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Pension Section News

Excerpts from the PBGC Actuarial Valuation Report—2002

by Joan M. Weiss

Editor's Note: The 2002 Annual Report of the PBGC and the complete 2002 Actuarial Valuation Report, including additional actuarial data tables, are available upon request from Loretta Berg at the PBGC, 202.326.4040 or berg.loretta@pbgc.gov.

The 2002 Annual Report of the Pension Benefit Guaranty Corporation (PBGC) contains a summary of the results of the September 30, 2002 actuarial valuation. The purpose of this separate Actuarial Valuation Report is to provide greater detail concerning the valuation of future benefits than is presented in PBGC's Annual Report.

Overview

The PBGC calculated and validated the present value of future benefits (PVFB) for both single-employer and multi-employer programs and of non-recoverable financial assistance under the multi-employer program. For the single-employer program, the liability as of September 30, 2002 consisted of:

- $22.68 billion for the 3,122
- $12.39 billion for the 41 probable terminations

Liabilities for "probable terminations" reflected reasonable estimates of the losses for plans that are likely to terminate in a future year. These estimated losses were based on conditions that existed as of PBGC's fiscal year-end. It is likely that one or more events subsequent to PBGC's fiscal year-end will occur, confirming the fact of the loss. In addition, the liability for reasonably possible terminations has been calculated and is discussed in Note 7 to the financial statements on page 41 of PBGC's 2002 Annual Report. A discussion of PBGC's potential claims and net financial condition over the next 10 years is presented on pages 17-19 of that report.

For the multi-employer program, the liability as of September 30, 2002 consisted of:

- $3 million for 10 pension plans that terminated before passage of the Multi-Employer Pension Plan Amendments Act (MPPAA) of which the PBGC is trustee.
- $775 million for probable and estimable post-MPPAA losses due to financial assistance to 58 multi-employer pension plans that were, or expected to become, insolvent.

Actuarial Assumptions, Methods, and Procedures

The PBGC continues to review the actuarial assumptions used in the valuation to ensure that they remain consistent with current market conditions in the insurance industry and with PBGC's experience. The actuarial assumptions that are used in both the single-employer and multi-employer valuations are presented in the table (page 5). Assumptions concerning data that were not available are discussed in the data section of this report.

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As in previous valuations, the select and ultimate interest rates used to value PBGC liabilities were derived by using an assumed underlying mortality basis and current annuity purchase prices. The interest rates so determined for the 2002 valuation were 5.70 percent for the first 25 years after the valuation date and 4.75 percent thereafter. These interest rates are dependent upon PBGC's mortality assumption which changed from FY 2001 to FY 2002 (see below).

Beginning with the FY 1997 valuation, the mortality assumptions were updated by adopting the recommendations from a study by an independent consulting firm. This study recommended that, when conducting valuations for its financial statements, the PBGC use the male and female 1994 Group Annuity Mortality Static Table (with margins), set forward two years, for healthy males and females. The study also recommended that continuing mortality improvements be taken into account by using Projection Scale AA, also set forward two years, to project these tables a fixed number of years. At each valuation date, the fixed number of years will be determined as the sum of the elapsed time from the date of the table (1994) to the valuation date, plus the period of time from the valuation date to the average date of payment of future benefits (the duration). This is an approximation to a fully-projected table. Thus, the mortality table used for healthy lives in the 2002 valuation is the 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 16 years to 2010 using Scale AA. The 16 years recognizes the eight years from the 1994 to 2002 plus the eight-year duration of the 9/30/01 liabilities. The 2001 assumption incorporated a 15-year projection, determined as the sum of the seven years from 1994 to 2001 and the eight-year duration of the 9/30/00 liabilities.

We continued our ongoing efforts to improve the quality of the seriatim data...

The model used to determine the reserve for future administrative expenses was changed in FY 2000 based on a study by an independent consultant. There was no change in the assumptions for retirement ages.

The Small Plan Average Recovery Ratio (SPARR) assumptions as shown in the table on page 5 were updated to reflect the actual SPARRs calculated for FY 2000 (4.58 percent). The SPARRs for subsequent years are assumed to equal the FY 2000 SPARR.

We note two major improvements in valuation processing for 2002. The first is that the data for Missing Participants who have not yet been located is now extracted from PBGC's individual participant database (GENESIS) rather than PBGC's plan level database (CAS) where it previously resided. The second is that the processing of seriatim GENESIS data has been modified to store results for reuse, reducing the valuation processing time significantly.

We continued our ongoing efforts to improve the quality of the seriatim data and, as in other years, made various changes to improve the accuracy, speed, security and auditability of the calculations and to integrate with the evolving PBGC computer environment.

Statement of Actuarial Opinion

This valuation has been prepared in accordance with generally accepted actuarial principles and practices and, to the best of my knowledge, fairly reflects the actuarial present value of the corporation's liabilities for the single-employer and multi-employer plan insurance programs as of September 30, 2002.

In preparing this valuation, I have relied upon information provided to me regarding plan provisions, plan participants, plan assets, and other matters.

In my opinion, (1) the techniques and methodology used for valuing these liabilities are generally accepted within the actuarial profession; (2) the assumptions used are appropriate for the purposes of this statement and are individually my best estimate of expected future experience discounted using current settlement rates from insurance companies; and (3) the resulting total liability represents my best estimates of anticipated experience under these programs. ◆

Joan M. Weiss, FSA, is chief valuation actuary at Pension Benefit Guaranty Corporation in Washington, D.C.
She can be reached at
weiss.joan@pbgc.gov

ACTUARIAL ASSUMPTIONS		
	Previous Valuation as of 9/30/01	**Current Valuation as of 9/30/02**
Interest Rate	Select and Ultimate • 6.70% for 20 years • 5.25% thereafter	Select and Ultimate • 5.70% for 25 years • 4.75% thereafter
Mortality • Healthy Lives	• 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 15 years to 2009 using Scale AA.	• 1994 Group Annuity Mortality Static Table (with margins), set forward two years, projected 16 years to 2010 using using Scale AA.
• Disabled Lives Not Receiving Social Security • Disabled Lives Receiving Social Security	• Healthy Lives Table set forward three years • Social Security disability table as described in subpart B of PBGC Regulations on Allocation of Assets in Single-Employer Plans for persons up to age 64, adjusted to parallel the table for disabled lives not receiving Social Security benefits for ages above 64.	Same Same
SPARR	Calculated SPARR for fiscal years for which it has been calculated. The most recent calculated SPARR is assumed for years for which the calculation is not yet completed (most recent SPARR: FY 1999 = 8.01%).	Calculated SPARR for fiscal years for which it has been calculated. The most recent calculated SPARR is assumed for years for which the calculation is not yet completed (most recent SPARR: FY 2000=4.58%).
Retirement Ages	(a) Earliest possible for shutdown companies (b) Expected retirement age (XRA) tables from 29 CFR 4044 for ongoing companies (c) Participants past XRA are assumed to be in pay status. (d) Unlocated participants past normal retirement age (NRA) are phased out over three years to reflect lower likelihood of payment	Same
Expenses	All terminated plans and single-employer probable terminations; 1.18% of the liability for benefits plus additional reserves for cases where plan asset determinations, participant database audits, and actuarial valuations were not completed.	Same