD, PBGC will:

**H.1.a.** Add interest credits to the PC3 account balance up to NRD using the actual interest crediting rate under the plan (not the 5-year average) as of the PC3 calculation date;

**H.1.b.** Convert the account balance as of NRD to an annuity payable at NRD using the plan's annuity conversion basis (not the 5-year average for interest) as of the PC3 calculation date;

**H.1.c.** Convert the monthly normal retirement benefit to a monthly benefit payable at the PC3 calculation date by using the plan's early retirement and form conversion factors, etc.

**H.2. Immediate Formula.** If the benefit is based on immediate annuity conversion factors, PBGC will:

**H.2.a.** Add interest credits to the PC3 account balance up to the PC3 calculation date using the actual interest crediting rate under the plan as of the PC3 calculation date (not the 5-year average for interest);

**H.2.b.** Convert the account balance to an immediate annuity by using the plan's annuity conversion basis (not the 5-year average for interest).

**H.3. PC3 Benefits Not to Exceed Plan Benefit.** PBGC will not assign to PC3 an amount exceeding the plan benefits under the plan provisions in effect at DOPT. For participants active at DOPT in variable rate plans, this means the benefits PBGC assigns to PC3 cannot exceed the plan benefit payable at XRD under the DOPT plan (using the 5-year average), even if the plan is also a PPA 2006 bankruptcy plan.

**H.4. Partial Interest Credit.** For purposes of determining the PC3 account balance, PBGC will add partial interest credits on a prorated basis, even if the plan did not, through NRD (projected formulas) or the PC3 calculation date (immediate formulas) for participants who were not in pay status on or before DOPT. See section F.2.a above.

**H.5. 417(e)(3) and Other Segment Rates.** For projected annuity conversions based on the rate in section 417(e)(3) of the Code or based on other segment rates, PBGC will calculate the annuity conversion factor with the segment rates beginning at DOPT-3 (or BPD-3 if a PPA 2006 bankruptcy plan) so that rates of the 1st segment are effective starting at DOPT-3 (or BPD-3), e.g., only the rates of the 3rd segment applies if the account balance is projected more than 20 years after DOPT-3. See section F.3.c above.

## **I. Lump Sums Payments**

**I.1. Account Balance at DOPT.** PBGC will determine whether a statutory hybrid plan benefit is payable as a de minimis lump sum (the lump sum threshold) and the amount of the lump sum payment by considering—with regard specifically to the lump-sum based formula that generates all or a portion of the statutory hybrid plan benefit (e.g., the “B” portion of an A + B benefit)—only the Account Balance at DOPT, to the extent payable under Title IV of ERISA, in the following situations:

**I.1.a.** The plan on or after 8/17/2006 cashed out participants by using only the account balance;

**I.1.b.** The plan communicated in writing on or after 8/17/2006 that the amount of the lump sum would be the account balance.

**I.2. Present Value of the Annuity and Account Balance at DOPT.** PBGC will determine the lump sum threshold and amount considering both the Account Balance at DOPT and the present value of the annuity per rules under Section F of Internal Guidance Document Pre-PPA 2006 Cash Balance Plans (Pre-PPA 2006) in the following situations:

**I.2.a.** The plan on or after 8/17/2006 cashed out participants by using the Whipsaw Lump Sum;

**I.2.b.** The plan communicated on or after 8/17/2006 that the amount of the lump sum would be the Whipsaw Lump Sum;

**I.2.c.** Lump sums were never paid to plan participants and the plan did not specify whether lump sums were payable as the account balance or the Whipsaw Lump Sum;

**I.2.d.** The situations described in section I.1 above do not apply.

## J. Example

The following assumptions are used in this Section J. Additional assumptions and scenarios are described in section J.1, section J.2, section J.3, section J.4, section J.5 and section J.6 below.

- Statutory Hybrid Plan XYZ
- Plan Type: Cash Balance Plan
- Plan Year: Calendar Year
- DOPT: 6/30/2012
- Normal Retirement Age: 65
- Earliest Retirement Age: 55
- Plan Benefit: Monthly annuity equal to the greater of an immediate-basis formula and a projected-basis formula
- ERF (projected-basis formula): 6% per year
- Interest Crediting Rate: Treasury Bond Index (see section J.1 below)
- Interest and Pay Crediting Date: 12/31 of each year
- Interest Credits for Partial Periods: None
- Pay Credits for Partial Periods: None
- Annuity Conversion Basis: Mortality and Interest from Section 417(e)(3) of the Code
- Stability Period: Calendar Year
- Look Back Definition: 2 months
- Mortality Projection: Annuity Starting Date

### J.1. Interest Rates and Conversion Factors: Statutory Hybrid Plan

In addition to the assumptions described above:

Interest Crediting Rates before DOPT (all rates are for illustration only)				
Month and Year of Treasury Rate	Plan Year's Interest Credits	Period of Interest Credits	Plan's Interest Crediting Date	Treasury Bond Rate
11/2011	2012	1/1/2012 – 6/30/2012	N/A	6.50%
11/2010	2011	1/1/2011 – 12/31/2011	12/31/2011	6.35%
11/2009	2010	1/1/2010 – 12/31/2010	12/31/2010	6.55%
11/2008	2009	1/1/2009 – 12/31/2009	12/31/2009	4.50%
11/2007	2008	1/1/2008 – 12/31/2008	12/31/2008	5.50%
11/2006	2007	1/1/2007 – 12/31/2007	12/31/2007	6.00%

**J.1.a. Interest Crediting Rate after 6/30/2012.** The interest crediting rate for the account balance after 6/30/2012 (DOPT) is 5.78%, the arithmetic average of the applicable interest crediting rates at interest crediting dates between 6/30/2007 (DOPT-5) and 6/30/2012 (DOPT):

Plan's Interest Crediting Date	Rate	Description of Rate
12/31/2011	6.35%	Interest Crediting Rate for 2011 Plan Year
12/31/2010	6.55%	Interest Crediting Rate for 2010 Plan Year
12/31/2009	4.50%	Interest Crediting Rate for 2009 Plan Year
12/31/2008	5.50%	Interest Crediting Rate for 2008 Plan Year
12/31/2007	6.00%	Interest Crediting Rate for 2007 Plan Year

**J.1.b. Interest Crediting Rate after 12/31/2011 and before 7/1/2012.** Interest credits for partial periods are added regardless of plan provisions, so prorated interest credits are added for the partial period after 12/31/2011 and before 7/1/2012 to the account balance at the rate of 6.50%.

**J.1.c. Annuity Conversion Factors.** For Plan XYZ, account balances are converted to an annuity for retirement dates after DOPT by using the following:

**J.1.c.1.** 5-year arithmetic average based on segment rates for 11/2011, 11/2010, 11/2009, 11/2008 and 11/2007:

Post-DOPT Interest for Annuity Conversion (for illustration only)				
Stability Period	Look-Back Interest Rate	1 <sup>st</sup> Segment	2 <sup>nd</sup> Segment	3 <sup>rd</sup> Segment
1/01/2012-12/31/2012	11/2011	4.90%	4.96%	4.92%
1/01/2011-12/31/2011	11/2010	5.04%	5.01%	5.25%
1/01/2010-12/31/2010	11/2009	5.20%	5.29%	5.69%
1/01/2009-12/31/2009	11/2008	5.24%	5.69%	5.37%
1/01/2008-12/31/2008	11/2007	4.60%	4.82%	4.91%
Arithmetic Average =		5.00%	5.15%	5.23%

**J.1.c.2.** Mortality table as of 6/30/2012 (DOPT) projected to year of the annuity starting date.

**J.1.c.3. For immediate annuities**, the 1<sup>st</sup> segment begins at the annuity starting date, the 2<sup>nd</sup> segment begins five years after the annuity starting date and the 3<sup>rd</sup> segment begins 20 years after the annuity starting date.

**J.1.c.4. For minimum projected benefits**, in general the 1<sup>st</sup> segment begins at DOPT, the 2<sup>nd</sup> segment begins five years after DOPT and the 3<sup>rd</sup> segment begins 20 years after DOPT.

## **J.2. Participant A's Monthly Benefits: Statutory Hybrid Plan**

In addition to the assumptions described in section J.1 above:

- Participant A
- Date of Birth: 10/5/1951
- Status on DOPT: Active
- XRD: 7/1/2012 (first of month after DOPT)
- Account Balance on 1/1/2009: \$170,000.00
- Account Balance on 1/1/2012: \$210,000.00

Factors for Converting Participant A's Account Balance (for illustration only)								
Name of Factor	Retirement Date	Event	Mortality	Interest	1 <sup>st</sup> Segment	2 <sup>nd</sup> Segment	3 <sup>rd</sup> Segment	Factor
<b>Immediate Annuity Basis</b>								
ACF1	11/1/2016	NRD	LS16	Average	2016	2021	2036	12.2000
ACF2	7/1/2012	XRD	LS12	Average	2012	2017	2032	13.1000
ACF3	7/1/2009	DOPT-3	LS09	Nov 2008	2009	2014	2029	14.1000
<b>Projected Annuity Basis (to NRD)</b>								
PACF1	11/1/2016	NRD	LS16	Average	2012*	2017*	2032*	12.4000
PACF2	7/1/2012	XRD	LS12	Average	2012*	2017*	2032*	12.3000
PACF3	7/1/2009	DOPT-3	LS09	Nov 2008	2009	2014	2029	12.1000
*Based on DOPT (not Annuity Starting Date)								

Note: To convert account balances to an annuity payable on 7/1/2009 (DOPT-3), PBGC follows the plan's rules which specify the segment rates and mortality under section 417(e)(3) of the Code. Under these rules, monthly annuity amounts for a 7/1/2009 retirement date are calculated with a look back of November 2008, the 1<sup>st</sup> segment beginning on July 2009, and mortality projected to 2009.

### **J.2.a. Plan Benefit**

**J.2.a.1. Plan Benefit at NRD.** Participant A's plan benefit payable at 11/1/2016 (NRD) is \$1888.43 per month, which equals the greater of the immediate-basis plan formula (\$1888.43) and the projected-basis plan formula (\$1857.98):

Immediate-Basis Formula (Accruals as of DOPT):

\$210,000.00                      Account balance at 1/1/2012  
 x (1 + 0.0650)<sup>(6/12)</sup>            2012 Interest Credits until DOPT  
 x (1 + 0.0578)<sup>(6/12)</sup>            2012 Interest Credits after DOPT  
 x (1 + 0.0578)<sup>(36/12)</sup>          2013-2015 Interest Credits

$$\begin{aligned}
 & \times (1 + 0.0578)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.2000 \times 12) && \text{ACF1 times 12} \\
 & = \$1888.43 && \text{Immediate-Basis Annuity at NRD}
 \end{aligned}$$

Projected-Basis Formula (Accruals as of DOPT):

$$\begin{aligned}
 & \$210,000.00 && \text{Account balance at 1/1/2012} \\
 & \times (1 + 0.0650)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
 & \times (1 + 0.0578)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
 & \times (1 + 0.0578)^{(36/12)} && \text{2013-2015 Interest Credits} \\
 & \times (1 + 0.0578)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.4000 \times 12) && \text{PACF1 times 12} \\
 & = \$1857.98 && \text{Projected-Basis Annuity at NRD}
 \end{aligned}$$

**J.2.a.2. Plan Benefit at XRD.** Participant A's plan benefit payable at 7/1/2012 (XRD) is \$1386.08 per month, which equals the greater of the immediate-basis plan formula (\$1378.61) and the projected-basis plan formula (\$1386.08):

Immediate-Basis Formula (Accruals as of DOPT):

$$\begin{aligned}
 & \$210,000.00 && \text{Account balance at 1/1/2012} \\
 & \times (1 + 0.0650)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
 & / (13.1000 \times 12) && \text{ACF2 times 12} \\
 & = \$1378.61 && \text{Immediate-Basis Annuity at XRD}
 \end{aligned}$$

Projected-Basis Formula (Accruals as of DOPT):

$$\begin{aligned}
 & \$210,000.00 && \text{Account balance at 1/1/2012} \\
 & \times (1 + 0.0650)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
 & \times (1 + 0.0578)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
 & \times (1 + 0.0578)^{(36/12)} && \text{2013-2015 Interest Credits} \\
 & \times (1 + 0.0578)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.3000 \times 12) && \text{PACF2 times 12} \\
 & = \$1873.08 && \text{Monthly Accumulated Benefit} \\
 & \times 0.7400 && \text{ERF at 52 Months Early} \\
 & = \$1386.08 && \text{Projected-Basis Annuity at XRD}
 \end{aligned}$$

**J.2.b. Guaranteed Benefit.** Participant A's guaranteed benefit equals the plan benefit because plan benefits are not subject to PBGC limits.

**J.2.c. PC3 Benefit.** Participant A's PC3 benefit is \$1027.09 per month, which equals the greater of the immediate-basis plan formula (\$1027.09) and the projected-basis plan formula (\$925.58):

Immediate-Basis Formula (Accruals as of DOPT-3):

$$\begin{aligned}
 & \$170,000.00 && \text{Account balance at 1/1/2009} \\
 & \times (1 + 0.0450)^{(6/12)} && \text{2009 Interest Credits until DOPT-3} \\
 & / (14.1000 \times 12) && \text{ACF3 times 12} \\
 & = \$1027.09 && \text{Immediate-Basis Annuity for PC3}
 \end{aligned}$$

Projected-Basis formula (Accruals as of DOPT-3):

\$170,000.00	Account balance at 1/1/2009
$\times (1 + 0.0450)^{(6/12)}$	2009 Interest Credits until DOPT-3
$\times (1 + 0.0450)^{(6/12)}$	2009 Interest Credits after DOPT-3
$\times (1 + 0.0450)^{(72/12)}$	2010-2015 Interest Credits
$\times (1 + 0.0450)^{(10/12)}$	2016 Interest Credits until NRD
$/ (12.1000 \times 12)$	PACF3 times 12
= \$1652.82	Monthly Accumulated Benefit
$\times 0.5600$	ERF at 88 Months Early
= \$925.58	Projected-Basis Annuity for PC3

Note: The monthly PC3 benefit cannot exceed the monthly plan benefit payable at 7/1/2012 (XRD) (\$1386.08).

**J.2.d. PC5 Benefit.** Participant A has no benefits in PC5 because the monthly plan benefit is not affected by PBGC limits.

### **J.3. Interest Rates and Conversion Factors: Statutory Hybrid and PPA 2006 Bankruptcy Plan**

In addition to the assumptions described in section J.1 and section J.2 above:

- Statutory Hybrid Plan XYZ
- Plan Type: PPA 2006 Bankruptcy Plan
- Bankruptcy Petition Date (BPD): 10/30/2010

**J.3.a. Interest Crediting Rate after 6/30/2012.** The interest crediting rate for the account balance after 6/30/2012 (DOPT) is 5.78%. See section J.1.a above.

**J.3.b. Interest Crediting Rate after 10/30/2010 and before 7/1/2012.** Interest credits are added to the account balance between 10/30/2010 (BPD) and 6/30/2012 (DOPT) using the plan's rates (not the 5-year average if the plan uses variable rates), so interest credits after 10/30/2010 and before 1/1/2011 are added to the account balance at the plan's rate of 6.55%, after 12/31/2010 and before 1/1/2012 at the plan's rate of 6.35% and for the partial period after 12/31/2011 and before 7/1/2012 at the rate of 6.50%. See section J.1.b above.

**J.3.c. Annuity Conversion Factors.** Account balances are converted to an annuity for retirement dates after DOPT by using the methodology described in section J.1.c above.

### **J.4. Participant A's Monthly Benefits: Statutory Hybrid and PPA 2006 Bankruptcy Plan**

In addition to the assumptions described in section J.1, section J.2 and section J.3 above:

- Plan Participant A
- Account Balance on 1/1/2007: \$150,000.00
- Account Balance on 1/1/2010: \$180,000.00

Additional Factors for Converting Participant A's Account Balance (for illustration only)								
Name of Factor	Retirement Date	Event	Mortality	Interest	1 <sup>st</sup> Segment	2 <sup>nd</sup> Segment	3 <sup>rd</sup> Segment	Factor
Immediate Annuity Basis								
ACF4	11/1/2007	BPD-3	GU94	30-Yr Tr.	N/A	N/A	N/A	14.5000
Projected Annuity Basis (to NRD)								
PACF4	11/1/2007	BPD-3	GU94	30-Yr Tr.	N/A	N/A	N/A	11.9000

Note: To convert account balances to an annuity payable on 11/1/2007 (BPD-3), PBGC follows the plan's rules which specify the interest rates and mortality under section 417(e)(3) of the Code. Under these rules, monthly annuity amounts for an 11/1/2007 retirement date are calculated using 30-Year Treasury rates and GAR 94. If the 417(e)(3) interest were a segment rate in this example, the 1<sup>st</sup> segment for the projected annuity basis would begin 11/1/2007 (BPD-3).

#### J.4.a. Plan Benefit

**J.4.a.1. Plan Benefit at NRD.** Participant A's plan benefit payable at 11/1/2016 (NRD) is \$1888.43 per month. See section J.2.a.1 above.

**J.4.a.2. Plan Benefit at XRD.** Participant A's plan benefit payable at 7/1/2012 (XRD) is \$1386.08 per month. See section J.2.a.2 above.

#### J.4.b. Guaranteed Benefit

**J.4.b.1. Guaranteed Benefit at NRD.** Participant A's guaranteed benefit payable at 11/1/2016 (NRD) is \$1834.20 per month, which equals the greater of the immediate-basis plan formula (\$1834.20) and the projected-basis plan formula (\$1804.61):

Immediate-Basis Formula (Accruals as of BPD):

\$180,000.00	Account balance at 1/1/2010
x (1 + 0.0655) <sup>(12/12)</sup>	2010 Interest Credits
x (1 + 0.0635) <sup>(12/12)</sup>	2011 Interest Credits
x (1 + 0.0650) <sup>(6/12)</sup>	2012 Interest Credits until DOPT
x (1 + 0.0578) <sup>(6/12)</sup>	2012 Interest Credits after DOPT
x (1 + 0.0578) <sup>(36/12)</sup>	2013-2015 Interest Credits
x (1 + 0.0578) <sup>(10/12)</sup>	2016 Interest Credits until NRD
/ (12.2000 x 12)	ACF1 times 12
= \$1834.20	Immediate-Basis Annuity at NRD

Projected-Basis Formula (Accruals as of BPD):

\$180,000.00	Account balance at 1/1/2010
x (1 + 0.0655) <sup>(12/12)</sup>	2010 Interest Credits
x (1 + 0.0635) <sup>(12/12)</sup>	2011 Interest Credits
x (1 + 0.0650) <sup>(6/12)</sup>	2012 Interest Credits until DOPT
x (1 + 0.0578) <sup>(6/12)</sup>	2012 Interest Credits after DOPT
x (1 + 0.0578) <sup>(36/12)</sup>	2013-2015 Interest Credits



$$\begin{aligned}
 & \times (1 + 0.0578)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.4000 \times 12) && \text{PACF1 times 12} \\
 & = \$1804.61 && \text{Projected-Basis Annuity at NRD}
 \end{aligned}$$

Note: The guaranteed benefit does not include pay credits after 10/30/2010 (BPD). This means that since the plan does not provide pay credits for partial periods, the guaranteed benefit does not include pay credits for the partial period between 01/01/2010 and 10/30/2010 (BPD).

**J.4.b.2. Guaranteed Benefit at XRD.** Participant A's guaranteed benefit payable at 7/1/2012 (XRD) is \$1346.27 per month, which equals the greater of the immediate-basis plan formula (\$1339.02) and the projected-basis plan formula (\$1346.27):

Immediate-Basis Formula (Accruals as of BPD):

$$\begin{aligned}
 & \$180,000.00 && \text{Account balance at 1/1/2010} \\
 & \times (1 + 0.0655)^{12/12} && \text{2010 Interest Credits} \\
 & \times (1 + 0.0635)^{12/12} && \text{2011 Interest Credits} \\
 & \times (1 + 0.0650)^{6/12} && \text{2012 Interest Credits until DOPT} \\
 & / (13.1000 \times 12) && \text{ACF2 times 12} \\
 & = \$1339.02 && \text{Immediate-Basis Annuity at XRD}
 \end{aligned}$$

Projected-Basis Formula (Accruals as of BPD):

$$\begin{aligned}
 & \$180,000.00 && \text{Account balance at 1/1/2010} \\
 & \times (1 + 0.0655)^{(12/12)} && \text{2010 Interest Credits} \\
 & \times (1 + 0.0635)^{(12/12)} && \text{2011 Interest Credits} \\
 & \times (1 + 0.0650)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
 & \times (1 + 0.0578)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
 & \times (1 + 0.0578)^{(36/12)} && \text{2013-2015 Interest Credits} \\
 & \times (1 + 0.0578)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.3000 \times 12) && \text{PACF2 times 12} \\
 & = \$1819.28 && \text{Monthly Accumulated Benefit} \\
 & \times 0.7400 && \text{ERF at 52 Months Early} \\
 & = \$1346.27 && \text{Projected-Basis Annuity at XRD}
 \end{aligned}$$

Note: The guaranteed benefit does not include pay credits after 10/30/2010 (BPD). This means that since the plan does not provide pay credits for partial periods, the guaranteed benefit does not include pay credits for the partial period between 01/01/2010 and 10/30/2010 (BPD).

**J.4.c. PC3 Benefit.** Participant A's PC3 benefit is \$904.96 per month, which equals the greater of the immediate-basis plan formula (\$904.96) and the projected-basis plan formula (\$856.96):

Immediate-Basis Formula (Accruals as of BPD-3):

$$\begin{aligned}
 & \$150,000.00 && \text{Account balance at 1/1/2007} \\
 & \times (1 + 0.0600)^{(10/12)} && \text{2007 Interest Credits until BPD-3} \\
 & / (14.5000 \times 12) && \text{ACF4 times 12} \\
 & = \$904.96 && \text{Immediate-Basis Annuity for PC3}
 \end{aligned}$$

Projected-Basis Formula (Accruals as of BPD-3):

\$150,000.00	Account balance at 1/1/2007
$\times (1 + 0.0600)^{(10/12)}$	2007 Interest Credits until BPD-3
$\times (1 + 0.0600)^{(2/12)}$	2007 Interest Credits after BPD-3
$\times (1 + 0.0600)^{(96/12)}$	2008-2015 Interest Credits
$\times (1 + 0.0600)^{(10/12)}$	2016 Interest Credits until NRD
$/ (11.9000 \times 12)$	PACF4 times 12
= \$1862.96	Monthly Accumulated Benefit
$\times 0.4600$	ERF at 108 Months Early
= \$856.96	Projected-Basis Annuity for PC3

Note: The monthly PC3 benefit cannot exceed the monthly plan benefit payable at 7/1/2012 (XRD) (\$1386.08).

#### J.4.d. PC5 Benefit

**J.4.d.1. PC5 Benefit at NRD.** Participant A's total net PC5 benefit payable at 11/1/2016 (NRD) is \$54.23 per month, which equals the plan benefit (\$1888.43) less the guaranteed benefit (\$1834.20).

**J.4.d.2. PC5 Benefit at XRD.** Participant A's total net PC5 benefit payable at 7/1/2012 (XRD) is \$39.81 per month, which equals the plan benefit (\$1386.08) less the guaranteed benefit (\$1346.27).

#### J.5. Interest Rates and Conversion Factors: Statutory Hybrid and PPA 2006 Bankruptcy Plan Subject to Phase-In

In addition to the assumptions described in section J.1, section J.2, section J.3 and section J.4 above:

- Statutory Hybrid Plan XYZ
- Plan Amendment: 10/10/2009 (adopted and effective)
- Provisions Changed: Interest Crediting Rate changed to rate of return on plan assets earned during the prior plan year
- First Year of New Rates: 2010 Plan Year

Rates of Return on Plan Assets before DOPT (all rates are for illustration only)				
Period of Return on Plan Assets	Plan Year's Interest Credits	Period of Interest Credits	Plan's Interest Crediting Date	Rate of Return on Plan Assets
1/1/2011 – 12/31/2011	2012	1/1/2012 – 6/30/2012	N/A	12.00%
1/1/2010 – 12/31/2010	2011	1/1/2011 – 12/31/2011	12/31/2011	11.95%
1/1/2009 – 12/31/2009	2010	1/1/2010 – 12/31/2010	12/31/2010	-1.00%

- Applicable Segment Rates (for illustration only)
- 12/2010: 6.80%
- 12/2009: 6.30%

**J.5.a. Interest Crediting Rate after 6/30/2012.** The interest crediting rate for the account balance after 6/30/2012 (DOPT) is 5.82%, the arithmetic average of applicable interest crediting rates at interest crediting dates between 6/30/2007 (DOPT-5) and 6/30/2012 (DOPT):

Plan's Interest Crediting Date	Rate	Description
--------------------------------	------	-------------

12/31/2011	6.80%	Applicable Segment Rate on 12/2010 for 2011 Plan Year*
12/31/2010	6.30%	Applicable Segment Rate on 12/2009 for 2010 Plan Year*
12/31/2009	4.50%	Interest Crediting Rate for 2009 Plan Year
12/31/2008	5.50%	Interest Crediting Rate for 2008 Plan Year
12/31/2007	6.00%	Interest Crediting Rate for 2007 Plan Year

\*The plan's interest crediting rate, the rate of return on plan assets, is replaced by the applicable segment rate from December of the prior plan year.

**J.5.b. Interest Crediting Rate after 12/31/2009 and before 7/1/2012.** The 10/10/2009 plan amendment decreased the interest crediting rate from 6.55% to -1.00% for interest credits after 12/31/2009 and before 1/1/2011; increased the interest crediting rate from 6.35% to 11.95% for interest credits after 12/31/2010 and before 1/1/2012; and increased the interest crediting rate from 6.50% to 12.00% for interest credits after 12/31/2011 and before 7/1/2012. Interest credits are added to the account balance between 10/30/2010 (BPD) and 6/30/2012 (DOPT) using the plan's rates (not the 5-year average if the plan uses variable rates), so interest credits after 12/31/2009 and before 1/1/2011 are applied to the account balance at the rate of -1.00 %; after 12/31/2010 and before 1/1/2012 at the rate of 11.95%; and for the partial period after 12/31/2011 and before 7/1/2012 at the rate of 12.00%. See section J.1.b and section J.3.b above.

Note: The net increases to plan benefits that result from the changes in the interest crediting rates provided by the 10/10/2009 plan amendment, including increases to the monthly benefit due to the change in the 5-year arithmetic average from 5.78% to 5.82%, are subject to the \$20/20% phase-in because the 10/10/2009 amendment was in effect for more than 1 year and less than 2 years before 10/30/2010 (BPD).

**J.5.c. Annuity Conversion Factors.** Account balances are converted to an annuity for retirement dates after DOPT by using the methodology described in section J.1.c above because the plan is assumed to have not changed the annuity conversion basis.

#### **J.6. Participant A's Monthly Benefits: Statutory Hybrid and PPA 2006 Bankruptcy Plan Subject to Phase-In**

In addition to the assumptions described in section J.1, section J.2, section J.3, section J.4 and section J.5 above:

- Participant A
- Account Balance on 1/1/2012 (under 10/10/2009 amendment): \$220,000.00

##### **J.6.a. Plan Benefit**

**J.6.a.1. Plan Benefit at NRD.** Participant A's plan benefit payable at 11/1/2016 (NRD) is \$2032.13 per month, which equals the greater of the immediate-basis plan formula (\$2032.13) and the projected-basis plan formula (\$1999.35):

Immediate-Basis Formula (Accruals as of DOPT):

\$220,000.00	Account balance at 1/1/2012
x (1 + 0.1200)^(6/12)	2012 Interest Credits until DOPT
x (1 + 0.0582)^(6/12)	2012 Interest Credits after DOPT

$$\begin{aligned}
& \times (1 + 0.0582)^{(36/12)} && \text{2013-2015 Interest Credits} \\
& \times (1 + 0.0582)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
& / (12.2000 \times 12) && \text{ACF1 times 12} \\
& = \$2032.13 && \text{Immediate-Basis Annuity at NRD}
\end{aligned}$$

Projected-Basis Formula (Accruals as of DOPT):

$$\begin{aligned}
& \$220,000.00 && \text{Account balance at 1/1/2012} \\
& \times (1 + 0.1200)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
& \times (1 + 0.0582)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
& \times (1 + 0.0582)^{(36/12)} && \text{2013-2015 Interest Credits} \\
& \times (1 + 0.0582)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
& / (12.4000 \times 12) && \text{PACF1 times 12} \\
& = \$1999.35 && \text{Projected-Basis Annuity at NRD}
\end{aligned}$$

**J.6.a.2. Plan Benefit at XRD.** Participant A's plan benefit payable at 7/1/2012 (XRD) is \$1491.55 per month, which equals the greater of the immediate-basis plan formula (\$1481.08) and the projected-basis plan formula (\$1491.55):

Immediate-Basis Formula (Accruals as of DOPT):

$$\begin{aligned}
& \$220,000.00 && \text{Account balance at 1/1/2012} \\
& \times (1 + 0.1200)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
& / (13.1000 \times 12) && \text{ACF2 times 12} \\
& = \$1481.08 && \text{Immediate-Basis Annuity at XRD}
\end{aligned}$$

Projected-Basis Formula (Accruals as of DOPT):

$$\begin{aligned}
& \$220,000.00 && \text{Account balance at 1/1/2012} \\
& \times (1 + 0.1200)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
& \times (1 + 0.0582)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
& \times (1 + 0.0582)^{(36/12)} && \text{2013-2015 Interest Credits} \\
& \times (1 + 0.0582)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
& / (12.3000 \times 12) && \text{PACF2 times 12} \\
& = \$2015.61 && \text{Monthly Accumulated Benefit}
\end{aligned}$$

#### **J.6.b. Guaranteed Benefit**

**J.6.b.1. Guaranteed Benefit at NRD.** Participant A's plan benefit with accruals as of 10/30/2010 (BPD) payable at 11/1/2016 (NRD) is \$1842.72 per month, which equals the greater of the immediate-basis plan formula (\$1842.72) and the projected-basis plan formula (\$1813.00):

Immediate-Basis Formula (Accruals as of BPD):

$$\begin{aligned}
& \$180,000.00 && \text{Account balance at 1/1/2010} \\
& \times (1 - 0.0100)^{(12/12)} && \text{2010 Interest Credits} \\
& \times (1 + 0.1195)^{(12/12)} && \text{2011 Interest Credits} \\
& \times (1 + 0.1200)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
& \times (1 + 0.0582)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
& \times (1 + 0.0582)^{(36/12)} && \text{2013-2015 Interest Credits}
\end{aligned}$$

$$\begin{aligned}
 & \times (1 + 0.0582)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.2000 \times 12) && \text{ACF1 times 12} \\
 & = \$1842.72 && \text{Immediate-Basis Annuity at NRD}
 \end{aligned}$$

Projected-Basis Formula (Accruals as of BPD):

$$\begin{aligned}
 & \$180,000.00 && \text{Account balance at 1/1/2010} \\
 & \times (1 - 0.0100)^{(12/12)} && \text{2010 Interest Credits} \\
 & \times (1 + 0.1195)^{(12/12)} && \text{2011 Interest Credits} \\
 & \times (1 + 0.1200)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
 & \times (1 + 0.0582)^{(6/12)} && \text{2012 Interest Credits after DOPT} \\
 & \times (1 + 0.0582)^{(36/12)} && \text{2013-2015 Interest Credits} \\
 & \times (1 + 0.0582)^{(10/12)} && \text{2016 Interest Credits until NRD} \\
 & / (12.4000 \times 12) && \text{PACF1 times 12} \\
 & = \$1813.00 && \text{Projected-Basis Annuity at NRD}
 \end{aligned}$$

Participant A's benefit under the 5-year old (BPD-5) plan with accruals as of 10/30/2010 (BPD) payable at 11/1/2016 (NRD) equals \$1834.20 per month. See section J.4.b.1 above.

Participant A's guaranteed benefit payable at 11/1/2016 (NRD) is \$1842.72 per month:

$$\begin{aligned}
 & \$1842.72 && \text{BPD-1 benefit with accruals as of BPD} \\
 & - \$1834.20 && \text{BPD-5 benefit with accruals as of BPD} \\
 & = \$8.52 && \text{Increase in plan benefit} \\
 & \\
 & \$8.52 && \text{Guaranteed portion of the increase} \\
 & + \$1834.20 && \text{BPD-5 benefit with accruals as of BPD} \\
 & = \$1842.72 && \text{Guaranteed benefit payable at NRD}
 \end{aligned}$$

Note: The increase in benefits between the BPD-1 and BPD-5 plan (with accruals as of BPD) is less than \$20.00 per month (\$1842.72 – \$1834.20 = \$8.52), so the increase is fully guaranteed.

The guaranteed benefit does not include pay credits after 10/30/2010 (BPD). This means that since the plan does not provide pay credits for partial periods, the guaranteed benefit does not include pay credits for the partial period between 01/01/2010 and 10/30/2010 (BPD).

**J.6.b.2. Guaranteed Benefit at XRD.** Participant A's plan benefit with accruals as of 10/30/2010 (BPD) payable at 7/1/2012 (XRD) is \$1352.53 per month, which equals the greater of the immediate-basis plan formula (\$1343.04) and the projected-basis plan formula (\$1352.53):

Immediate-Basis Formula (Accruals as of BPD):

$$\begin{aligned}
 & \$180,000.00 && \text{Account balance at 1/1/2010} \\
 & \times (1 - 0.0100)^{(12/12)} && \text{2010 Interest Credits} \\
 & \times (1 + 0.1195)^{(12/12)} && \text{2011 Interest Credits} \\
 & \times (1 + 0.1200)^{(6/12)} && \text{2012 Interest Credits until DOPT} \\
 & / (13.1000 \times 12) && \text{ACF2 times 12} \\
 & = \$1343.04 && \text{Immediate-Basis Annuity at XRD}
 \end{aligned}$$

Projected-Basis Formula (Accruals as of BPD):

\$180,000.00	Account balance at 1/1/2010
$\times (1 - 0.0100)^{(12/12)}$	2010 Interest Credits
$\times (1 + 0.1195)^{(12/12)}$	2011 Interest Credits
$\times (1 + 0.1200)^{(6/12)}$	2012 Interest Credits until DOPT
$\times (1 + 0.0582)^{(6/12)}$	2012 Interest Credits after DOPT
$\times (1 + 0.0582)^{(36/12)}$	2013-2015 Interest Credits
$\times (1 + 0.0582)^{(10/12)}$	2016 Interest Credits until NRD
$/ (12.3000 \times 12)$	PACF2 times 12
= \$1824.75	Monthly Accumulated Benefit
$\times 0.7400$	ERF at 52 Months Early
= \$1352.53	Projected-Basis Annuity at XRD

Participant A's benefit under the 5-year old (BPD-5) plan with accruals as of BPD payable at 7/1/2012 (XRD) equals \$1346.27 per month. See section J.4.b.2 above.

Participant A's guaranteed benefit payable at 7/1/2012 (XRD) is \$1352.53 per month:

\$1352.53	BPD-1 benefit with accruals as of BPD
– \$1346.27	BPD-5 benefit with accruals as of BPD
= \$6.26	Increase in plan benefit
 \$6.26	 Guaranteed portion of the increase
+ \$1346.27	BPD-5 benefit with accruals as of BPD
= \$1352.53	Guaranteed benefit payable at XRD

Note: The increase in benefits between the BPD-1 and BPD-5 plan (with accruals as of BPD) is less than \$20.00 per month ( $\$1352.53 - \$1346.27 = \$6.26$ ), so the increase is fully guaranteed.

The guaranteed benefit does not include pay credits after 10/30/2010 (BPD). This means that since the plan does not provide pay credits for partial periods, the guaranteed benefit does not include pay credits for the partial period between 01/01/2010 and 10/30/2010 (BPD).

**J.6.c. PC3 Benefit.** Participant A's PC3 benefit is \$904.96 per month, the plan benefit under the 5-year old (BPD-5) plan as of 11/1/2007 (BPD-3). See section J.4.c above.

Note: The PC3 benefit cannot exceed the monthly plan benefit payable at 7/1/2012 (XRD) under the DOPT plan (\$1491.55).

#### J.6.d. PC5 Benefit

**J.6.d.1. PC5 Benefit at NRD.** Participant A's total PC5 benefit payable at 11/1/2016 (NRD) is \$189.41 per month ( $= \$45.71 + \$143.70$ ):

Layer PC5a (5-Year Old Plan, DOPT-5):

- Gross = \$1888.43 (see section J.2.a.1 above)
- Net = \$45.71 = \$1888.43 - \$1842.72

Layer PC5b (3-Year Old Plan, DOPT-3):

- Gross = \$2032.13

- Net = \$143.70 = \$2032.13 - \$1888.43

**J.6.d.2. PC5 Benefit at XRD.** Participant A's total PC5 benefit payable at 7/1/2012 (XRD) is \$139.02 per month (= \$33.55 + \$105.47):

Layer PC5a (5-Year Old Plan, DOPT-5):

- Gross = \$1386.08\* (see section J.2.a.2 above)
- Net = \$33.55 = \$1386.08 - \$1352.53

Layer PC5b (3-Year Old Plan, DOPT-3):

- Gross = \$1491.55
- Net = \$105.47 = \$1491.55 - \$1386.08