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INDIVIDUAL ANNUITIES

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MR. JOHN F. FRITZ: Our topic is obviously a very timely one. Annuity premium income has been growing in leaps and bounds since the introduction of ERISA; however, the tax qualified area has not been the only area of large premium income increases. For example, stock brokerage firms have become interested in the single premium deferred annuities in the non-tax-qualified area. As a natural consequence of this surge in sales volume, several government entities have taken a real interest in annuities, including the President, the FTC, the SEC, the IRS and the state insurance departments. The emphasis of our discussion today will not be in the tax qualified area, but rather the non-qualified single premium deferred annuities and flexible premium annuities.

HOWARD H. KAYTON: As actuary for a marketing organization, I have been asked to describe some of the problems involved in the sale of deferred annuities. As you will see shortly, a large part of these problems is being able to cope with the profusion of regulatory attacks.

Marketing Problems

Let me begin by describing the various products that are available, and some of the key features that will be discussed in the course of our presentations. The major products that we will be discussing are single premium and flexible premium deferred annuities. We will not be discussing annual premium deferred annuities (since they present no special problems not encountered in the other two product designs), investment annuities, or variable annuities. The reason for the exclusion of the latter two is that they each could form the subject of separate Concurrent Sessions.

In discussing both single premium and flexible premium deferred annuities, it is important to understand some of the characteristics of these contracts which are making them currently so attractive in the market place. The present version of the product design is characterized by generally higher interest rates than insurance companies have paid in the past, longer term interest guarantees, and low or no front-end sales loads. These are the features that have made the product very competitive with other forms of investments. Other features found in many of these contracts are (1) attractive annuity options based on higher interest assumptions, (2) the availability of partial withdrawals, instead of policy loans, (3) lower premium tax applicable to annuities as compared with life products, and of course (4) the favorable federal income tax treatment for both the purchaser of the annuity and the life insurance company. Another characteristic of many of these contracts is a surrender charge for withdrawal funds.

The resurgence of annuities can be linked to several recent changes in our economy. The first of these is the continuing need to supplement retirement benefits through secure investments. There has been an emphasis on security because of (1) the impact of inflation, (2) the simultaneous rise in interest rates, which appears to have diminished the reliance on the stock market to avoid inflation, (3) the growing burden of earnings through the combination of inflation and graduated tax rates, (4) the elimination of tax shelters available to the middle classes, (5) the relatively low limitation on the amount of funds that may be invested in HR10 and IRA programs, and finally (6) the continued improvement in longevity, which helps stress the need for providing an income that one cannot outlive.

During the middle 1970's there was tremendous growth in annuity sales. Two companies in particular, Capital Life of Denver and Anchor National Life, stand out as examples of companies that have grown at rates not common to the life insurance industry, with almost all of the growth being attributable to annuities. Both of these companies sell primarily through the licensed agents of stock brokerage firms. One reason for the interest of stockbrokers in fixed dollar annuities has been the concurrent lack-luster performance of the stock market.

Along with the interest of many companies in the marketing of annuities, came the anticipated interest of the regulatory authorities. As we all know, any innovative and successful product must either be illegal, or else it can be made to be illegal. In the past year interest in the annuity market has been expressed by the various state insurance departments via reserving requirements, the SEC and its investigation of whether a guaranteed interest contract is a security subject to registration, the Internal Revenue Service and the Treasury Department with their suggestions regarding taxation of the interest build-up under annuities, and the FTC with their interest in how companies are advertising annuities. These testimonials should serve as evidence of the desirability and success of deferred annuities.

Taxation of the Purchaser of Deferred Annuities

The purchaser of a deferred annuity or anyone receiving any benefits from such a purchase has always been subject to federal income taxation under Section 72 of the Internal Revenue Code.

The basic principle of annuity taxation is that increases in policy values are taxable to an individual only when received, either (1) as withdrawals prior to the annuity commencement date, where the cost basis is received tax-free (FIFO), or (2) as annuity payments, where each payment is partially taxed as income over the period that payments are expected to be received. In the case of annuities, the interest build-up is not constructively received since the availability of the cash value of the deferred annuity is subject to substantial limitations, which include any surrender charge plus the relinquishing of the insurance protection provided by the guaranteed lifetime benefits available. In addition the holders of annuities may exchange them on a tax-free basis for other annuities (Section 1035).

This year the Carter administration proposed to tax the interest build-up on annuities. This proposal, which was to be effective on purchases of

(or additional payments to) contracts issued after January 31, 1978, caused a great deal of concern within the industry. This proposal sought to accomplish the following:

1. Tax the interest credited to contracts during the accumulation period, even though its receipt is deferred.
2. Permit an exemption for contributions of up to \$1,000 per year into one designated fixed dollar contract, for which the present taxation method would continue.
3. Eliminate the so-called FIFO approach on partial surrenders for determining how the distributions from annuities should be taxed. Instead, a LIFO approach was recommended. This would have applied to any withdrawal after December 31, 1978, even under contracts issued before the date of the proposal.

Our company, and several other companies began a concerted industry effort to defeat this proposal. Because of the position of ACLI within the industry, we attempted to work through that body. Early meetings of various ACLI committees indicated that the ACLI was likely to offer an alternative to the Treasury Department which would maintain the tax deferred status of interest during the accumulation period, but offer instead to accept a penalty tax on any premature distributions (similar to the penalty tax that is imposed upon premature distributions from IRA's).

Because of the obvious distinction between before-tax funds contributed to IRA-type accounts, and the after-tax dollars being invested in non-qualified annuity contracts, many companies felt that ACLI was being overly generous in offering its compromise to the Treasury Department. In fact, the ACLI Legislative Committee's ad hoc Task Force presented a recommendation to that Committee which expressed strong opposition to this penalty tax. However, the ACLI Board's position, as expressed in their testimony before the House Ways & Means Committee, ultimately supported the penalty tax.

On April 19, the House Ways & Means Committee, after hearing considerable testimony, announced their support of (1) the continued tax-deferred treatment of interest build-up on annuities, (2) the elimination of the FIFO concept, with a substitution of a pro-rata taxation of interest approach, and, surprisingly, (3) a continuation of the tax-deferral on Investment Annuities. This last item was surprising since most of the industry did not testify in support of this concept. Instead the industry seemed to favor drawing a distinction between traditional annuities and Investment Annuities. The former are based on a portfolio over which the owner has no control of specific investments, whereas Investment Annuities use specifically named investments which the applicant may already own.

There have been no official pronouncements since then, but it now appears that the interest build-up on annuities is supported by a majority of the House Ways & Means Committee. If their position is endorsed by the full House and the Senate, the only change in the present method of taxation will be in the use of the pro-rata tax treatment for partial withdrawals.

My own predictions about the future are that there will continue to be forays on the part of the IRS, but with the possible exception of Investment Annuities, there is not likely to be any major tax change in the near future.

SEC Investigation

From a legislative history standpoint, annuities were not defined as "securities" under the 1933 Act, and further have been specifically exempt from SEC jurisdiction under Section 3(a)(8) of the Securities Act of 1933. This exemption applies to "any insurance or endowment policy or annuity contract or optional annuity contract, issued by the corporation subject to the supervision of the Insurance Commissioner,...of any State or Territory of the United States...."

In December 1976, the SEC sent out letters to twelve companies requesting certain information regarding annuity contracts on other than qualified corporate plans or those sold with special tax treatment. Shortly after that, the ACLI determined that the SEC was about to issue a Regulation which would seek to distinguish between fixed annuities that qualify for exemption from consideration as securities, and those that must be registered. The ACLI asked for a hearing, and such a hearing was held on May 6, 1977. After that hearing the SEC did an about-face, and instead of releasing a Regulation on the subject, issued Release No. 5838, which requested "Submission of Views" regarding "Guaranteed Investment Contracts".

This release suggested that the SEC was interested in obtaining information in the following areas in order to make distinctions among annuity contracts:

- a. Advertising
- b. Excess Interest Provisions
- c. Short or Long-term Contracts
- d. Existence of Guaranteed Annuity Purchase Rates
- e. Adequacy of State Insurance Laws

Apparently as a result of the May 6 meeting the SEC was less certain of its position. In any event, the imminent "regulation" never emerged. Comments on Release No. 5838 were received at the SEC up through September 6, 1977. In early May, the SEC Staff presented a draft of a Regulation to the Commission, but was instructed to go through the Rule-making procedure instead.

The next relevant item to emerge from the SEC was on May 17, 1978, in the form of proposed Rule 154 which would interpret Section 3(a)(8). This proposed Rule is being exposed for comments through July 17.

Rule 154 sets forth conditions under which contracts which are nominally annuities would not be deemed to be exempt from this act. The proposed rule describes two situations where the provisions of the contracts themselves will remove them from exemption as securities. It then goes on to describe a third situation where the circumstances surrounding the sale, as well as the contract provisions, might or might not gain exemption.

The two situations where the provisions do not permit exemption are: (1) contracts which do not contain permanent guaranteed annuity purchase

rates, and (2) contracts which have deposit fund riders, which the SEC describes as an alternative to a savings account. The release defines "permanent annuity purchase rates" and "deposit fund riders".

The third category, which will be the more troublesome one, involves both the contractual terms of the contract and the manner of its sale. It is to this category that most companies would have to turn to determine if their contracts are in fact exempt. The contract provisions that could result in the loss of exemption are:

1. Short-term contracts (where the age of the individual and the term of the contract indicate it was purchased for tax-deferred capital accumulation).
2. Permanent annuity purchase rate guarantees that are not meaningful (i.e., where the permanent guarantees provide lower benefits than what is generally commercially available).
3. Discretionary determination of excess interest (where the buyer is sold the expectation of excess interest not yet declared - here it would appear that the shorter the initial interest guarantee period, the more likely it is to be considered an investment).

The latter category specifically excludes participating contracts where the company is legally obligated to allocate part of its divisible surplus to the contractholder.

In addition to the actual terms in the contract, the SEC will consider the manner in which the contract is marketed (i.e. sales literature, advertising, and representations by salespersons). If this were to stand, it would produce a flood of request for no-action letters, since the last item is obviously subjective. I would expect that the SEC will be requested to issue further guidelines in this area so that companies can determine what is and is not an acceptable marketing practice. There are also obviously some clarifications needed with respect to the other three provisions.

Also, it would appear that the Investment Annuity would have to be registered since the release states "A contract which does not provide, at its inception, a guaranteed, fixed annuity benefit cannot be regarded as an annuity exempt from registration".

Non-Forfeiture and Valuation Law Revisions

The last area that I would like to discuss is the recent interest by the State Insurance Departments in valuation and nonforfeiture benefits applicable to deferred annuities. Because of the high interest guarantees in some of the currently issued products, and because these contracts had traditionally been valued on an accumulation of the net premiums at the interest rate guaranteed, the NAIC Task Force under John Montgomery became interested in defining a new valuation standard. This was introduced at the December 1976 NAIC meeting, at which time the Commissioners Annuity Reserve valuation Method (CARVM) was defined for the first time. Many of the laws in effect up to that time suggested that the CRVM method used for life insurance contracts also be applied to annuities. However, there was

little interpretation available and very limited regulation (other than in Tennessee) to give the actuary any guidance as to how to apply CRVM to annuities.

Also, because of the abuse of some of the annuity contracts then being issued, particularly with respect to IRA contracts, this NAIC Task Force also introduced the Standard Non-Forfeiture Law for Individual Deferred Annuities. Some of the abuses existing at that time were contracts where the entire first year's gross premium was taken in as loading, and contracts where the loading removed from single premiums was judged to be excessive in comparison with single premium life contracts.

The CARVM requires that a company value its deferred annuities as the highest of all discounted future guaranteed benefits. It specifically states that the "future guaranteed benefits" shall include "guaranteed non-forfeiture benefits". This new law creates quite a burden on insurance companies in valuing contracts with any sort of meaningful guarantees, and would probably not be imposed upon the industry if it were not for the availability of computers (a mixed blessing).

The Standard Non-Forfeiture Law appears to be straightforward in defining the maximum loadings which will be permitted under single premium deferred annuities, annual premium deferred annuities and flexible premium deferred annuities. It then specifies a minimum interest accumulation rate which must be used, but then imposes an additional restriction that could be interpreted as requiring that the cash value at maturity be applied to provide annuity income, without any allowance for a surrender charge at that time.

Some of us were quite concerned with this possible interpretation, and sought to have the Model Bill corrected. Instead we learned that the drafters of the Model Bill did not interpret that provision in that manner, and saw no need to revise the Model Bill. As a result the ACLI will be recommending an interpretation of this Standard Non-Forfeiture Law which will specifically permit a surrender charge to be made if the owner of a deferred annuity contract elects to receive proceeds in cash, rather than apply it to purchase an annuity.

At the present time the Standard Valuation Law changes have been adopted in 16 states and the Deferred Annuity Non-Forfeiture Law in 17 states. Action is pending in at least a dozen other states.

Summary

I have attempted to highlight some of the marketing features of deferred annuities as well as some of the legislative problems facing carriers writing these products. Because of the entry of additional companies into this field, following the success of some of the early pioneers, we will likely see additional product innovations, as well as innovation-stifling legislation. To writers of innovative products this should come as no surprise; to others, they should be forewarned that there is a hidden cost to the issuance of high guarantee annuity contracts, i.e., the cost of the regulatory compliance.

Steve Linney and Dick Swift will now get into some of the product design features and the actuarial problems faced by annuity writers.

MR. STEVEN R. LINNEY: I have divided my discussion today into two Parts: first a brief review of the proposed NAIC Model Annuity and Deposit Fund Disclosure Regulation and second an outline of Single Pay Deferred Annuities.

NAIC Model Regulation

I will only briefly summarize the main points. All individual annuity and deposit funds are covered; however, some contracts that are already regulated, such as IRA's, certain other qualified products, and variable annuities, would be excluded under these regulations.

This regulation provides for a written Contract Summary to be provided prior to the acceptance of the initial premium. The following list highlights the necessary information: 1) detailed identification of the company and insurance agent; 2) the amount of guaranteed annuity payments and illustrative annuity payments based on the current excess interest (or dividend) rates and annuity purchase rates; and 3) if the cash surrender amounts are less than the total considerations paid, a prominent statement that such contracts may result in a loss if held only a few years. Also, for the first five contract years and representative years thereafter, the following information must be provided: 1) the gross annual or single premium; 2) the total guaranteed cash surrender value or guaranteed paid-up annuity; and 3) illustrative cash values or paid-up annuity amounts based on current interest rates and current annuity purchase rates.

There are also several provisions relating to prohibited misrepresentations. For example, dividends can not be represented as guaranteed; the agent must inform the purchaser he is acting as agent; the agent can not use terms such as financial planner, advisor, etc. unless this is actually the case.

The regulation has been approved by the task force that has been studying it and will be recommended for adoption at the June NAIC meeting.

Single Pay Deferred Annuities

The basic purpose of a Single Pay Deferred Annuity is to allow a person to accumulate money in an insured contract to provide for his retirement income needs. He receives a guaranteed rate of return and safety of principal that only an insurance company can offer. With this basic purpose, it would appear that a Single Pay Deferred Annuity would be a simple product with few design questions. Exactly the opposite is true. There is considerable flexibility in the design and thus there is no "typical" Single Pay Annuity.

My company's annuity has a load at issue grading down with the amount contributed. The cash surrender value is the gross premium less the load accumulated at the current portfolio average interest rate. From a survey in Best's Review on Single Pay Deferred Annuities, it appears most companies still issue this type of "loaded" annuity with the load ranging between 5% and 9%; however, several of the largest sellers of Single Pay Annuities use the "no-load" approach. In the no-load approach, at issue there is no load.

However, if a significant number of customers wanted to surrender, the company might realize large capital losses. I have recently spent considerable time analyzing this risk and have developed a fairly complex computer model that allows considerable flexibility in choosing assumptions, (e.g. new money rates, sales volume, surrender rates, etc.).

The following two scenarios illustrate this risk analysis. These scenarios are based on my company's experience and thus they are representative of a portfolio-average method company. The interest rate we credit is derived from the portfolio rate by subtracting administration and investment expenses and a profit margin. (Note that I have assumed the load equals acquisition expenses). Finally I have started with assets of \$200,000,000 earning approximately 8.9% as a representation of where we currently are. The first scenario is what I call the "normal" one (Exhibit I). As you can see the retained earnings grow to over \$120,000,000. (Note: Since every company's tax status is unique, I have assumed these numbers are pretax.) In the column labeled "capital losses" I have only entered the large capital losses due to surrenders.

In my second scenario (Exhibit II), much worse assumptions were chosen. Please note: these assumptions are not predictions and perhaps are not even consistent with one another as I will point out later. On the other hand, they have been chosen to show the methodology and to make several points about the capital loss risk. As you can see, I have assumed sales declining to \$30,000,000, surrenders increasing to 25%, and new money rates peaking at 12%. This type of new money rate pattern could develop from governmental controls leading to a "blow off" in interest rates and then a return to normal conditions. Before I show the actual results, I will show the potential losses under these assumptions. The lower portion of Exhibit II shows the invested assets and unrealized losses. For example, if everyone surrendered in 1982 the company could lose \$104,000,000. The actual operating results are shown in the lower right portion of Exhibit II. There are large realized capital losses in 1982 and 1983 which cause the retained earnings to go negative; however, it does turn around by 1987.

Let me suggest several things that can be done to lessen this risk. Most importantly, a company should attempt to discourage surrenders and thus the possible capital losses. There are several steps a company can take. First, reasonable surrender charges can be used. I do believe however that very high surrender charges would eliminate much of the desired flexibility of the annuity and as I pointed out earlier could lead to customer dissatisfaction.

Also, emphasis must be given when marketing the Single Pay Deferred Annuities to the main purpose, which is guaranteed retirement income. Care should be taken in issuing large contracts (e.g. over \$250,000). Since these large contracts could be using the annuity for other than retirement purposes, they could be exactly the ones that would surrender and cause capital losses.

Another step that must be taken is to closely monitor both sales and surrender rates along with new money rates in order to make any necessary adjustments in the interest rate. There is a relationship in the spread between the new money rate and the accrual rate on the one hand and sales

and surrender rates on the other. My second scenario raised the accrual rate higher than what was being earned on the assets to prevent surrenders and encourage sales. This is the example of an inconsistency, since if we had such a high accrual rate we would hopefully have many more sales and many fewer surrenders. In addition, whether regulatory agencies would allow such a high rate is questionable. As I said before, these assumptions were not chosen to represent a real situation but to make several points about the capital loss risk.

When studying possible surrenders, tax deferral is a consideration. However, I do not think we should rely on this to discourage surrenders for two reasons. First, as we have recently seen the tax deferral could be changed for future sales. And secondly, an annuitant could still move his money to another annuity without affecting his tax status.

To summarize, the Single Pay Deferred Annuity has considerable flexibility, and if designed and marketed properly with adequate safeguards against risk should provide a very useful and profitable product.

MR. RICHARD A. SWIFT: Steve has described the risks associated with a life insurance company selling single premium deferred annuities. Most of his remarks regarding risks also apply to flexible premium deferred annuities (FPA). To avoid duplication, I will direct my remarks to an overview of FPA contracts currently being sold by life insurance companies. This will include a description of methods used to design and price FPA contracts.

My presentation will also cover methods used to determine GAAP reserves for deferred annuities and a brief description of life insurance company taxation of deferred annuities.

Flexible Premium Annuity --- Product Design and Pricing Procedures.

The risk to the insurance company on FPA contracts depends considerably on the product design and actuarial assumptions, particularly loading, commissions and interest rate guarantees. One possible product design for an FPA contract is:

Interest Rates:

Guaranteed Rate - 4.00%
Current Rate - 7.25

Average Size Policy:

Annual Premium of \$1,000

Policy Loadings:

First Year - 18% of premium
Renewal - 4% of premium

Premium Taxes:

Assumed to be deducted from premium if premium taxes are required on annuities in the annuitants state of domicile.

Commissions:

First Year - 15% of premium
Renewal - 2.5% of premium

Policy Fee:

None

Other Expenses:

First Year - \$30 per policy
Renewal - \$15 per policy

The FPA product described above was profit-tested using the following assumptions:

Mortality:	1965-70 Table
Lapse:	Linton B
Interest Earned by Company:	7.75%

Of course, there are considerable variations in FPA products from company to company. The product shown above would be ideal from the insurance company view, since the loadings in the contract are expected to reimburse all expenses. However, marketing considerations may not make this a practical product.

These assumptions are illustrative - they may not be appropriate for many FPA products. Based on these assumptions, the present value of profits for 20 years on this contract is expected to be \$19.44. This is equivalent to a profit (and contingency) margin of 3.4% of premium.

The profit margin is generated from excess interest earnings, which is very typical of FPA contracts. The profit tests assume that the company will earn a net rate of return of 7.75% and credit a rate of 7.25% to the annuitant. It is imperative for the company to maintain the differential between the earned interest rate and the credited interest rate in order to achieve the profit margin indicated.

The risk to the insurance company is quite negligible. The loadings are intended to cover all issue expenses, thus generating no surplus strain at issue. The guaranteed interest rate is conservative, so the company can lower the interest rate, if the company's earned rate decreases. The risk to the insurance company increases as the surplus strain increases. If the surplus strain at issue is 10% of premium, and other assumptions remain the same, the company's profitability decreases considerably. The expected profit margin is reduced to 1.7% of premium. This margin would likely be unacceptable, and the company would have to make other adjustments in the product design to come up with an acceptable profit margin. A reduction in the interest rate credited to annuitants would be one possible answer.

Assumptions for qualified annuity products differ from unqualified annuities. Particularly policy lapsation and the company's Federal income tax situation could be different. Many companies provide for a higher rate of interest to be credited to qualified annuities.

As mentioned previously, a considerable portion of all of the profits for FPA's are normally generated by the excess interest earnings. Thus, the allocation of the company's investment income to annuity lines is of considerable importance. Because of the subjective nature of most allocation procedures, there is a wide divergence of methods being utilized, and considerable controversy among company management.

FPA's with high interest rate guarantees may require "deficiency reserves" under current laws in several states. This can cause considerable drain on surplus. Annuity "deficiency reserves" are in essence additional reserves required when guaranteed interest rates on the annuity are greater than the maximum allowed by the state.

Some expenses can be offset by policy fees. The extra cost associated with modal premiums can also be accounted for by using policy fees. For example, a \$15 annual policy fee combined with a \$1 fee for each additional premium paid during the year could be utilized.

Companies can reduce their risk on policies with first-year expenses greater than the first-year loadings, by requiring a surrender charge. An example would be a surrender charge of 10% of the cash value in the first policy year, reducing 1% each year until the tenth policy year. The surrender charge concept also can be used to reduce the loadings on the premium. This is a more equitable treatment with regard to the annuitant, since those annuitants who terminated their contracts early pay the costs which the company incurred in issuing the contract. Continuing annuitants are not penalized since the surrender charge eventually reduces to zero over a period of time.

Taxation of Life Insurance Company

Deferred annuities have been treated in several ways in computing Federal income tax for life insurance companies.

- a. The interest credited (both guaranteed and excess interest) to the deferred annuity is treated as "interest paid." This method would be most appropriate for annuity riders, often referred to as side-funds, which do not provide guaranteed settlement option rates. The reserves under these annuities would not qualify as "life insurance reserves" under the IRS code.
- b. The annuity reserves are treated as "life insurance reserves" with the reserve interest rate set equal to the current interest rate paid. This method appears to be in conformity with the IRS code for annuities which provide guaranteed settlement options and a specified retirement date. Normally, this method would not produce as large a deduction as method (a), particularly for nonqualified annuities.
- c. The third method is a combination of methods (a) and (b). The portion of the annuity reserve based on the guaranteed interest rate is treated as "life insurance reserves," with the reserve interest rate equal to the guaranteed interest rate. The excess interest credited during the year would be considered "interest paid." This is a very logical method to use, but unfortunately most life insurance companies do not have their annuity reserves split into the two portions.

GAAP Accounting for Deferred Annuities

The calculation of GAAP reserves may be required for some deferred annuities. In other situations, the statutory reserve may be utilized

for the GAAP statement. The choice of reserving methods for GAAP will depend on the loading formula, expenses and interest rates involved. The emergence of GAAP profits on deferred annuities is very sensitive to GAAP factor assumptions, particularly the GAAP interest rate.

- a. Single Premium Deferred Annuities: A deferred acquisition asset cannot be set up on this type of plan since only one premium is payable. However, a benefit reserve can be calculated on a GAAP basis to reflect the fact that the insurance company will invest the premiums paid at a higher interest rate than what is being credited to the policyholder. A reserve for future maintenance expense should be provided in addition to the benefit reserve.

Using a higher interest rate on the reserve results in a GAAP liability which is lower than that required for statutory purposes. It is important to make sure that this lower initial GAAP liability does not produce an artificially high initial profit, followed by zero gains or losses in the future years.

An illustration of GAAP reserves on SPDA's is shown in Exhibit III for the two cases when the GAAP interest rate is .25% and .50% greater than the current interest rate. Note the sensitivity of the reserve factors to the GAAP interest rate.

The following illustrates profit emergence under three situations:

- i. Statutory reserves --- the reserves equal the accumulated cash value
- ii. GAAP reserves --- the GAAP interest rate is 7.25%
- iii. GAAP reserves --- the GAAP interest rate is 7.50%.

ILLUSTRATION OF PROFIT EMERGENCE

ON SINGLE PREMIUM DEFERRED ANNUITY

OVER A 10 YEAR PERIOD

Percentage of Profit in Policy Year to Total 10 Year Profit

Policy Year	GAAP		
	Statutory	7.25% Factors	7.50% Factor
1	(119)%	4	27
2	15	7	6
3	17	8	6
4	19	9	7
5	21	9	7
6	24	10	8
7	26	11	9
8	30	13	9
9	32	14	10
10	35	15	11
	100%	100%	100%

It is assumed the company is able to earn a net interest rate of 8.0%. An issue expense of 6.5% of premium plus \$20 per policy is assumed. Therefore, a large statutory loss is incurred at issue because of the no-load feature.

In my opinion, the 7.50% GAAP factors produce a logical emergence of profits. The largest profit occurs in the first year, at the time of the premium payment. Satisfactory renewal profits are expected to emerge as long as the company can maintain the differential between the current interest earnings rate and the interest rate credited to the annuitant.

- b. Flexible Premium Annuities: The GAAP benefit reserve can be calculated in a manner similar to that for the SPDA, except it is often assumed that annual premiums will be paid in future years equal to the annual premium in the initial year. Obviously, one problem with this assumption is that it is impossible to predict the amount of future premiums on a flexible premium contract. Thus, many companies use the cash value accumulation for the GAAP benefit reserve (i.e., the GAAP benefit reserve equals the statutory reserve).

In addition, a GAAP deferred expense asset covered by the loadings in the annuity contract cannot be amortized. However, if the first-year expenses, including commissions, are greater than the loadings provided, these excess expenses may be eligible for amortization.

DISCUSSION—CONCURRENT SESSIONS

Exhibit I

Normal Assumptions

<u>Year</u>	<u>New Money Rate</u>	<u>Portfolio Rate</u>	<u>Accrual Rate</u>	<u>Sales (000's)</u>	<u>Surrenders Rate</u>	<u>(000's)</u>
1978	8.75	8.87%	7.5%	\$100,000	7%	\$14,923
1979	8.75	8.83	7.5	100,000	7	21,889
1980	8.75	8.81	7.5	100,000	7	28,853
1981	8.75	8.80	7.5	100,000	7	35,816
1982	8.75	8.79	7.5	100,000	7	42,777
1983	8.75	8.78	7.5	100,000	7	49,736
1984	8.75	8.78	7.5	100,000	7	56,693
1985	8.75	8.77	7.5	100,000	7	63,649
1986	8.75	8.77	7.5	100,000	7	70,602
1987	8.75	8.77	7.5	100,000	7	77,554

	<u>Operating Gain (000's)</u>	<u>Capital Losses (000's)</u>	<u>Net Income (000's)</u>	<u>Retained Earnings (000's)</u>
1978	\$ 3,426	-	\$ 3,426	\$ 3,659
1979	4,942	-	4,942	8,601
1980	6,592	-	6,592	15,193
1981	8,389	-	8,389	23,582
1982	10,347	-	10,347	33,928
1983	12,478	-	12,478	46,406
1984	14,799	-	14,799	61,206
1985	17,327	-	17,327	78,533
1986	20,008	-	20,008	98,612
1987	23,078	-	23,078	121,690

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Exhibit II

Worst Assumptions

<u>Year</u>	<u>New Money Rate</u>	<u>Portfolio Rate</u>	<u>Accrual Rate</u>	<u>Sales (000's)</u>	<u>Surrenders Rate</u>	<u>(000's)</u>
1978	8.75	8.87%	7.5%	\$100,000	7%	\$14,923
1979	8.75	8.83	7.5	100,000	7	21,889
1980	8.75	8.81	7.5	100,000	7	28,853
1981	11	8.99	8.5	75,000	10	51,412
1982	12	9.14	9.5	30,000	25	145,052
1983	11	9.13	9.0	30,000	25	126,433
1984	9.3	9.11	8.0	30,000	20	88,324
1985	8	9.07	7.5	30,000	15	61,587
1986	8	8.99	7.0	50,000	10	40,406
1987	8	8.85	7.0	60,000	7	30,706

<u>Year</u>	<u>Assets (000's)</u>	<u>Unrealized Gain (000's)</u>	<u>Operating Gain (000's)</u>	<u>Capital Losses (000's)</u>	<u>Net Income (000's)</u>	<u>Retained Earnings (000's)</u>
1978	\$305,058	\$ 3,394	\$3,426	-	\$ 3,426	\$ 3,659
1979	405,893	3,154	4,942	-	4,942	8,601
1980	508,355	2,987	6,592	-	6,592	15,193
1981	573,216	(92,655)	4,127	-	4,127	19,320
1982	487,513	(104,723)	(627)	\$(15,325)	(15,762)	3,558
1983	420,820	(63,056)	627	(7,997)	(7,370)	(3,812)
1984	395,985	(6,798)	4,278	(223)	4,055	243
1985	396,959	42,187	6,316	-	6,316	6,559
1986	439,116	43,046	8,732	-	8,732	15,291
1987	504,215	42,517	9,734	-	9,734	25,025

DISCUSSION—CONCURRENT SESSIONS

Exhibit III

ILLUSTRATION OF GAAP RESERVES

ON A SINGLE PREMIUM DEFERRED ANNUITY

Current Credited Interest Rate	7.00%
Policy Loadings:	None
Issue Age:	35
Retirement Age:	65
Maintenance Expenses:	\$15 per policy
Average Size Policy	Single Premium of \$25,000

Comparison of Cash Values (based on current interest credited)
and GAAP Reserves (per \$1,000 Single Premium):

<u>Policy Year</u>	<u>Cash Value</u>	<u>GAAP Reserve</u>	<u>7.25% GAAP Interest</u>		<u>7.50% GAAP Interest</u>
			<u>Ratio GAAP Reserve to Cash Value</u>	<u>GAAP Reserve</u>	<u>Ratio GAAP Reserve to Cash Value</u>
1	\$1,070	\$1,014	.95	\$ 977	.91
5	1,403	1,333	.95	1,288	.92
10	1,967	1,882	.96	1,826	.93
20	3,870	3,768	.97	3,700	.96
30	7,612	7,612	1.00	7,612	1.00