

Pension Benefit Guaranty Corporation

94-1

June 15, 1994

REFERENCE:

[\*1] >4007(<)>  
>29 CFR 2610.7(a)>

OPINION:

I write in response to your letter regarding the method used by the Pension Benefit Guaranty Corporation ("PBGC") to calculate interest on premium underpayments under the PBGC's regulation on Payment of Premiums (29 CFR Part 2610).

As you note in your letter, § 2610.7 of the premium regulation provides that "[l]ate payment interest charges accrue as simple interest before January 1, 1983, and thereafter are compounded daily." You contend, however, that a statement of account recently issued by the PBGC for one day's interest on a post-1982 premium underpayment shows that the PBGC is in fact using simple interest and that the interest calculated with daily compounding would be less than that calculated by the PBGC. Accordingly, you request that the PBGC change its calculation method and issue corrected statements to all plans that have been charged interest on premium underpayments.

For the reasons explained below, the PBGC believes that its policy on the calculation of interest accords with the governing statutory and regulatory framework and therefore concludes that there is no need to correct its statements of account in the manner you request.

Your [\*2] views appear to be based on the assumption that late payment interest rates under § 2610.7, as listed in Appendix A to 29 CFR Part 2610, are effective annual rates of interest. In fact, however, they are nominal rates. The effective rate of interest corresponding to a given nominal rate is higher than the nominal rate. For example, the effective annual rate corresponding to a nominal rate of 9 percent compounded daily would be about 9.416 percent. The formula used to calculate the compound interest due for a given number of days differs depending on whether the interest rate is expressed as a nominal or effective rate. The interest factor for a period of n days where interest is compounded daily is either:

- (1)  $((1+i/365)^n - 1)$  if i is a nominal rate of interest, or
- (2)  $((1+i)^{(n/365)} - 1)$  if i is an effective rate of interest.

(In a leap year, 366 would be used instead of 365.) The interest factor for n days where simple interest is charged is:

$$(3) \quad n \times (i/365).$$

The distinction between simple and compound interest and between nominal and effective rates, and the basic formulas for calculating interest by various methods, are discussed in Stephen G. Kellison, The [\*3] Theory of Interest, chapter 1 (2d ed. 1991).

Using as an example the figures cited in your letter, the PBGC would assess interest of \$36.50 at a rate of 9 percent on a premium of \$148,029 that was paid one day late in a 365-day year. As you point out, this amount of interest is the amount that would be assessed if simple interest were being charged using formula (3) above:

$$(4) \quad \$148,029 \times 1 \times (.09/365) = \$36.50.$$

In fact, however, the PBGC applies a nominal rate of interest compounded daily using formula (1) above, which, for a period of one day, happens to give the same result:

$$(5) \quad \$148,029 \times ((1+.09/365)^1 - 1) = \$36.50.$$

That these two results are the same merely reflects the fact that when the period for which compound interest is assessed coincides with the compounding period, no compounding occurs within the period. It does not demonstrate that the PBGC is charging simple rather than compound interest.

To support your contention that the interest charge would be less if compound interest were applied, you advance the following computation:

$$(6) \quad \$148,029 \times ((1.09)^{(1/365)} - 1) = \$34.95.$$

This computation uses formula (2) above and would be appropriate if [\*4] the 9 percent rate being charged were an effective rate. As discussed above, however, it is not; it is a nominal rate. If the corresponding effective rate were used in computation (6) instead of the nominal rate, the result would be the same as that obtained by the PBGC using the nominal rate in computation (5):

$$(7) \quad \$148,029 \times ((1.09416)^{(1/365)} - 1) = \$36.50.$$

The PBGC's premium regulation is promulgated under sections 4006 and 4007 of the Employee Retirement Income Security Act of 1974. The provision for interest on premium underpayments in section 4007(b) prescribes the use of "the rate imposed under section 6601(a) of the Internal Revenue Code of 1954" ("IRC"); that section imposes interest "at the underpayment rate established under [IRC] section 6621." The daily compounding provision in the PBGC's premium regulation was added in response to the adoption of IRC section 6622, which provides for daily compounding of interest determined under the IRC or by reference to IRC rates (see 47 FR 55670, December 13, 1982). The PBGC's treatment of the rate imposed under section 6601(a) as a nominal rate of interest compounded daily, rather than an effective

rate, is consistent [\*5] with the position of the Internal Revenue Service ("IRS"). For example, 26 CFR § 301.6622-1(a) of IRS regulations states that --

in computing any . . . amount determined . . . by reference to the interest rate established under section 6621, such interest . . . shall be compounded daily by dividing such rate of interest by 365 (366 in a leap year) and compounding such daily interest rate each day.

That is the procedure used by the PBGC as shown in computation (5) above. The procedure is illustrated in 26 CFR § 301.6622-1(c)(2) of IRS regulations. In that illustration, 60 days' interest on a \$1,424.66 underpayment at a rate of 16 percent compounded daily is given as \$37.96. This result is obtained by treating the 16 percent as a nominal rate and using the method exemplified by formula (1) and computation (5) above (the PBGC's method):

$$(8) \quad \$1,424.66 \times ((1 + (.16/365))^{60} - 1) = \$37.96.$$

It is not obtained by treating the 16 percent as an effective rate and using the method exemplified by formula (2) and computation (6) above (the method you advocate), which would produce a lower result:

$$(9) \quad \$1,424.66 \times (1.16^{(60/365)} - 1) = \$35.19.$$

*See also* 26 CFR § 301.6621-1(a)(3) [\*6] of IRS regulations, which notes that, as mentioned above, "the effective annual percentage rate of interest will exceed the prescribed rate of interest."

I hope that the foregoing makes clear why the PBGC's interest computation is done in the manner reflected by the statement of account that you refer to. If you have any further questions about this matter, please contact Deborah C. Murphy of this office at 202-326-4024.

John H. Falsey  
Deputy General Counsel