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NOTE: Formulas may not appear exactly as they do in the printed version of the Proceedings.

[\*767] The Life, Accident and Health Insurance (C4) Technical Subcommittee met in the Brule Room of the Detroit Plaza Hotel in Detroit, Michigan, at 9:15 a.m. on June 9, 1981. A quorum was present. Chairman Ted Becker of Texas presided at the meeting. The following subcommittee members were present: John O. Montgomery, Vice-Chairman (California); Douglas Broome (South Carolina); Erma Edwards (Nevada); Ed Flickner (Georgia); Burt Gottfredson (Utah); and William H. Wetterstrand (Indiana).

The following topics were considered at this meeting:

1. General Discussion of Life Actuarial Guidelines

This topic is concerned with actuarial guidelines relating to life insurance and annuities which are included in the NAIC Financial Condition Examiners Handbook, or which are being considered for possible future inclusion in the handbook.

The (C4) Subcommittee reviewed the current status of work on actuarial guidelines on the following subjects:

a. Definitions Involving Annuities--The (C4) Subcommittee is awaiting the recommendations of the American Academy of Actuaries Subcommittee for Liaison (Life Insurance) on proposed guidelines, but no one from that subcommittee was present to give a progress report.

[\*768] b. Valuation of Group Annuities--The (C4) Subcommittee is considering a specific proposed revision in the existing Actuarial Guideline II concerning transfer values. (This is in addition to a proposed change which is being recommended to the Life Insurance (C3) Subcommittee for adoption in June, 1981.) The (C4) Subcommittee is deferring action on this proposed additional change, pending the outcome of consideration within the New York Insurance Department.

c. Problems Related to Valuation--Nonforfeiture Interest Rate Differential--The (C4) Subcommittee is awaiting the conclusions of an American Council of Life Insurance (ACLI) task force before taking further action. Anthony Spano of the ACLI reported that the task force was still working on this subject, but that its conclusions might possibly be ready in time for the fall, 1981, meeting of the (C4) Subcommittee or its successor.

d. Reserves for Annuities with Contingent Liabilities--The (C4) Subcommittee has decided that an actuarial guideline is not needed on this subject.

e. Retired Lives Reserves--The (C4) Subcommittee is awaiting the conclusions of another ACLI task force before taking any further action. Anthony Spano of the ACLI reported that the task force was still working on this subject, and that a progress report could be expected at the fall, 1981, meeting of the (C4) Subcommittee or its successor.

f. Reserves for Annuities Arising from Property and Casualty Settlements and Mortality Rates for Annuities Issued on a Substandard Basis--The (C4) Subcommittee is also awaiting the recommendations of the American Academy of

Actuaries Subcommittee for Liaison (Life Insurance) on proposed guidelines, but no one from that committee was present to give a progress report.

g. Minimum Reserves for Renewable Term Insurance--The (C4) Subcommittee discussed the possibility of amending existing Actuarial Guideline IV to provide for a special mortality basis for term policies which are valued on the 1980 C.S.O. Table, to be used in computing any additional reserve which is needed because the right to renew the policy is guaranteed at rates which are less than net premiums. It was agreed that the (C4) Subcommittee should defer action on this subject, to determine whether the Technical Advisory Committee on Dynamic Interest and Related Matters wishes to comment or make recommendations.

## 2. General Discussion of A & H Actuarial Guidelines

It was noted that the Financial Condition Examiners Handbook does not now contain any actuarial guidelines relating to accident and health insurance.

The (C4) Subcommittee discussed one possible actuarial guideline. It would deal with the problem of "churning" accident and health business, in cases where the good risks under a policy are offered a slightly different policy and then the remaining insureds are subjected to a very significant rate increase.

[\*769] It was agreed that if such an actuarial guideline were adopted, it should probably be placed in the market conduct section of the handbook. It was also pointed out that such an actuarial guideline would be very difficult to compose.

This subject was referred to the American Academy of Actuaries Subcommittee for Liaison (Health Insurance) for further action. It was suggested that this American Academy of Actuaries Subcommittee might wish to work with Storm Johnsen of the Washington Insurance Department, since he has done some preliminary research on this problem.

## 3. Coordination with NAIC Task Force on Sex Discrimination

In response to an assignment given in December, 1979, the (C4) Subcommittee has adopted unanimously a position with respect to health insurance, based on current data, that:

(1) Claim costs under individually marketed and group health insurance vary significantly by sex. It is, therefore, actuarially appropriate and advantageous to the public for individually marketed health insurance premium rates to vary by sex, and for group health insurance to take into account the respective distributions by sex in the various groups insured.

(2) For individually marketed health insurance, spreading the cost of normal pregnancy outside the group of persons at risk would produce unfair results which are unnecessary and undesirable.

For all life and health insurance the (C4) Technical Subcommittee recommends that the NAIC endorse the use of a risk classification system which appropriately reflects cost differences by sex for individually marketed insurance, and both cost differences and distribution by sex within a group for group insurance, as being in the best interests of buyers of insurance.

There was discussion of these positions before adoption by the technical subcommittee. A statement which includes the above positions is attached to this report, and it is to be submitted to the Accident and Health (C1) Subcommittee and the Life Insurance (C3) Subcommittee for consideration and possible adoption at their meetings in June, 1981. [Editors Note -- The statement titled, "Review of Sex Distinct Pricing in Individually Marketed Insurance," is included in the Accident and Health (C1) Subcommittee report. See p. 563].

## 4. Other Matters

The (C4) Technical Subcommittee considered an outline of its June, 1981, semi-annual report listing the various topics included in that report, along with a correction to page 10 of the report. The correction related to the topic "Editing and Compiling Proceedings of NAIC (C4) Technical Subcommittee." After discussion, the outline and this correction were adopted unanimously.

It was also noted that the title needed to be changed for one of the actuarial guidelines, which the (C4) Subcommittee was recommending to the Life Insurance (C3) Subcommittee for adoption in June, 1981. The title used in the material mailed out to the commissioners was "Proposed Guideline for Interpretation of NAIC Standard Nonforfeiture Law

for Individual Deferred Annuities." After discussion, the (C4) Subcommittee voted unanimously to delete the words "Proposed Guideline for" from the title to this guideline.

[\*770] There being no other business before the (C4) Subcommittee, the meeting was adjourned at 10:50 a.m.

The attachments to this report are: (1) the outline to the semi-annual report of the (C4) Subcommittee for June, 1981, and (2) the semi-annual report of the (C4) Subcommittee for June, 1981.

Ted Becker, Chairman, Texas; John O. Montgomery, Vice-Chairman, California; James R. Montgomery III, Acting, D.C.; Edward A. Flickner, Jr., Georgia; Larry Gorski, Illinois; William H. Wetterstrand, Indiana; Erma Edwards, Nevada; William A. White, New Jersey; Thomas J. Kelly, New York; Douglas Broome, South Carolina; Bradford S. Gile, Wisconsin.

#### ATTACHMENT ONE

LIFE, ACCIDENT AND HEALTH INSURANCE (C4) TECHNICAL SUBCOMMITTEE, Outline of Semi-Annual Report, June, 1981

##### A. Preamble

1. Preliminary Notes
2. Membership of C4 Technical Subcommittee

##### B. Proceedings Relating to Joint Topics

1. Inadequate Investment Income--Solvency
2. Structure and Duties of the Technical Subcommittee--Housekeeping
3. Editing and Compiling of Procedures--Housekeeping
4. Organization of Government Actuaries--Housekeeping
5. Other--Housekeeping
6. Recommendations--None

##### C. Proceedings Relating to the Accident and Health (C1) Subcommittee

1. Hospital and Medical Corporations--Valuation
2. Experience Tables--Disability--Valuation
3. Experience Tables--Cancer--Valuation
4. Experience Tables--Major Medical--Valuation
5. American Academy of Actuaries Subcommittee Studies
  - a. Actuarial Opinion--Statement Blank
  - b. Annual Statement Revision--Statement Blank
  - c. Model Regulation on Reserve Standards for Individual Health Policies--Valuation
  - d. Premium Rate Filing Guidelines--Product Design
  - e. Hospital and Medical Corporations--Valuation
6. Valuation of Accident and Health Insurance Policies--Valuation
7. Loss Ratio and Minimum Standard Requirements--Valuation
8. Return of Premium and Cash Value Health Insurance--Nonforfeiture
9. Coordination with NAIC Task Force on Sex Discrimination
10. Revision of NAIC Premium Rate Filing Guidelines--Produce Design
11. Other Matters--Annual Statement Blank Revision

## 12. Recommendations

## a. Revision of model regulation entitled "Reserve Standards for Individual Health Insurance Policies"

## [\*771] D. Proceedings Relating To The Credit Insurance (C2) Subcommittee

1. Society of Actuaries Pilot Study--Valuation
2. Deviation and Credibility Formulas--Product Design
3. Recommendations--None

## E. Proceedings Relating to the Life Insurance (C3) Subcommittee

## 1. Revision of the Standard Valuation Law and Standard Nonforfeiture Law for Life Insurance--Valuation and Nonforfeiture

2. Matching of Assets and Liabilities, and Minimum Surplus--Solvency
3. American Academy of Actuaries Subcommittee--Housekeeping
4. Completely Flexible Life Insurance Plans ("Universal" or "Complete" Life Plans)--Product Design
5. Other Special Life Insurance Plans--Product Design
6. Variable Life Insurance and Variable Annuities--Product Design
7. Super Select Mortality--Valuation
8. Society of Actuaries Mortality Studies--Valuation
9. Assignment of Priorities to Society of Actuaries Projects--Valuation
10. Updating of Existing Life Insurance Policies--Product Design
11. Actuarial Guidelines
  - a. Definitions involving annuities--Product Design
  - b. Valuation of group annuities--Valuation
  - c. Problems related to valuation-nonforfeiture interest rate differentials--Product Design
  - d. Reserves for annuities with contingent liabilities--Valuation
  - e. Retired lines reserve
  - f. Reserves for annuities arising from property and casualty settlements--Valuation

## 12. Recommendations

- a. "Housekeeping" changes to Standard Valuation and Nonforfeiture Laws--Housekeeping
- b. Change wording of Actuarial Guideline II, "Valuation of Active Life Funds Held Relative to Group Annuity Contracts"--Valuation
- c. Adopt guideline "Interpretation of NAIC Model Nonforfeiture Law for Individual Deferred Annuities".

## ATTACHMENT TWO

LIFE, ACCIDENT AND HEALTH INSURANCE (C4) TECHNICAL SUBCOMMITTEE, SEMI-ANNUAL REPORT, June, 1981

## SECTION 1

## Preliminary Notes

This semi-annual report is an update on the work of the Life, Accident and Health Insurance (C4) Technical Subcommittee covering the period since the last semi-annual report was prepared. The last semi-annual report was dated December, 1980. There has been one change in the membership of the (C4) Technical Subcommittee during this peri-

od. Raymond Neff, Chief, Bureau of Rates, for the Florida Department of Insurance, was added as a new active voting member as of April 1, 1981.

[\*772] There are now twelve active voting members of the (C4) Technical Subcommittee, as indicated in the following list:

Douglas A. Broome (South Carolina); Erma Edwards (Nevada); Edward A. Flickner, Jr. (Georgia); Bradford S. Gile (Wisconsin); Larry Gorski (Illinois); Burt Gottfredson (Utah); Thomas J. Kelly (New York); Joe Musgrove (Arkansas); Raymond Neff (Florida); William H. Wetterstrand (Indiana); John O. Montgomery, Vice-Chairman (California); Ted Becker, Chairman (Texas).

The (C4) Technical Subcommittee has held two meetings during this period. The (C4) Technical Subcommittee met in New York, New York, on November 29-December 2, 1980, and again in San Francisco, California, on April 2-3, 1981.

Draft copies of the minutes for these meetings are Attachments 1 and 2 to this June, 1981, report. Please note, however, that Attachment 1 does not include minutes for the special two-hour session held on December 2, 1980. A report on this two-hour session was prepared immediately after the session, and is included in the NAIC Proceedings for the December, 1980, Regular Meeting. (Please see 1981 Proceedings I, pages 793-795.)

The (C4) Technical Subcommittee expects to hold three more meetings in 1981. The next meeting is scheduled for Detroit, Michigan, on June 6, June 7 and June 9, 1981, in connection with the June, 1981, NAIC Annual Meeting. No other meetings have been definitely scheduled as yet, but one meeting will probably be held in September or October, 1981. The last meeting in 1981 will probably be held in connection with the December NAIC Regular Meeting in New Orleans, Louisiana.

The format of this June, 1981, report of the (C4) Technical Subcommittee is very similar to the format used for the June, 1980, and December, 1980, reports. A single report has been prepared, which is divided into five sections.

The first section consists of these preliminary notes about the (C4) Technical Subcommittee, along with material about certain "joint" topics which pertain to all of the (C1), (C2) and (C3) Subcommittees.

The second section contains material pertaining specifically to the Accident and Health (C1) Subcommittee.

The third section contains material pertaining specifically to the Credit Insurance (C2) Subcommittee.

The fourth section contains material pertaining specifically to the Life Insurance (C3) Subcommittee.

The fifth section lists all attachments to this report, regardless of their subject matter.

The first four sections of this report describe the different topics which the (C4) Technical Subcommittee has been considering. There is one recommendation for action by the (C1) Subcommittee in June, 1981, which is identified in the second section. There are also recommendations for action by the (C3) Subcommittee and the (A5) Subcommittee in June, 1981, which are identified in the fourth section. (The (A5) Subcommittee is involved because the recommendations would add materials to the NAIC Financial Condition Examiners Handbook.)

The (C4) Technical Subcommittee is still working on a variety of other topics. These topics are described under "Proceedings of the (C4) Technical Subcommittee" in the first four sections of this report. This report summarizes recent developments related to these topics. The report also attempts to explain the priorities for the different topics, and the relationships between the various topics. Whenever possible, a target date for completion of work on the topic has been furnished.

In December, 1980, the NAIC adopted revised versions of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance, which had been recommended by the (C4) Technical Subcommittee. This report is especially concerned with how the other topics are related to these two NAIC model laws. While the two model laws pertain directly to life insurance and the work of the Life Insurance (C3) Subcommittee, they also affect topics which are considered as "joint" topics, accident and health topics, and credit insurance topics.

The minutes for the (C4) Technical Subcommittee and the other attachments listed in the fifth section of this report give further information about the topics which are being considered.

Proceedings of the (C4) Technical Subcommittee Relating to "Joint" Topics

"Joint" topics are those topics which have been listed on the agenda for the (C4) Technical Subcommittee as pertaining to all of the (C1), (C2), and (C3) Subcommittees.

[\*773] Items 1 through 4 below provide information on some of these "joint" topics, along with comments on the current progress of the (C4) Technical Subcommittee.

The minutes for the November, 1980, and April, 1981, meetings of the (C4) Technical Subcommittee contain additional information concerning some of these "joint" topics.

It should be noted that certain topics carried in other sections of this report are likely to have later repercussions which will pertain to all three NAIC subcommittees, even though such topics have not been classified as "joint" topics. One example is the life insurance topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance," which has already been mentioned.

One of the "joint" topics listed in the December, 1980, report was "Matching of Assets and Liabilities." The name of this topic has now been changed to "Matching of Assets and Liabilities, and Minimum Surplus." The renamed topic is described in the fourth section of this June, 1981, report, along with the life insurance topics. The treatment as a life insurance topic is more convenient for reporting purposes, since the (C4) Technical Subcommittee has assigned the topic as a long-term project to its Technical Advisory Committee on Dynamic Interest and Related Matters and since all of the other work assigned to this technical advisory committee is concerned with life insurance topics.

#### 1. Companies Earning Lower Interest Rates Than the Rate Assumed in Their Reserves

This is an extremely significant topic. It is very closely related to the topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance." The December, 1980, revision of the Standard Valuation Law will generally permit higher interest rates to be used in computing reserves--at least in the immediate future. This topic is also related to future revision of the Standard Valuation Law, since such future revision might conceivably set up two or more different classes of insurance companies with each class having its own set of maximum interest rates defined for use in computing reserves.

This topic is also very closely related to the topic "Matching of Assets and Liabilities, and Minimum Surplus," which is now carried as a life insurance topic.

The work of the (C4) Technical Subcommittee has been concentrated on identifying insurance companies where a problem exists, and on requiring possible reserve strengthening after a problem has been identified.

The (C4) Technical Subcommittee has been monitoring and discussing proposed changes in the annual statement blank which could be useful in identifying the companies that are not earning interest at the necessary rate. John O. Montgomery, vice-chairman of the (C4) Technical Subcommittee, has suggested a very comprehensive revision of Page 6, "Analysis of Increase in Reserves," which is expected to be discussed in future meetings of the (C4) Technical Subcommittee. Attachment 3 to this report outlines and discusses the proposed revision and gives a timetable for possibly implementing the change. Please see the second section of this report for discussion of two accident and health topics which are also concerned with the annual statement blank: "American Academy of Actuaries Subcommittee Studies" and "Other Matters."

The (C4) Technical Subcommittee has also been gathering information about special wording in the Standard Valuation Law, as it appears in the Arkansas statutes, to determine whether to recommend that similar language be included in the next general revision of that model law. Hopefully, a decision on this matter can be reached during the year 1981.

#### 2. Structure and Duties of the NAIC (C4) Technical Subcommittee

This topic is concerned with how the (C4) Technical Subcommittee can best use the resources of its members and the other resources that are available. It is not closely related to the other topics on the agenda, nor is it a high priority topic.

In the past, the (C4) Technical Subcommittee had considered dividing itself into subsections and also appointing a secretary from among its members.

[\*774] Consideration of these ideas has been deferred, since a plan to reorganize the entire NAIC is pending. This June, 1981, report has been prepared as if the (C4) Technical Subcommittee would continue to function in essentially the same manner in the future. However, it is possible that all NAIC technical subcommittees will be abolished when

the reorganization is implemented. Another possibility is that the (C4) Technical Subcommittee will be split into two or more parts, with separate chairmen for each part.

### 3. Editing and Compilint Proceedings of NAIC (C4) Technical Subcommittee

No arrangements have been made as yet for the publishing of supplements to the Proceedings concerning materials attached to the reports of the (C4) Technical Subcommittee. This material needs to be edited to remove duplication and to provide convenient reference to the deliberations preceding adoption of certain model legislation, model regulations and guidelines. A supplement or series of supplements would provide a reference for actuaries. The publication of the supplement should be self-supporting by charging a sufficient fee to those other than commissioners who wish to obtain copies. The publication should be under the auspices of the NAIC Support and Services Office with guidance from the (C4) Technical Subcommittee.

### 4. Possible Organization of Government Actuaries

This is a new topic, which was considered for the first time at the April, 1981, meeting of the (C4) Technical Subcommittee. It is not closely related to the other topics on the agenda. It is not considered a high-priority topic. However, the topic is of interest because most of the members of the (C4) Technical Subcommittee are life insurance actuaries for state insurance departments.

An organization called Actuaries in Regulation (AIR) is now being formed, which consists of actuaries working for state insurance departments and for other governmental agencies. This organization is limited to casualty actuaries, and it is to be affiliated with the Casualty Actuarial Society.

There would be many advantages to having one (or possibly more) parallel organizations for actuaries involved in the regulation of life insurance. These organizations might not necessarily be restricted in membership to actuaries working for government agencies, but might allow other persons who are interested in government regulation to become members. Such organizations would probably be subgroups of well-established existing organizations such as the Society of Actuaries or the Conference of Actuaries in Public Practice.

It is very possible that at least one such organization for life insurance actuaries involved in regulation can begin functioning in the year 1981.

Such an organization offers interesting possibilities for contact between the members of the (C4) Technical Subcommittee and the state insurance department actuaries who are not members of (C4). State insurance department actuaries working with life insurance could use the organization as a vehicle for disseminating questions, answers and comments related to their work.

### 5. Other Matters

At the April, 1981, meeting, the (C4) Technical Subcommittee discussed the agenda for a special two-hour mid-week session at the June, 1981, NAIC Annual Meeting. It was agreed that this session should be used to discuss "Guidelines for Life Insurance, Annuities and Accident and Health Insurance." This subject is described under the topic headings "General Discussion of Accident and Health Actuarial Guidelines" and "General Discussion of Life Actuarial Guidelines" in the appropriate sections of this report.

#### Recommendation

The (C4) Technical Subcommittee has no recommendations on any of the above "joint" topics.

## SECTION 2

### Topics Pertaining to the Accident and Health (C1) Subcommittee

This section of the report is concerned specifically with accident and health topics. It includes the proceedings of the (C4) Technical Subcommittee on and after its November, 1980, meeting. This section of the report also includes one recommendation for action by the Accident and Health (C1) Subcommittee at its June, 1981, meeting.

#### [\*775] Proceedings of the (C4) Technical Subcommittee

Items 1 through 11 below contain information concerning some of these accident and health topics, along with comments on the current progress of the (C4) Technical Subcommittee.

The minutes for the November, 1980, and April, 1981, meetings contain additional information concerning some of these accident and health topics.

#### 1. Hospital and Medical Corporations

The Technical Advisory Committee on Hospital and Medical Corporations has now prepared its final report to the (C4) Technical Subcommittee. This final report was distributed to the (C4) Technical Subcommittee members in January, 1981, and it was discussed at the April, 1981, meeting of the (C4) Technical Subcommittee.

This final report of the technical advisory committee contains a chapter entitled "Conclusions and Recommendations" which contain eight specific comments and five specific recommendations. One of these five specific recommendations would require a statement of opinion from a qualified actuary in connection with the statutory financial statements filed by hospital and medical corporations, analogous to the statement of opinion now required with the annual statement blank for life and accident and health insurance companies. Another one of the specific recommendations would require a rate filing with an actuarial certification and other information when a hospital and medical corporation's contingency reserves fall outside an acceptable range defined for that particular corporation. Still another of the specific recommendations relates to revision of the convention blanks required for hospital and medical corporations.

The final report of the technical advisory committee does not contain actual formulas for the calculation of contingency reserves for all hospital and medical corporations. However, the appendix to the final report does contain much useful information about the calculation of contingency reserves under two distinct approaches--the scenario approach and the simulation approach. The appendix describes a model Blue Cross-Blue Shield plan, and then it discusses the application of both approaches to that plan. The appendix also contains a short chapter entitled "Applicability to HMO's."

The (C4) Technical Subcommittee hopes to complete its review of the final report of the technical advisory committee in 1981, and possibly to have specific recommendations for the Accident and Health (C1) Subcommittee to consider adopting in December, 1981.

The (C4) Technical Subcommittee will also want to consider what actuarial comments it should furnish on certain proposals which have been received by the (C1) HMO Solvency Task Force.

The relationship of this topic to the life insurance topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" is remote. This topic is, however, very closely related to the "joint" topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves" and the life insurance topic "Matching of Assets and Liabilities, and Minimum Surplus."

This topic is also closely related to the accident and health topic "American Academy of Actuaries Subcommittee Studies" because the final report of the technical advisory committee contains the aforementioned specified recommendations for statements of actuarial opinion, for rate filings with actuarial certifications, and for revision of the convention blanks for hospital and medical corporations. Please see that topic heading in this section for further information.

This topic is also related to a number of other accident and health topics--for example, "Valuation of Accident and Health Policies" and "Loss Ratio and Minimum Standard Requirements (Proposed Washington Regulation)."

Attachment 4 to this report is the final report of the technical advisory committee, which has already been mentioned. Attachments 5, 6, and 7 to this report are various materials of interest pertaining to the final report.

Attachment 8 to this report consists of proposals which the chairman of the (C1) HMO Solvency Task Force has supplied to the chairman of the (C4) Technical Subcommittee for possible actuarial comments.

#### [\*776] 2. Experience Tables--Disability

The (C4) Technical Subcommittee is continuing to monitor the work of the Society of Actuaries Committee to Recommend New Disability Tables for Valuation on this topic.

No one from this Society of Actuaries committee has been able to attend the November, 1980, and April, 1981 meetings of the (C4) Technical Subcommittee. However, the chairman of the (C4) Technical Subcommittee has been in contact with William Taylor, chairman of the Society of Actuaries committee, on several occasions by telephone during the period covered by this report.



This Society of Actuaries committee has now developed a preliminary table, which is to be published in Issue 29 of the newsletter Disability News. (This issue is expected to be available in June, 1981.) Some information about this preliminary table will also be included in the June, 1981, issue of The Actuary, the newsletter of the Society of Actuaries. This preliminary table has been prepared for male lives on an aggregate basis, with lives being classed only by age and duration. The first 24 months termination rates are to be published. A dramatic reduction in first year termination rates is apparent from the table.

The next meeting of this Society of Actuaries committee is scheduled for July 20, 1981. The Society of Actuaries committee is striving to have an interim report and experience tables ready by fall, 1981. These experience tables will be multidimensional.

It now appears that the earliest date on which new experience tables could be recommended for adoption to the Accident and Health (C1) Subcommittee would be June, 1982, since the tables need to be exposed for comments for at least a six month period.

The (C4) Technical Subcommittee considers this a high-priority topic.

The relationship of this topic to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" is remote.

Since the new disability tables are intended for reserve valuation purposes, this topic would be related to the accident and health topic "Valuation of Accident and Health Insurance Policies."

There is also a relationship to the credit insurance topic "Society of Actuaries Pilot Study" in that the credit insurance study may also make at least some use of the "log linear model" techniques which are being used in this disability study.

It should be noted that the Society of Actuaries Committee to Recommend New Disability Tables for Valuation has not been studying experience on disability benefits attached to life insurance policies. The (C4) Technical Subcommittee is, however, now considering whether to ask the Society of Actuaries to study such experience. Please see the life topic "Society of Actuaries Mortality Studies."

There are no attachments to this report pertaining to this topic. However, persons interested in the topic may wish to refer to the Society of Actuaries publication Record, Volume 6, Number 4, pages 1225-1244, for a digest of the panel discussion on individual disability income insurance, held at the Society of Actuaries meeting in Montreal, Canada, October 20-22, 1980. Mr. Taylor was the moderator of this discussion, and many of the comments in this digest are very relevant to the work of his Society of Actuaries committee.

### 3. Experience Tables--Cancer

The (C4) Technical Subcommittee has an advisory committee which is making very good progress on this individual cancer insurance experience study.

No such industry-wide study has been made before and it is urgently needed.

The data call for this study was mailed to insurance companies on March 27, 1981. Companies which desired to participate in the study were asked to submit data no later than July 15, 1981.

[\*777] The study is concerned with (1) cancer incidence by age and sex, and (2) continuance of hospitalization due to cancer.

The advisory committee hopes to complete its analysis of the data and prepare a final report in fall, 1981. This final report would include morbidity tables, which would be suitable for the calculation of reserves.

The (C4) Technical Subcommittee considers this a high-priority topic.

The relationship to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" is remote.

Since the study is expected to produce new tables for reserve valuation purposes, this topic would be related to the accident and health topic "Valuation of Accident and Health Insurance Policies."

This topic also has some relationship to the other topics which involve experience studies or construction of tables, such as the accident and health topic "Experience Tables--Disability," the credit insurance topic "Society of Actuaries Pilot Study," and the life insurance topic "Society of Actuaries Mortality Studies."

Attachment 9 to this report contains a progress report from the advisory committee. It also includes a current list of the advisory committee members and a copy of the data call.

#### 4. Experience Tables--Major Medical

As indicated in the December, 1980, report of the (C4) Technical Subcommittee, this has been deleted as a separate agenda topic. This topic has been effectively combined with the topic "Valuation of Accident and Health Insurance Policies."

#### 5. American Academy of Actuaries Subcommittee Studies

This topic is concerned with various subjects, on which the American Academy of Actuaries Subcommittee for Liaison (Health Insurance) is assisting the (C4) Technical Subcommittee. Paul Barnhart, chairman of this American Academy of Actuaries subcommittee, gave an oral report at the April, 1981, meeting of the (C4) Technical Subcommittee.

The following is a brief progress report on some of these subjects:

a. Actuarial Opinion. The American Academy of Actuaries subcommittee has drafted proposed language for a revision to the NAIC model "Instructions for Completing Life and Accident and Health Annual Statement Blank," which are customarily mailed out by the state insurance departments with the annual statement blanks. This proposed revision relates to the statement of actuarial opinion which is required to accompany the annual statement blank. The proposed revision is now being reviewed by counsel for the American Academy of Actuaries. Review by the American Academy of Actuaries board may also be needed; but it meets during the first week in June, 1981. Thus, because of this earlier meeting, the proposed revision may be available for presentation to the (C4) Technical Subcommittee at its June, 1981, meeting.

b. Annual Statement Revision. The American Academy of Actuaries subcommittee has considered this subject, but does not yet have a specific proposal.

The American Academy of Actuaries subcommittee had been asked to study the need for revision of the subdivisions of accident and health insurance, and also to develop a format for analysis of increase in accident and health reserves. Hopefully, such a proposal will be ready later in 1981.

The (C4) Technical Subcommittee considers this subject as one which should receive high priority.

This subject is related to two topics which involve possible annual statement revision. Please see the accident and health topic "Other Matters" and the "joint" topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves." Note also that the accident and health topic "Hospital and Medical Corporations" mentions possible changes in the convention blanks for such corporations.

[\*778] c. NAIC Model Regulation on Reserve Standards for Individual Health Policies. A proposed revision of this regulation was prepared by the American Academy of Actuaries subcommittee in October, 1980. The (C4) Technical Subcommittee had originally recommended this proposed revision for adoption by the Accident and Health (C1) Subcommittee in November, 1980, but this recommendation was reconsidered by the (C4) Technical Subcommittee before the revision was considered by the (C1) Subcommittee. This was primarily because there had not been time for exposure of the proposed revision. At the April, 1981, meeting of the (C4) Technical Subcommittee, it was agreed that the proposed revision should now be recommended to the (C1) Subcommittee for adoption in June, 1981. No changes have been made in the proposed revision since October 1980. (Please see "Recommendations" in this section.)

This subject is closely related to the accident and health topic "Valuation of Accident and Health Insurance Policies," which is principally concerned with a study by a Society of Actuaries committee.

This subject is also related to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance." There are references in the NAIC model regulation to mortality tables and interest bases defined in the standard valuation law.

d. Revision of NAIC Premium Rate Filing Guidelines. The December, 1980, report of the (C4) Technical Subcommittee mentioned that the American Academy of Actuaries subcommittee was considering the interpretation of these NAIC model guidelines. Subsequent to the preparation of the December, 1980, report, the (C4) Technical Subcommittee began consideration of a proposed revision of the NAIC model guidelines presented by the Health Insurance Association of America. The American Academy of Actuaries subcommittee is continuing to take an interest in this subject, and it may have comments at the June, 1981, meeting of the (C4) Technical subcommittee. Please see the topic heading "Revision of NAIC Premium Rate Filing Guidelines" in this section of the report.

e. Hospital and Medical Corporations. It has already been mentioned that the final report of the Technical Advisory Committee on Hospital and Medical Corporations contains recommendations for statements of actuarial opinion and for rate filings with actuarial certifications. These matters are of much interest to the American Academy of Actuaries, since the additional actuarial functions would normally be performed by its members. The (C4) Technical Subcommittee understands that the American Academy of Actuaries would have no objection to the adoption of these recommendations. Attachment 10 is a letter on this subject from W. H. Odell on behalf of the American Academy of Actuaries. (Please see also the topic heading "Hospital and Medical Corporations" in this section of this report. Attachment 4 to this report is the final report of the Technical Advisory Committee on Hospital and Medical Corporations.)

#### 6. Valuation of Accident and Health Insurance Policies

As has already been mentioned, this topic is primarily concerned with a study being conducted by a Society of Actuaries committee. This is the Society of Actuaries Committee for Accident and Health Valuation Principles. Robert Shapland, of Mutual of Omaha Insurance Company, is now the chairman of this Society of Actuaries committee.

It has also already been mentioned that the topic "Experience Studies--Major Medical" had been effectively combined with this topic. This is because the American Academy of Actuaries Subcommittee for Liaison (Health Insurance) had asked this Society of Actuaries committee to do the preliminary work on this topic.

No one from this Society of Actuaries committee was present at the November, 1980, and April, 1981, meetings of the (C4) Technical Subcommittees. Michael Kazakoff, of Mutual of Omaha Insurance Company, was present at the April, 1981, meeting.

Mr. Kazakoff reported that this Society of Actuaries committee was preparing a report, and that this report would include the subject of major medical benefits. He had no other information to present.

The (C4) Technical Subcommittee hopes to obtain more information about progress on this topic at its June, 1981, meeting. This is considered a high-priority topic.

This topic is closely related to the accident and health topic "American Academy of Actuaries Subcommittee Studies" since the American Academy of Actuaries Subcommittee for Liaison (Health Insurance) has prepared a proposed revision of the NAIC Model Regulation on Reserve Standards for Individual Health Policies. (Please see also "Recommendations" in this section.)

[\*779] This topic is also related to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" since some use may be made of the mortality tables and interest bases defined in the standard valuation law.

A close relationship also exists between this topic and the accident and health topic "Loss Ratio and Minimum Standard Requirements (Proposed Washington Regulation)."

#### 7. "Loss Ratio and Minimum Standard Requirements" (Proposed Washington Regulation)

This is a new topic, which is concerned with a proposed regulation which the commissioner of insurance for the state of Washington is considering. A companion regulation is being developed for Blue Cross-Blue Shield-type operations, and it is intended that both regulations would have the same effective date.

The notice for the proposed regulation describes it as relating to "the establishment of minimum loss ratios, reserve standards and filing requirements for group and individual disability policies delivered in the State of Washington." "Disability policies" as used in the notice refers to all types of accident and health policies, but not to waiver of premium or accidental death benefits attached to life policies.

The section of the proposed regulation entitled "Premium and Risk Stabilization Fund" is of particular interest. This stabilization fund would be a part of surplus; it is not intended to be a requirement for more than a 2-year preliminary term reserve. Attachment 12 to this report is a draft of the proposed regulation.

Storm Johnsen, actuary for the Washington Insurance Department, was present at the April, 1981, meeting of the (C4) Technical Subcommittee. He commented on this proposed regulation and answered questions about it. He observed that one of the problems which the proposed regulation seeks to address is that of small insurance companies with over-ambitious marketing plans.

The (C4) Technical Subcommittee has not determined how it should proceed on this topic or what level of priority should be assigned to it.

This topic is very closely related to the topics "Valuation of Accident and Health Policies" and "Revision of NAIC Premium Rate Filing Guidelines."

Since the companion regulation on Blue Cross-Blue Shield-type organizations is being developed, there would also be a relationship to the topic "Hospital and Medical Corporations."

The relationship of this topic to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" does not appear to be particularly close. However, there is a close relationship to the life topic "Matching of Assets and Liabilities, and Minimum Surplus" since the stabilization fund provision can be considered as a type of minimum surplus provision.

#### 8. Return of Premium and Cash Value to Age 65 Health Insurance

This topic corresponds to the topic heading "Nonforfeiture Benefits for Return of Premium Health Insurance" in the December, 1980, report of the (C4) Technical Subcommittee. The new title indicates that the topic is concerned with reserves and other actuarial subjects as well as nonforfeiture benefits, and that the topic is concerned with the "Cash Value to Age 65" plan as well as the "Return of Premium" plan. The new title has not yet been used in the agenda for the (C4) Technical Subcommittee, but it is intended to be used in the future.

At the November, 1980, meeting of the (C4) Technical Subcommittee, it was agreed that a new advisory committee should be formed. (A somewhat similar advisory committee had been in existence several years ago, but it had become dormant.) Consulting actuary Ernie Frankovich was designated as chairman of the new advisory committee.

Considerable progress has recently been made in the formation of the advisory committee. The following persons will serve as members in addition to Mr. Frankovich:

|                  |   |
|------------------|---|
| Clarence Collier | Illinois Mutual Life and Casualty Company |
| Arthur Cragoe    | Franklin Life Insurance Company           |
| Robert Hogue     | Maccabees Mutual Life Insurance Company   |
| Michael Kellen   | Mutual of Omaha Insurance Company         |

[\*780] There will probably be one additional member on the advisory committee, from Bankers Life and Casualty Company.

Mr. Frankovich expects to write a letter to each member of this advisory committee in June, 1981, and to hold a meeting of the advisory committee in June or July, 1981. At this meeting the advisory committee is expected to discuss reserves for these plans, including an evaluation of the preliminary term basis. The advisory committee is also expected to discuss the rationale for cash value formulas used for these plans.

This is an important topic, but the (C4) Technical Subcommittee does not consider it of the highest priority. However, it is hoped that work on the topic can be completed in 1981 or 1982.

This topic is related to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" since some use may be made of the mortality tables and interest rates defined in the standard valuation law.

Since this topic now does include reserves, there would also be a relationship with two accident and health topics: "American Academy of Actuaries Subcommittee Studies" and "Valuation of Accident and Health Insurance Policies."

#### 9. Coordination with NAIC Task Force on Sex Discrimination

The December, 1980, report of the (C4) Technical Subcommittee mentioned that the analysis had not been completed on a statement of the Health Insurance Association of America and the American Council of Life Insurance dated August 31, 1978.

Larry Gorski, a member of the (C4) Technical Subcommittee, has now prepared a memorandum dated March 17, 1981, containing such an analysis. Attachment 11 to this report is a copy of this memorandum. In the absence of Mr. Gorski, the memorandum was read at the April, 1981, meeting of the (C4) Technical Subcommittee.

At its June, 1981, meeting, the (C4) Technical Subcommittee needs to decide whether to adopt this memorandum as its position.

The relationship of this topic to other topics is difficult to state. In one sense, this topic could be considered as related to any other topic where mortality tables or experience studies are being made on a sex-distinct basis.

In that sense, this topic is related to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance." It would also be related to several topics where experience studies are involved, such as the accident and health topic "Experience Tables--Disability."

#### 10. Revision of NAIC Premium Rate Filing Guidelines

This topic is concerned with possible revision of the NAIC model guidelines entitled "Guidelines for Filing Rates for Individual Health Insurance Forms." These model guidelines were adopted within the NAIC in December, 1979, after they had been recommended by the (C4) Technical Subcommittee.

The Health Insurance Association of America asked the (C4) Technical Subcommittee to adopt certain changes in these NAIC model guidelines in a letter dated February 27, 1981. One of these changes would remove language in the model guidelines which seems to call for retroactive application.

The proposed changes were discussed at the April, 1981, meeting of the (C4) Technical Subcommittee. However, a decision on the changes was postponed. At this April, 1981, meeting, the chairman of the (C4) Technical Subcommittee noticed that his copy of the letter of February 27, 1981, appeared to lack one page that was intended to be included.

Attachment 13 to this report is a corrected copy of the February 27, 1981, proposal. However, in a recent telephone conversation with Peter Thexton, of the Health Insurance Association of America, the chairman of the (C4) Technical Subcommittee understood that one additional change will now be requested at the June, 1981, meeting of the (C4) Technical Subcommittee.

[\*781] Attachment 14 to this report is a letter from W. H. Wetterstand, of the (C4) Technical Subcommittee, on the general subject of the NAIC premium rate filing guidelines and the concept of a loss ratio over the total lifetime of a form. This letter does not directly address the changes requested by the Health Insurance Association of America.

The (C4) Technical Subcommittee will consider this topic further at its June, 1981, meeting. Hopefully, a decision on the requested changes can be made during the year 1981.

This topic is very closely related to the topics "American Academy of Actuaries Subcommittee Studies" and "Loss Ratio and Minimum Standard Requirements (Proposed Washington Regulation)."

The relationship of this topic to the life topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" does not appear to be particularly close. Since premium rate increases are sometimes necessary to assure insurance company solvency, there is a relationship to the life topic "Matching of Assets and Liabilities, and Minimum Surplus" and possibly to the "joint" topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves."

#### 11. Other Matters

The (C4) Technical Subcommittee is interested in other aspects of revision of the annual statement blank relating to accident and health insurance which have not been specifically assigned to the American Academy of Actuaries Subcommittee for Liaison (Health Insurance).

This would include the general subject of "simplification" of the annual statement blank.

At its June, 1981, meeting, the (C4) Technical Subcommittee should consider whether all aspects of this subject can be referred to the American Academy of Actuaries subcommittee.

This subject is related to two topics which include possible revisions of the annual statement blank. These are the accident and health topic "American Academy of Actuaries Subcommittee Studies" and the "joint" topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves."

Since the annual statement blank is intended to help promote insurance company solvency, there may be a relationship to the life topic "Matching of Assets and Liabilities, and Minimum Surplus."

#### Recommendations

The (C4) Technical Subcommittee has one recommendation to the Accident and Health (C1) Subcommittee for adoption in June, 1981. The (C4) Technical Subcommittee is recommending adoption of a revision in the NAIC model regulation entitled "Reserve Standards for Individual Health Insurance Policies." This is the recommendation which is mentioned briefly under the topic "American Academy of Actuaries Subcommittee."

Please see Attachment R1 to this report for detailed information about this recommendation.

### SECTION 3

#### Topics Pertaining to the Credit Insurance (C2) Subcommittee

This section of the report is concerned specifically with credit insurance topics. It includes the proceedings of the (C4) Technical Subcommittee on and after its November, 1980, meeting. There are no recommendations for the Credit Insurance (C2) Subcommittee with this report.

#### Proceedings of the (C4) Technical Subcommittee

Items 1 and 2 contain information concerning some of these credit insurance topics, along with comments on the current progress of the (C4) Technical Subcommittee.

The minutes for the November, 1980, and April, 1981, meetings contain additional information concerning some of these credit insurance topics.

#### [\*782] 1. Society of Actuaries Pilot Study

This topic is concerned with a pilot study of credit insurance mortality and morbidity experience, which is being made by the Society of Actuaries Special Study Committee-Credit Insurance. Terry Ryan of Nationwide Life Insurance Company gave a brief status report at the November, 1980, meeting of the (C4) Technical Subcommittee. Harvey Galloway, chairman of this Society of Actuaries committee, reported at the April, 1981, meeting of the (C4) Technical Subcommittee.

The study is now concentrating on the consumer finance segment of credit insurance business. Three of the six participating insurance companies have already submitted data. The three remaining companies are expected to submit their data in June or July, 1981.

The computer facility of Credit Life Insurance Company of Springfield, Ohio, will be used in the analysis of the data.

The Society of Actuaries committee has been reviewing the "log linear model" described in connection with the accident and health topic "Experience Tables--Disability" in the December, 1980, report of the (C4) Technical Subcommittee. The "log linear model" techniques may possibly be used as an auxiliary method in connection with this credit insurance pilot study.

This is an important topic, but it is not currently of the highest priority to the (C4) Technical Subcommittee.

While the reserves on the existing credit life insurance business involved in this pilot study are valued using mortality tables and interest rates defined in the standard valuation law, the relationship of this topic to the life insurance topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" is remote.

This topic is closely related to the other credit insurance topic "Deviation and Credibility Formulas," since this Society of Actuaries committee is also working on credibility.

This topic is not as closely related to any of the "joint," accident and health, or life topics. One possible relationship to the accident and health topic "Experience Tables--Disability" has already been pointed out.

Attachment 15 to this report is a progress report from the Society of Actuaries committee.

## 2. Deviation and Credibility Formulas

The (C4) Technical Subcommittee has been continuing to monitor the work of the NAIC Ad Hoc Committee on Deviation Procedures, on credibility standards. John Montgomery, vice-chairman of the (C4) Technical Subcommittee, is also a member of this NAIC ad hoc committee.

Mr. Montgomery presented oral reports on this topic at the November, 1980, and April, 1981, meetings of the (C4) Technical Subcommittee. There do not appear to be any significant new developments since the December, 1980, report of the (C4) Technical Subcommittee was prepared. However, it should be noted that Mr. Montgomery is still very concerned about the proposed procedures for determining credibility.

The Society of Actuaries Special Study Committee--Credit Insurance is also working on credibility. A subcommittee of this Society of Actuaries committee is working on a treatise on credibility, which may be useful to the NAIC later.

This is an important topic, but it is not currently of the highest priority to the (C4) Technical Subcommittee.

This topic is closely related to the previous topic "Society of Actuaries Pilot Study" in that the same Society of Actuaries committee is involved in both topics. The last paragraph of Attachment 15 to this report discusses the credibility mission of this Society of Actuaries Committee.

This topic is not closely related to the life insurance topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance," nor does it appear to be closely related to any other "joint," accident and health, or life topic.

### [\*783] Recommendations

No recommendations to the Credit Insurance (C2) Subcommittee are made with this report.

## SECTION 4

### Topics Pertaining to the Life Insurance (C3) Subcommittee

This section of the report is concerned with life insurance topics. It includes the proceedings of the (C4) Technical Subcommittee on and after its November 29, November 30 and December 2, 1980, meeting. This section of the report also includes three recommendations for action by the Life Insurance (C3) Subcommittee at its June, 1981, meeting. There is also reference to additional recommendations for action by the Financial Condition Examination (A5) Subcommittee in June, 1981; these recommendations pertain to actuarial guidelines and they have already been adopted by the Life Insurance (C3) Subcommittee.

### Proceedings of the (C4) Technical Subcommittee

Items 1 through 11 below contain information concerning some of these life insurance topics, along with comments on the current progress of the (C4) Technical Subcommittee.

The minutes for the November, 1980, and April, 1981, meetings of the (C4) Technical Subcommittee contain additional information concerning some of those topics.

### 1. Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance

This is perhaps the most important and critical of all the topics on the agenda for the (C4) Technical Subcommittee. It is closely related to many of the other topics on the agenda, especially to "Matching of Assets and Liabilities, and Minimum Surplus" and to the "joint" topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves."

During the period covered by this report, the (C4) Technical Subcommittee has been studying the comprehensive revision of these two laws, which the NAIC adopted in December, 1980. Unfortunately, quite a few "housekeeping" changes have been found to be necessary in these two laws. Some of these necessary minor changes were reported to the NAIC in time for correction in the NAIC Proceedings for the December, 1980, Regular Meeting. (Please see the text of these laws included in 1981 Proceedings I, pages 765-782.)

Additional "housekeeping" changes were discovered too late for correction in this printed copy. These additional changes are included in drafts of the two laws which were adopted by the (C4) Technical Subcommittee in April, 1981.

These additional changes are now being recommended to the Life Insurance (C3) Subcommittee for adoption in June, 1981. (Please see "Recommendations" in this section.)

In addition to these "housekeeping" changes which are being recommended, the (C4) Technical Subcommittee has been considering two specific questions relating to the December, 1980, revisions of these laws. One question is whether or not the standard valuation law is sufficiently clear in all cases in requiring appropriate increments in reserves from one policy year to the next, to cover the increment in cash values over the same period. Another question is whether or not the standard valuation law and the standard nonforfeiture law for life insurance should define special higher interest rates for single premium whole life insurance and endowment insurance policies. The (C4) Technical Subcommittee decided not to recommend any changes to these laws in June, 1981, in response to these questions, but it may possibly decide to do so in the future.

One question which was raised in December, 1980, related to the purpose of the difference in maximum interest rates between the standard valuation law and the standard nonforfeiture law for life insurance. The standard nonforfeiture law for life insurance defines a higher maximum interest rate for calculating minimum cash values and other nonforfeiture values, as compared to the maximum interest rate which can be used in calculating reserves under the standard valuation law.

[\*784] Nonforfeiture values are based on "asset shares," so that the policyholder who lapses gets a withdrawal value which approximates his share of accumulated funds, adjusted for cost of insurance and policy expenses. The withdrawal of the lapsing policy's "asset share" should neither accrue to the benefit nor the detriment of the other policyholders who continue paying premiums. However, an appropriate maximum interest rate for this "asset share" is relatively high; and this rate needs to be reduced somewhat for conservatism in calculating reserves which are intended to protect the solvency of the insurance company.

Another approach to the question may also be helpful. The use of relatively high interest rates in the standard nonforfeiture law for life insurance permits lower cash values and other nonforfeiture values. Thus, insurance companies can probably afford to sell their new policies at relatively low gross premium rates. However, the lower interest rates specified in the standard valuation law will help to act as a brake on such gross premium rates to keep them from being set so low as to jeopardize company solvency.

The December, 1980, revisions of these two laws contained dynamic interest rates and a new mortality table for individual ordinary life insurance. During the year 1981, the (C4) Technical Subcommittee expects to consider the most efficient and suitable method of obtaining the actuarial monetary tables for use with these laws.

Another question which the (C4) Technical Subcommittee needs to consider is whether to recommend any changes in a companion NAIC model law dealing with annuity nonforfeiture values, the "Standard Nonforfeiture Law for Individual Deferred Annuities." The standard nonforfeiture law for life insurance does not apply to annuity contracts.

The (C4) Technical Subcommittee would like to thank its Technical Advisory Committee on Dynamic Interest and Related Matters, chaired by Charles Greeley, for its excellent service in the development of the December, 1980, revisions of the standard valuation law and the standard nonforfeiture law for life insurance. The technical advisory committee is continuing to study these laws and to offer its views and recommendations to the (C4) Technical Subcommittee. Gregory J. Carney of Anchor National Life Insurance Company, and Robert A. Miller, of Aetna Life Insurance Company, were added to the membership of this technical advisory committee on December 31, 1981.

This technical advisory committee is also working on other projects related to this topic, which may be reflected in future comprehensive revisions of the model laws. This work includes three long-term projects which have been assigned to the technical advisory committee: (1) the continued analysis of dynamic interest, (2) possibly introducing the dynamic concept into expense allowances, and (3) possibly introducing the dynamic principle into mortality and morbidity tables.

The target date for completion of all the work of this technical advisory committee is the year 1984, but some specific parts may be completed in 1982 and 1983.

Attachment 16 contains additional information about the recent progress of this technical advisory committee

## 2. Matching of Assets and Liabilities, and Minimum Surplus

This is another extremely important topic. It is closely related to the previous topic, "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance."



In the (C4) Technical Subcommittee's December, 1980, report, "Matching of Assets and Liabilities" was discussed as a "joint" topic. In this report it has been classified as a life insurance topic, since it has been assigned as a long-term project to the Technical Advisory Committee on Dynamic Interest and Related Matters.

The title of this topic has also been expanded to "Matching of Assets and Liabilities, and Minimum Surplus." The new title indicates that this topic is also concerned with the level of surplus necessary to avoid ruin.

A special subcommittee of the technical advisory committee has now begun an in-depth study of this topic, and this subcommittee hopes to make substantial progress during the year 1981.

There is one specific aspect under this topic which the technical advisory committee expects to resolve in early 1982. This is a study of cash availability under the standard nonforfeiture law for life insurance, in order to try to prevent "run-on-the-bank" situations.

[\*785] Previous semi-annual reports of the (C4) Technical Subcommittee have mentioned the work of the Society of Actuaries Committee on Valuation and Related Problems. The (C4) Technical Subcommittee understands that this Society of Actuaries committee is still active, and that a task force has been created to study interest rate fluctuations. During the year 1981, the (C4) Technical Subcommittee hopes to obtain additional information about the activities of the Society of Actuaries in this area.

### 3. American Academy of Actuaries Subcommittee, Organization and Membership

At its November, 1980, meeting, the (C4) Technical Subcommittee decided in favor of a proposal that a new American Academy of Actuaries subcommittee should be formed. This American Academy of Actuaries subcommittee would work with the (C4) Technical Subcommittee on matters pertaining to life insurance.

This American Academy of Actuaries subcommittee was intended to be parallel to the existing American Academy of Actuaries Subcommittee for Liaison (Health Insurance). Please see the accident and health topic "American Academy of Actuaries Subcommittee Studies" for more information about the parallel subcommittee.

The new American Academy of Actuaries Subcommittee for Liaison (Life Insurance) has now been organized. Ardian Gill is chairman. The other members of this new American Academy of Actuaries subcommittee are: Wilbur M. Bolton, Gordon C. Boronow, Gary E. Dahlman, Stephen H. Frankel, Richard W. Kling, William K. Krisher, and John C. Lounds.

This new American Academy of Actuaries subcommittee has already done useful work in reviewing certain proposed actuarial guidelines for the (C4) Technical Subcommittee. The (C4) Technical Subcommittee has also asked this new American Academy of Actuaries subcommittee to study the topic "Completely Flexible Life Plans (Universal Life Insurance Plans)."

For additional information on these related topics, please see the topic headings "General Discussion of Life Actuarial Guidelines" and "Completely Flexible Life Plans (Universal Life Insurance Plans)" in this section of this report.

Attachment 17 to this report gives addresses and telephone numbers for the members of this new American Academy of Actuaries subcommittee, and it states the charge for this subcommittee.

### 4. Completely Flexible Life Insurance Plans (Universal Life Insurance Plans)

This topic was discussed under the topic heading "Special Life Insurance Plans" in the (C4) Technical Subcommittee's December, 1980, report, along with certain other plans which are discussed under the topic heading "Other Special Life Insurance Plans" in this report.

The completely flexible life insurance plans typically provide for the retrospective determination of cash values, in a manner analogous to the usual determination of cash values for annuities. The life insurance provided by these policies is paid for at regular intervals by deduction from the gross premium or the cash value which has already been built up, using the insured's current attained age and a special schedule of term insurance rates. The policyholder has great flexibility in changing the benefit structure and the pattern of premiums under such policies. The insurance company guarantees a specific rate of interest for accumulation of cash values at the date of issue of the policy, but the company may later declare interest at a higher rate.

The completely flexible life insurance plans are sometimes called "universal life insurance plans." Other names for such products are "total life insurance plans" and "open life insurance plans." Such plans are relatively new, having been first developed in the last two or three years.

It appears that many states are currently approving at least some of these plans, although there have been problems in trying to apply the standard valuation law and the standard nonforfeiture law for life insurance to them.

The December, 1980, revisions of the standard valuation law and the standard nonforfeiture law for life insurance allow the commissioner of insurance for each state to issue a regulation pertaining to these types of policies. Thus, such policies would no longer have to be "forced into a mold," which was intended for more traditional plans, in the calculation of reserves and nonforfeiture values.

[\*786] The (C4) Technical Subcommittee needs to develop a model regulation for these policies, which would be available for the commissioners to adopt. This is a high-priority project, since it is hoped that the regulation can be developed in time to promote uniformity among the different states.

During the period covered by this June, 1981, report, the (C4) Technical Subcommittee has been reviewing papers prepared by different individuals who are interested in these policies. These papers present different positions as to how the nonguaranteed benefits provided under these policies should be treated for the purpose of calculating reserves.

The (C4) Technical Subcommittee has also been made aware of a special group of these policies, where the insurance company guarantees at the date of issue of the policy that the rate of interest declared will not be less than the rate determined from some external index. This special group of policies has been described as "indexed" plans. They present special concerns about reserves and company solvency. There is also an analogy to variable life insurance, but of course the reserves are not held in a separate account.

The new American Academy of Actuaries Subcommittee for Liaison (Life) has been asked to assist the (C4) Technical Subcommittee in developing a model regulation. This American Academy of Actuaries subcommittee expects to have general comments on the completely flexible life insurance plans at the June, 1981, meeting of the (C4) Technical Subcommittee, but does not expect to have a discussion draft of a model regulation in time for that meeting.

The Variable Products Technical Advisory Committee and the American Council of Life Insurance have also been invited to comment on these plans.

Hopefully, the model regulation can be developed during the year 1981 since this project is considered so urgent.

The following other life insurance topics are closely related to this topic: "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance;" "American Academy of Actuaries Subcommittee, Organization and Membership;" "Other Special Life Insurance Plans;" and "Variable Life Insurance and Variable Annuities." There is also a potential relationship to the life insurance topic "Matching of Assets and Liabilities, and Minimum Surplus" and the "joint topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves"-- especially in connection with the "indexed" plans.

##### 5. Other Special Life Insurance Plans

This topic will consider the balance of the types of plans which were discussed under the topic heading "Special Life Insurance Plans" in the (C4) Technical Subcommittee's December, 1980, report, other than the completely flexible life plans. These other types of plans would include adjustable life insurance plans, indeterminate premium life insurance plans and single premium life insurance plans with specified minimum death benefits.

The adjustable life insurance plans are life insurance policies which offer a variety of options to the policyholder, but which are contractually modified every time the policyholder elects an option. A definite amount can always be calculated as the present value of future insurance benefits, and there is a definite pattern of future premiums at any specific time. Reserves and cash values can be calculated prospectively, as they are calculated for traditional life insurance policies. The (C4) Technical Subcommittee has concluded that these adjustable life insurance plans do not require any further attention.

The indeterminate premium life insurance plans allow the insurance company to unilaterally adjust the gross premium rate from time to time, subject to certain constraints in the policy. For example, the policy may state the maximum premium rate which the company can charge under any conditions. (Indeterminate premium life insurance plans

are sometimes called "adjustable premium plans," but they should not be confused with the adjustable life insurance plans described in the preceding paragraph.)

Single premium life plans with specified minimum death benefits allow the insurance company to unilaterally adjust the death benefit from time to time, subject to a specified minimum death benefit and possibly to other constraints in the policy.

[\*787] The December, 1980, revisions of the standard valuation law and the standard nonforfeiture law for life insurance allow the commissioner of insurance for each state to issue regulations on the indeterminate premium plans and the single premium life plans with specified minimum death benefits, under the same provisions of these laws which would permit such regulations for the completely flexible life insurance plans.

The (C4) Technical Subcommittee has already decided to develop a model regulation for the indeterminate premium life insurance plans, and is now reviewing guidelines which some of the states have issued pertaining to such plans.

Hopefully, a model regulation on indeterminate premium life insurance plans can be developed during the year 1981. This is a matter of high priority.

The (C4) Technical Subcommittee has not reached a decision on whether to work on a model regulation for the single premium life plans with minimum death benefits. Further discussion of these plans is expected at the June, 1981, meeting.

This topic is closely related to two other life insurance topics: "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" and "Completely Flexible Life Insurance Plans (Universal Life Insurance Plans)."

#### 6. Variable Life Insurance and Variable Annuities

The (C4) Technical Subcommittee has a Variable Products Technical Advisory Committee which is working on this topic. This technical advisory committee is developing a proposed revision of the NAIC model variable life insurance regulation.

During the period covered by this report, the technical advisory committee has been studying a theoretical product similar to the completely flexible life insurance plans, described elsewhere in this section of the report, but which would be funded in a separate account. Such a policy could not be sold under the current provisions of the NAIC model variable life insurance regulation, but it might well be feasible if the regulation were modified to allow this plan.

Attachment 18 gives additional information on the progress of the technical advisory committee.

Of course, this topic should be considered as closely related to the topic "Completely Flexible Life Insurance Plans (Universal Life Insurance Plans)." This topic is also closely related to the topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance." For example, the December, 1980, revisions of these model laws define new mortality tables for individual life policies--including individual variable life insurance policies.

This is an important topic, but it is not currently of the highest priority to the (C4) Technical Subcommittee.

#### 7. Super Select Mortality

This topic is concerned with classes of insureds which can be expected to be subject to especially favorable mortality rates. These classes can be described as super-select. An insurance company may recognize such a class of insureds in its underwriting procedures, and the company may wish to charge what it considers to be an appropriate low gross premium rate based on the expected low mortality rates for the class. For example, the insurance company might consider nonsmokers as super-select and offer lower gross premium rates to insureds who qualify as nonsmokers.

There does not appear to be any direct problem in merely offering the lower gross premium rates to a class of insureds which can be demonstrated to have the especially favorable mortality rates. However, Section 7 of the standard valuation law may require an extra reserve for the policy solely because of the low gross premium rates. As the standard valuation law now reads, the tests for whether the extra reserve is needed and the amount of any extra reserve would be based on mortality rates for standard class insureds. (The extra reserve is sometimes informally described as a "deficiency reserve" although this expression is no longer accurate.)

The (C4) Technical Subcommittee is investigating this situation, since it appears that the present circumstances may be keeping gross premium rates at a higher level than is really needed for solvency.

[\*788] A long-term solution to the problem would be to develop special mortality tables for nonsmokers (and perhaps for other super-select classes of insureds).

Another possible solution would be to recommend revised language for Section 7 of the standard valuation law, which would allow companies to "average out" their risks over the standard and the super-select classes in some fashion.

There may be other solutions. For example, it has been suggested that super-select insureds might be rated at an age several years younger than their actual age when the reserves are calculated. Presumably such insureds would also be rated at the younger ages for the purpose of determining their cash values and other nonforfeiture values, raising the question of whether or not the policy was offering the minimum values required by the standard nonforfeiture law for life insurance. This law might be construed as requiring nonforfeiture values based on the actual age of the insured.

The American Council of Life Insurance is also studying this topic, and it has been asked to furnish its views to the (C4) Technical Subcommittee.

The (C4) Technical Subcommittee had at one time planned to appoint a special advisory committee on this topic, but this decision has been reconsidered.

This is a high priority topic, but it is uncertain whether the (C4) Technical Subcommittee can resolve it in 1981.

This topic is closely related to the topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance."

#### 8. Society of Actuaries--Mortality Studies

The (C4) Technical Subcommittee is monitoring the work of two Society of Actuaries committees which began functioning last year.

One of these committees is the Society of Actuaries Committee to Recommend a New Mortality Basis for Individual Annuity Valuation. This committee has decided that a new mortality table should be constructed for valuation purposes. This table is to be called the 1983 Table "a". It will contain separate rates for males and females. Attachments 19 and 20 contain additional information about the progress of this Society of Actuaries committee.

The Society of Actuaries also has a parallel Committee on Group Annuities. This committee has been evaluating the 1971 Group Annuity Mortality Table to see if it is still appropriate for group pension reserves. Attachments 21, 22 and 23 contain additional information about the progress of this Society of Actuaries committee.

The (C4) Technical Subcommittee may also ask the Society of Actuaries to make other studies in the future.

Attachment 24 is a letter suggesting that a study should be made of experience on disability benefits attached to life insurance policies. (This would, of course, be a morbidity study rather than a mortality study.)

Attachment 25 is a letter indicating a need for a study of mortality under substandard life insurance policies.

The (C4) Technical Subcommittee expects to consider these two potential studies further at its June, 1981, meeting.

Please note that the life insurance topic entitled "Assignment of Priorities to Society of Actuaries Projects" has effectively been combined with this topic.

This topic is closely related to the topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" since the Standard Valuation Law lists the mortality tables which are to be used in calculating reserves for life insurance policies and annuity contracts, as well as the morbidity tables to be used in calculating reserves for disability benefits attached to life insurance policies.

This is an important topic, but it is not currently of the highest priority to the (C4) Technical Subcommittee.

#### [\*789] 9. Assignment of Priorities to Society of Actuaries Projects

This subject was carried as a separate topic heading in the December, 1980, report of the (C4) Technical Subcommittee. However, the topic has been partially resolved, and it is no longer carried as a separate topic on the agenda of the (C4) Technical Subcommittee.

This topic should be considered as having been combined with the preceding topic, "Society of Actuaries--Mortality Studies." Two potential future studies by the Society of Actuaries are discussed under that topic.

The Society of Actuaries will probably be asked to make studies of mortality under guaranteed issue life insurance policies, renewable term life insurance policies and industrial life insurance policies some time during the next five years.

#### 10. Updating of Existing Life Insurance Policies

This topic is concerned with the plans which a number of insurance companies have implemented (or have proposed to implement) in order to make their existing policies more favorable to policyholders, such as increasing the face amount under the policy. Typically, the updating program increases the rate of interest originally assumed in the calculation of reserves and nonforfeiture values.

This topic was originally placed on the agenda of the (C4) Technical Subcommittee in order to assist states in reviewing plans for updating, which were presented for approval.

The chairman of the (C4) Technical Subcommittee had intended to prepare a list of questions which need to be answered on this topic. However, the pressure of other work has required the postponement of this project.

The most significant question, however, would appear to be whether or not the updating provision can make any of the guarantees under the policy less favorable to the policyholder. For example, could the updating program be tied to an increase in the interest rate applying to policy loans? If any provision is allowed to become less favorable to the policyholder, what criteria should states use in considering whether to approve the proposed updating plan?

This is an important topic, which needs to be resolved in 1981.

This topic is closely related to the topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" since these model laws define the maximum interest rates which can be used in calculating reserves and nonforfeiture values.

In the future, it is conceivable that some insurance companies may propose an updating plan based on interest rates which are imprudent for them to use. Thus, there could be a relationship with the "joint" topic "Companies Earning Lower Interest Rates than the Rate Assumed in Their Reserves."

#### 11. General Discussion of Life Actuarial Guidelines

This topic refers to the actuarial guidelines which now appear in the NAIC Financial Condition Examiners Handbook, and also to proposed actuarial guidelines which may be developed in the future for inclusion in the NAIC Financial Condition Examiners Handbook. This topic appears in the December, 1980, report of the (C4) Technical Subcommittee under the topic heading "Guidelines for Life Insurance and Annuities."

One new actuarial guideline is being recommended to the Life Insurance (C3) Subcommittee for adoption at its June, 1981, meeting. This is a guideline on the subject "Effect of Additional Amounts Credited by the Company in regard to Prospective Minimum Nonforfeiture Values." A change in the wording of one existing actuarial guideline is also being recommended to the Life Insurance (C3) Subcommittee for adoption at its June, 1981, meeting. This is Actuarial Guideline II, on the subject "Valuation of Group Annuities." (Please see "Recommendations" in this section.)

In December, 1980, the Life Insurance (C3) Subcommittee had adopted another new actuarial guideline, as well as a preamble and numbering system for the actuarial guidelines, in response to the recommendation of the (C4) Technical Subcommittee. These are now being recommended to the Financial Condition Examination (A5) Subcommittee for adoption in June, 1981, to complete the procedures necessary for them to be included in the NAIC Financial Condition Examiners Handbook. (Please see "Recommendations" in this section.)

[\*790] The following is an update on the progress of the (C4) Technical Subcommittee on various subjects for possible actuarial guidelines:

##### a. Definitions Involving Annuities

The American Academy of Actuaries Subcommittee for Liaison (Life Insurance) has been reviewing a proposed actuarial guideline developed by the American Council of Life Insurance, which would distinguish annuity contracts from life insurance policies. The American Academy of Actuaries Subcommittee for Liaison (Life Insurance) has expressed agreement with the American Council of Life Insurance that no actuarial guideline is needed to distinguish individual annuity contracts from group annuity contracts.

##### b. Valuation of Group Annuities

This subject relates to the existing Actuarial Guideline II, which is already included in the NAIC Financial Condition Examiners Handbook. The (C4) Technical Subcommittee has agreed upon one change in the wording of this actuarial guideline, which is being recommended to the Life Insurance (C3) Subcommittee for adoption in June, 1981. (Please see "Recommendations" in this section.)

The (C4) Technical Subcommittee is still reviewing another change in the wording of this actuarial guideline, which has been proposed by the American Council of Life Insurance.

c. Problems Related to Valuation-Nonforfeiture Interest Rate Differentials

This subject corresponds to the subjects "Minimum Amounts of Reduced Paid-up Annuities Available under the Standard Nonforfeiture Law," "Special Considerations Involving Valuation of Extended Term Insurance," and "Value of Dividend Additions" in the December, 1980, report of the (C4) Technical Subcommittee. An American Council of Life Insurance task force is reviewing this subject, and the (C4) Technical Subcommittee is awaiting its conclusion before taking any further action.

d. Reserves for Annuities with Contingent Liabilities

The (C4) Technical Subcommittee has concluded that no actuarial guideline is needed on this subject.

e. Retired Lives Reserve

The American Council of Life Insurance has a committee which is actively at work on this subject, and the (C4) Technical Subcommittee is awaiting its conclusions before taking any further action. This American Council of Life Insurance committee has been reviewing a proposed actuarial guideline prepared by David M. Holland of Munich American Life, which was included as an attachment in the (C4) Technical Subcommittee's December, 1980, report. Hopefully, the (C4) Technical Subcommittee will have the recommendations of the American Council of Life Insurance committee later in 1981.

f. Reserves for Annuities Arising from Property and Casualty Settlements and Mortality Basis for Annuities Issued on a Substandard Basis

These two subjects are related in that both pertain to annuitants whose mortality rates are expected to be somewhat higher than the mortality rates under the 1971 Individual Annuity Mortality Table. The problem lies in determining the appropriate scales of mortality rates to use. These subjects have been referred to the American Academy of Actuaries Subcommittee for Liaison (Life Insurance) for its comments and recommendations.

Some of the above subjects are more important than others. The (C4) Technical Subcommittee hopes to complete work on some of these subjects in 1981 and perhaps to have all of them completed by the end of 1982.

All of these subjects are related to the topic "Revision of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance." Some of the subjects have been referred to the American Academy of Actuaries Subcommittee for Liaison (Life Insurance), so this topic should be considered as related to the topic "American Academy of Actuaries Subcommittee, Organization and Membership."

Please see also the "joint" topic "Other Matters," in the first section of this report.

**[\*791] Recommendations**

The (C4) Technical Subcommittee has three recommendations to the Life Insurance (C3) Subcommittee for adoption in June, 1981.

(1) The (C4) Technical Subcommittee is now recommending adoption of certain "housekeeping" changes in the revised versions of the standard valuation law and the standard nonforfeiture law for life insurance, which were adopted by the NAIC in December, 1980. Please see Attachment Two-A to this report.

(2) The (C4) Technical Subcommittee is recommending adoption of a change in wording for Actuarial Guideline II, entitled "Valuation of Active Life Funds Held Relative to Group Annuity Contracts." This is an existing actuarial guideline, already included in the NAIC Financial Condition Examiners Handbook. Please see Attachment Two-B to this report.

(3) The (C4) Technical Subcommittee is recommending adoption of a new actuarial guideline entitled "Proposed Guideline for Interpretation of NAIC Standard Nonforfeiture Law for Individual Deferred Annuities." This actuarial

guideline was developed in response to the subject "Effect of Additional Amounts Credited by the Company to an Annuity Contract in Regard to Prospective Minimum Nonforfeiture Values." Please see Attachment Two-C to this report.

Recommendations that involve the contents of the handbook must be adopted by both the Life Insurance (C3) Subcommittee and the Financial Condition Examination (A5) Subcommittee. Thus, if recommendations (2) and (3) are adopted by the Life Insurance (C3) Subcommittee in June, 1981, they will also have to be adopted by the (A5) Subcommittee at a later date.

The Life Insurance (C3) Subcommittee adopted one additional actuarial guideline, as well as a preamble and a format for the table of contents for the actuarial guidelines, in December, 1980 and these are now being recommended to the (A5) Subcommittee for adoption in June, 1981.

#### SECTION 5

[Editor's Note--Attachments 1 - 25 will be contained only in the (C4) Technical Subcommittee Supplement to the Proceedings.]

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| Attachment 1 | Minutes of the (C4) Technical Subcommittee Meeting in New York, New York, on November 29 and 30, 1980.   |
| Attachment 2 | Minutes of the (C4) Technical Subcommittee Meeting in San Francisco, California, on April 2 and 3, 1981.   |
| Attachment 3 | Letter from John O. Montgomery, Vice-Chairman of the (C4) Technical Subcommittee, to Commissioner Roger C. Day of Utah Dated May 11, 1981, Concerning Revision of Page 6 of Annual Statement Blank.  |
| Attachment 4 | Final Report of Technical Advisory Committee on Hospital and Medical Service Corporations with Transmittal Letter from Chairman Robert H. Dobson Dated January 27, 1981.   |
| Attachment 5 | Memorandum from Larry Gorski, of the (C4) Technical Subcommittee Dated March 17, 1981 Concerning the Final Report of this Technical Advisory Committee.  |
| Attachment 6 | Letter from Thomas J. Kelly of the (C4) Technical Subcommittee, Dated March 24, 1981, Concerning the Final Report of this Technical Advisory Committee, with Comments from Robert P. Hall and Seymore Fenichel of the New York Insurance Department. |
| Attachment 7 | Letter from Mr. Dobson with a Response to the Comments in Attachment 6.  |
| Attachment 8 | Memorandum from Roger H. Hahn, Chairman of (C1) HMO Solvency Task Force and Advisory Committee, to All Members, Dated May 29, 1981, along with All Attachments.  |
| Attachment 9 | Letter from William H. Odell, Chairman of the Advisory Committee on Specified Disease Benefits Dated May 18, 1981, along with Attachments Relating to the Individual Cancer Insurance Experience   |

Study.

- Attachment 10 Letter from Mr. Odell on Behalf of the American Academy of Actuaries Dated March 26, 1981, Relating to the Proposed Role of Actuaries in the Final Report of the Technical Advisory Committee on Hospital and Medical Service Corporations.
- Attachment 11 Memorandum from Mr. Gorski Dated March 17, 1981, Containing His Analysis of the HIAA and ACLI Statement to the (C1) Subcommittee Task Force on Sex Discrimination.
- Attachment 12 Proposed Washington Regulation "Loss Ratio and Minimum Standards Requirements," with Notice Form.
- Attachment 13 Letter from Anne E. Gola, of the Health Insurance Association of America, Dated May 15, 1981, Concerning Guidelines for Filing Rates for Individual Health Insurance along with All Attachments.
- Attachment 14 Letter from W. H. Wetterstrand, of the (C4) Technical Subcommittee, Relating to These Same Guidelines.
- Attachment 15 Report from the Society of Actuaries Special Study Committee--Credit Insurance, from Chairman Harvey Galloway to the (C4) Technical Subcommittee Dated May 12, 1981.
- Attachment 16 Minutes of the April 1, 1981, Meeting of the Technical Advisory Committee on Dynamic Interest and Related Matters, with Report on April 2, 1981 Meeting of the (C4) Technical Subcommittee.
- Attachment 17 Letter from Ardian Gill, Chairman of the American Academy of Actuaries Subcommittee for Liaison (Life Insurance), Dated February 11, 1981, with All Attachments.
- Attachment 18 Letter from Jerome S. Golden, Chairman of the Variable Products Technical Advisory Committee, Dated March 18, 1981.
- Attachment 19 Progress Report from the Society of Actuaries Committee to Recommend New Mortality Basis for Individual Annuity Valuation, from Chairman Robert J. Johansen, Dated April 1981.
- Attachment 20 Progress Report from this Society of Actuaries Committee, Dated June 1981.
- Attachment 21 Letter from R. Scott McClester, of Prudential Insurance Company of America, Dated December 3,



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1981, Concerning the Work of the Parallel Society of Actuaries Committee on Group Annuities.

- Attachment 22 Letter from Robert M. Chmely, Chairman of this Society of Actuaries Committee on Group Annuities Dated March 27, 1981, Relating to the Work of this Committee.
- Attachment 23 Letter from Mr. Chmely, Dated May 28, 1981, Relating to the Work of this Committee.
- Attachment 24 Letter from John H. Cook, of Metropolitan Life Insurance Company, Dated January 9, 1981, Concerning a Proposal that Morbidity Be Studied under Disability Benefits Attached to Life Policies.
- Attachment 25 Letter from Charles F. B. Richardson, Former Member of the (C4) Technical Subcommittee, Dated May 14, 1981, Concerning a Proposal that Mortality be Studied under Substandard Life Policies, with Attachment.
- Attachment R1 Letter to Commissioner Day Dated May 8, 1981, Concerning Recommendation of Revised Version NAIC Model Regulation on Reserve Standards for Individual Health Insurance Policies, with All Attachments. (See Attachment Two-D.)
- Attachment R2 Letter to Commissioner J. Richard Barnes of Colorado Dated May 8, 1981, Concerning the Request for Adoption of Certain Editorial Corrections in the Standard Valuation Law and the Standard Non-forfeiture Law for Life Insurance, with its Attachment. (See Attachment Two-A.)
- Attachment R3 Letter to Commissioner Barnes Dated May 8, 1981, Concerning the Request for Adoption of a Change in Existing Actuarial Guideline II Entitled "Valuation of Active Life Funds Held Relative to Group Annuity Contracts," with its Attachment. (See Attachment Two-B.)
- Attachment R4 Letter to Commissioner Barnes Dated May 8, 1981, Concerning the Request for Adoption of a New Actuarial Guideline Entitled "Proposed Guideline for Interpretation of NAIC Standard Nonforfeiture Law for Individual Deferred Annuities," with its Attachment. (See Attachment Two-C.)
- Attachment R5 Letter to Commissioner E. J. Voorhis of Texas Dated May 8, 1981, Concerning the Request for Adoption of Certain Materials Relating to Actuarial Guidelines, with All Attachments. (See Attachment Three to report of Financial Condition Examination (A5) Subcommittee.)

State Board of Insurance, 1110 San Jacinto, Austin, Texas 78786, 512/475-3325

May, 8, 1981

Commissioner J. Richard Barnes, Colorado Department of Insurance, 106 State Office Building, Denver, Colorado 80203

Re: Request for Adoption of Certain, Editorial Corrections in the STANDARD VALUATION LAW and the STANDARD NONFORFEITURE LAW FOR LIFE INSURANCE by the NAIC (C3) Subcommittee in June 1981

Dear Commissioner Barnes:

The NAIC (C4) Technical Subcommittee recently became aware of certain editorial corrections which need to be made in the versions of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance, which were recently published in the NAIC Proceedings--1981, Volume I. You will recall that extensive revisions of these two model laws were adopted by the NAIC in December, 1980.

I am writing you in your capacity as chairman of the NAIC Life Insurance (C3) Subcommittee to request that these changes be adopted by the (C3) Subcommittee at its June, 1981, meeting.

Please note that all these recommended changes are editorial corrections, of the type which are often described as "housekeeping changes." I am sorry that it is necessary to disturb your (C3) Subcommittee with them.

I would like to thank William H. Carroll of the American Council of Life Insurance, John O. Montgomery of the (C4) Technical Subcommittee, and Sharon Quint of the NAIC Central Officer for their assistance in preparing the list of these changes which we are recommending. Mr. Carroll prepared the attachment to this letter which illustrates these changes on the proper pages in the NAIC Proceedings--1981, Volume I. This attachment includes only the pages which would be affected by the recommended changes.

Here is a list of these recommended changes:

**[\*794] Standard Valuation Law**

1. Section 3, subsection (a), line 4, change the semicolon to a comma so that a comma appears between the words "amended" and "the" so that the line reads: "of the Standard Nonforfeiture Law for Life Insurance as Amended, the Commissioners" 1981 Proceedings I, p. 765.
2. Section 3a, subsection (a), line 3, add the letter "s" to the word "benefit" so the phrase reads: "excluding any disability and accidental death benefits in such contracts . . ." Id. at 766.
3. Section 3-b (A) (d), lines 3 and 4, drop the words "shall be the calendary year statutory valuation interest rates as defined in this section" down to begin a new line and move this phrase against the left margin. The purpose of this change is to make it clear that this phrase pertains to (a), (b) and (c) above, as well as to (d). Id. at 768.
4. Section 3-b (C) (1) (c) (v), description of Plan Type B, line 2, add the word "an" between the words "with" and "adjustment" so that the phrase reads: "with an adjustment to reflect changes in interest rates or asset values." Id. at 770.
5. Section 3-b (C) (2), delete the number "(2)" and insert the numeral "(vi)." Renumbered section 3-b (C) (1) (c) (vi) and the accompanying material should be indented to conform with the margin for section 3-b (C) (1) (c) (v), entitled "Plan type as used in the above tables is defined as follows: ". Id. at 770.
6. Section 3-b (D) (1) (b), line 4, insert a comma between the word "purchase" and the word "of" so the phrase reads: "the calendar year of issue or year of purchase, of the Moodys' Corporate Bond Yield Average . . ." Id. at 770.
7. Section 4, paragraph 2, last line on page 771, delete the term "section three-a" and insert the term "section three" so the phrase reads: "the mortality and interest bases stated in section three and three-b shall be used." Id. at 771.

**Standard Nonforfeiture Law for Life Insurance**

1. Section 5c(8), paragraph 1, last line, delete the comma between the words "section" and "for" so the phrase reads: "as defined in this section for policies issued in that calendar year." 1981 Proceedings I, p. 779.
2. Section 8, paragraph 2, line 6, insert the phrase "or five, whichever is applicable," between the words "three" and "shall" and then delete the comma after the word "three." Section 8, paragraph 2, line 7, insert the same phrase between the words "three" and "on." Thus, the last sentence of section 8, paragraph 2, would read as follows: "Provided,

however, that the effects on the basic cash value of supplemental life insurance or annuity benefits or of family coverage, as described in section three or five, whichever is applicable, shall be the same as are the effects specified in section three or five, whichever is applicable, on the cash surrender values defined in that section." Id. at 781.

3. Section 8, paragraph 3, line 2, replace the words "section five-c," with the phrase "section five or five-c, whichever is applicable." The entire sentence would then read as follows: "The nonforfeiture factor for each policy year shall be an amount equal to a percentage of the adjusted premium for the policy year, as defined in section five or five-c, whichever is applicable." Id. at 781.

Thank you for your consideration of these changes.

Very truly yours,

Ted Becker, Chairman, NAIC (C4) Life, Accident and Health Insurance Technical Subcommittee.

cc: All other State Insurance Commissioners, (C4) Technical Subcommittee Members.

[\*795] RECOMMENDED CHANGES IN NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, STANDARD VALUATION LAW, (Underlining indicates additions. Brackets indicate deletions.), (As Adopted December 1980)

#### Section 1. Title

This Act shall be known as the Standard Valuation Law.

#### Section 2. Reserve Valuation

The commissioner shall annually value, or cause to be valued, the reserve liabilities (hereinafter called reserves) for all outstanding life insurance policies and annuity and pure endowment contracts of every life insurance company doing business in this state, and may certify the amount of any such reserves, specifying the mortality table or tables, rate or rates of interest, and methods (net level premium method or other) used in the calculation of such reserves. In calculating such reserves, he may use group methods and approximate averages for fractions of a year or otherwise. In lieu of the valuation of the reserves herein required of any foreign or alien company, he may accept any valuation made, or caused to be made, by the insurance supervisory official of any state or other jurisdiction when such valuation complies with the minimum standard herein provided and if the official of such state or jurisdiction accepts as sufficient and valid for all legal purposes the certificate of valuation of the commissioner when such certificate states the valuation to have been made in a specified manner according to which the aggregate reserves would be at least as large as if they had been computed in the manner prescribed by the law of that state or jurisdiction.

#### Section 3. Computation of Minimum Standard

Except as otherwise provided in [S]sections three-a and three-b, the minimum standard for the valuation of all such policies and contracts issued prior to the effective date of this Act shall be that provided by the laws in effect immediately prior to such date. Except as otherwise provided in [S]sections three-a and three-b, the minimum standard for the valuation of all such policies and contracts issued on or after the effective date of this Act shall be the [C]commissioners reserve valuation methods defined in sections four, four-a and seven, three and one-half percent (3-1/2%) interest, or in the case of policies and contracts, other than annuity and pure endowment contracts, issued on or after (insert effective date of 1972 NAIC Amendments to the Standard Valuation Law), four percent (4%) interest for such policies issued prior to [the effective date of this amendatory Act of 197 ] (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), five and one-half percent (5-1/2%) interest for single premium life insurance policies and four and one-half percent (4-1/2%) interest for all other such policies issued on and after [the effective date of this amendatory Act of 197 ] (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), and the following tables:

(a) For all [O]ordinary policies of life insurance issued on the standard basis, excluding any disability and accidental death benefits in such policies, -- the Commissioners 1941 Standard Ordinary Mortality Table for such policies issued prior to the operative date of Section five-a of the Standard Nonforfeiture Law for Life Insurance as amended, [and:] the Commissioners 1958 Standard Ordinary Mortality Table for such policies issued on or after [such] the operative date of section five-a of the Standard Nonforfeiture Law for Life Insurance as amended and prior to the operative date of section five-c of the Standard Nonforfeiture Law for Life Insurance as amended, provided that for any category of such policies issued on female risks, all modified net premiums and present values referred to in this Act may be cal-

culated according to an age not more than six years younger than the actual age of the insured; and for such policies issued on or after the operative date of section five-c of the Standard Nonforfeiture Law for Life Insurance as amended (i) the Commissioners 1980 Standard Ordinary Mortality Table or (ii) at the election of the company for any one or more specified plans of life insurance, the Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Select Mortality Factors, or (iii) any ordinary mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioners for use in determining the minimum standard of valuation for such policies.

[\*796] (b) For all [I]industrial life insurance policies issued on the [standard] basis, excluding any disability and accidental death benefits in such policies, -- the 1941 Standard Industrial Mortality Table for such policies issued prior to the operative date of section five-b of the Standard Nonforfeiture Law for Life Insurance as amended, and [the Commissioners 1961 Standard Industrial Mortality Table] for such policies issued on or after such operative date the Commissioners 1961 Standard Industrial Mortality Table or any industrial mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such policies.

(c) For [I]individual [A]annuity and [P]pure [E]endowment contracts, excluding any disability and accidental death benefits in such policies, -- the 1937 Standard Annuity Mortality Table, or, at the option of the company, the Annuity Mortality Table for 1949, Ultimate, or any modification of either of these tables approved by the commissioner.

(d) For [G]group [A]annuity and [P]pure [E]endowment contracts, excluding any disability and accidental death benefits in such policies -- the Group Annuity Mortality Table for 1951, any modification of such table approved by the commissioner, or, at the option of the company, any of the tables or modifications of tables specified for [I]individual [A]annuity and [P]pure [E]endowment contracts.

(e) For [T]total and [P]permanent [D]disability [B]benefits in or supplementary to [O]ordinary policies or contracts -- for policies or contracts issued on or after January 1, 1966, the tables of Period 2 disablement rates and the 1930 to 1950 termination rates of the 1952 Disability Study of the Society of Actuaries, with due regard to the type of benefit or any tables of disablement rates and termination rates, adopted after 1980 by the National Association of Insurance Commissioners, that are approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such policies; for policies or contracts issued on or after January 1, 1961, and prior to January 1, 1966, either such tables or, at the option of the company, the Class (3) Disability Table (1926); and for policies issued prior to January 1, 1961, the Class (3) Disability Table (1926). Any such table shall, for active lives, be combined with a mortality table permitted for calculating the reserves for life insurance policies.

(f) For [A]accidental [D]death benefits in or supplementary to policies -- for policies issued on or after January 1, 1966, the 1959 Accidental Death Benefits Table or any accidental death benefits table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such policies; for policies issued on or after January 1, 1961, and prior to January 1, 1966, either such table or, at the option of the company, the Inter-Company Double Indemnity Mortality Table; and for policies issued prior to January 1, 1961, the Inter-Company Double Indemnity Mortality Table. Either table shall be combined with a mortality table permitted for calculating the reserves for life insurance policies.

(g) For [G]group [L]Life insurance, life insurance issued on the substandard basis and other special benefits -- such tables as may be approved by the commissioner.

### Section 3a. Computation of Minimum Standard For Annuities

Except as provided in section three-b, the [The] minimum standard for the valuation of all individual annuity and pure endowment contracts issued on or after the operative date of this [S]section three-a, as defined herein, and for all annuities and pure endowments purchased on or after such operative date under group annuity and pure endowment contracts, shall be the Commissioner's reserve valuation methods defined in [S]sections four and four-a and the following tables and interest rates:

(a) For individual annuity and pure endowment contracts issued prior to [the effective date of this amendatory act of 197 ] (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), excluding any disability and accidental death benefits in such contracts--the 1971 Individual Annuity Mortality Table, or any modification of this table approved by the [C]commissioner, and six percent (6%) interest for single premium immediate annuity contracts, and four percent (4%) interest for all other individual annuity and pure endowment contracts.

[\*797] (d) the net increase, if any, in a particular calendar year after January 1, 198 (insert the calendar year next following the effective year of passage of this amendatory Act of 198 ), in amounts held under guaranteed interest contracts (shall be the calendar year statutory valuation interest rates as defined in this section.)

(B) Calendar Year Statutory Valuation Interest Rates

(1) The calendar year statutory valuation interest rates, I, shall be determined as follows and the results rounded to the nearer one-quarter of one percent (1/4 of 1%):

(a) For life insurance,

(b) For single premium immediate annuities and for annuity benefits involving life contingencies arising from other annuities with cash settlement options and from guaranteed interest contracts with cash settlement options,

where R[1] is the lesser of R and .09, R[2] is the greater of R and .09, R is the reference interest rate defined in this section, and W is the weighting factor defined in this section,

(c) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on an issue year basis, except as stated in (b) above, the formula for life insurance stated in (a) above shall apply to annuities and guaranteed interest contracts with guarantee durations in excess of ten (10) years and the formula for single premium immediate annuities stated in (b) above shall apply to annuities and guaranteed interest contracts with guarantee duration of ten (10) years or less.

(d) For other annuities with no cash settlement options and for guaranteed interest contracts with no cash settlement options, the formula for single premium immediate annuities stated in (b) above shall apply.

(e) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a change in fund basis, the formula for single premium immediate annuities state in (b) above shall apply.

(2) However, if the calendar year statutory valuation interest rate for any life insurance policies issued in any calendar year determined without reference to this sentence differs from the corresponding actual rate for similar policies issued in the immediately preceding calendar year by less than one-half of one percent (1/2 of 1%), the calendar year statutory valuation interest rate for such life insurance policies shall be equal to the corresponding actual rate for the immediately preceding calendar year. For purposes of applying the immediately preceding sentence, the calendar year statutory valuation interest rate for life insurance policies issued in a calendar year shall be determined for 1980 (using the reference interest rate defined for 1979) and shall be determined for each subsequent calendar year regardless of when section five-c of the Standard Nonforfeiture Law for Life Insurance becomes operative.

(C) Weighting Factors

(1) The weighting factors referred to in the formulas stated above are given in the following tables:

(a) Weighting Factors for Life Insurance:

[\*798] (v) Plan type as used in the above tables is defined as follows:

Plan Type A: At any time policyholder may withdraw funds only (1) with an adjustment to reflect changes in interest rates or asset values since receipt of the funds by the insurance company, or (2) without such adjustment but in installments over five years or more, or (3) as an immediate life annuity, or (4) no withdrawal permitted.

Plan Type B: Before expiration of the interest rate guarantee, policyholder may withdraw funds only (1) with an adjustment to reflect changes in interest rates or asset values since receipt of the funds by the insurance company, or (2) without such adjustment but in installments over five years or more, or (3) no withdrawal permitted. At the end of interest rate guarantee, funds may be withdrawn without such adjustment in a single sum or installments over less than five years.

Plan Type C: Policyholder may withdraw funds before expiration of interest rate guarantee in a single sum or installments over less than five years either (1) without adjustment to reflect changes in interest rates or asset values since receipt of the funds by the insurance company, or (2) subject only to a fixed surrender charge stipulated in the contract as a percentage of the fund.

(vi) A company may elect to value guaranteed interest contracts with cash settlement options and annuities with cash settlement options on either an issue year basis or on a change in fund basis. Guaranteed interest contracts with no

cash settlement options and other annuities with no cash settlement options must be valued on an issue year basis. As used in this section, an issue year basis of valuation refers to a valuation basis under which the interest rate used to determine the minimum valuation standard for the entire duration of the annuity or guaranteed interest contract is the calendar year valuation interest rate for the year of issue or year of purchase of the annuity or guaranteed interest contract, and the change in fund basis of valuation refers to a valuation basis under which the interest rate used to determine the minimum valuation standard applicable to each change in the fund held under the annuity or guaranteed interest contract is the calendar year valuation interest rate for the year of the change in the fund.

(D) Reference Interest Rate

(1) Reference Interest Rate referred to in Subsection (B) of this section shall be defined as follows:

(a) For all life insurance, the lesser of the average over a period of thirty-six (36) months and the average over a period of twelve (12) months, ending on June 30 of the calendar year next preceding the year of issue, of the Moody's Corporate Bond Yield Average - Monthly Average Corporates, as published by Moody's Investors Service, Inc.

(b) For single premium immediate annuities and for annuity benefits involving life contingencies arising from other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or year of purchase, of the Moody's Corporate Bond Yield Average-Monthly Average Corporates, as published by Moody's Investors Service, Inc.

(c) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a year of issue basis, except as stated in (b) above, with guarantee duration in excess of ten (10) years, the lesser of the average over a period of thirty-six (36) months and the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or purchase, of the Moody's Corporate Bond Yield Average - Monthly Average Corporates, as published by Moody's Investors Service, Inc.

(d) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a year of issue basis, except as stated in (b) above, with guarantee duration of ten (10) years or less, the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or purchase, of the Moody's Corporate Bond Yield Average - Monthly Average Corporates, as published by Moody's Investors Service, Inc.

[\*799] (e) For other annuities with no cash settlement options and for guaranteed interest contracts with no cash settlement options, the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or purchase, of the Moody's Corporate Bond Yield Average - Monthly Average Corporates, as published by Moody's Investors Service, Inc.

(f) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a change in fund basis, except as stated in (b) above, the average over a period of twelve (12) months, ending on June 30 of the calendar year of the change in the fund, of the Moody's Corporate Bond Yield Average - Monthly Average Corporates, as published by Moody's Investors Service, Inc.

(E) Alternative Method for Determining Reference Interest Rates

(1) In the event that the Moody's Corporate Bond Yield Average - Monthly Average Corporates [as] is no longer published by Moody's Investors Service, Inc., or in the event that the National Association of Insurance Commissioners determines that the Moody's Corporate Bond Yield Average - Monthly Average Corporates as published by Moody's Investors Service, Inc. is no longer appropriate for the determination of the reference interest rate, then an alternative method for determination of the reference interest rate, which is adopted by the National Association of Insurance Commissioners and approved by regulation promulgated by the commissioner, may be substituted.

Section 4. Reserve Valuation Method - Life Insurance and Endowment Benefits

Except as otherwise provided in [S]sections four-a and seven, reserves according to the commissioner's reserve valuation method, for the life insurance and endowment benefits to policies providing for a uniform amount of insurance and requiring the payment of uniform premiums, shall be the excess, if any, of the present value, at the date of valuation, of such future guaranteed benefits provided for by such policies, over the then present value of any future modified net premiums therefor. The modified net premiums for any such policy shall be such uniform percentage of the respective contract premiums for such benefits that the present value, at the date of issue of the policy, of all such modified net premiums shall be equal to the sum of the then present value of such benefits provided for by the policy and the excess of (a) over (b), as follows:

(a) A net level annual premium equal to the present value, at the date of issue, of such benefits provided for after the first policy year, divided by the present value, at the date of issue, of an annuity of one per annum payable on the first and each subsequent anniversary of such policy on which a premium falls due; provided, however, that such net level annual premium shall not exceed the net level annual premium on the nineteen year premium whole life plan for insurance of the same amount at an age one year higher than the age at issue of such policy.

(b) A net one year term premium for such benefits provided for in the first policy year.

Provided that for any life insurance policy issued on or after January 1, 198 (insert the fourth calendar year commencing after the effective date of this amendatory Act of 198 ) for which the contract premium in the first policy year exceeds that of the second year and for which no comparable additional benefit is provided in the first year for such excess and which provides an endowment benefit or a cash surrender value or a combination thereof in an amount greater than such excess premium, the reserve according to the commissioners reserve valuation method as of any, policy anniversary occurring on or before the assumed ending date defined herein as the first policy anniversary on which the sum of any endowment benefit and any cash surrender value then available is greater than such excess premium shall, except as otherwise provided in section seven, be the greater of the reserve as of such policy anniversary calculated as described in the preceding paragraph and the reserve as of such policy anniversary calculated as described in that paragraph, but with (i) the value defined in subparagraph (a) of that paragraph being reduced by fifteen per cent of the amount of such excess first year premium, (ii) all present values of benefits and premiums being determined without reference to premiums or benefits provided for by the policy after the assumed ending date, (iii) the policy being assumed to mature on such date as an endowment, and (iv) the cash surrender value provided on such date being considered as an endowment benefit. In making the above comparison the mortality and interest bases stated in section three and three-b shall be used.

[\*800] (7) Notwithstanding any other provisions of this section to the contrary, in the case of a policy issued on a substandard basis which provides reduced graded amounts of insurance so that, in each policy year, such policy has the same tabular mortality cost as an otherwise similar policy issued on the standard basis which provides higher uniform amount of insurance, adjusted premiums and present values for such substandard policy may be calculated as if it were issued to provide such higher uniform amounts of insurance on the standard basis.

(8) All adjusted premiums and present values referred to in this Act shall for all policies of ordinary insurance be calculated on the basis of (i) the Commissioners 1980 Standard Ordinary Mortality Table or (ii) at the election of the company for any one or more specified plans of life insurance, the Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Select Mortality Factors; shall for all policies of industrial insurance be calculated on the basis of the Commissioners 1961 Standard Industrial Mortality Table; and shall for all policies issued in a particular calendar year be calculated on the basis of a rate of interest not exceeding the nonforfeiture interest rate as defined in this section for policies issued in that calendar year. Provided, however, that:

(a) At the option of the company, calculations for all policies issued in a particular calendar year may be made on the basis of a rate of interest not exceeding the nonforfeiture interest rate, as defined in this section, for policies issued in the immediately preceding calendar year.

(b) Under any, paid-up nonforfeiture benefit, including any paid-up dividend additions, any cash surrender value available, whether or not required by section two, shall be calculated on the basis of the mortality table and rate of interest used in determining the amount of such paid-up nonforfeiture benefit and paid-up dividend additions, if any.

(c) A company may calculate the amount of any guaranteed paid-up nonforfeiture benefit including any paid-up additions under the policy on the basis of an interest rate no lower than that specified in the policy for calculating cash surrender values.

(d) In calculating the present value of any paid-up term insurance with accompanying pure endowment, if any, offered as a nonforfeiture benefit, the rates of mortality assumed may be not more than those shown in the Commissioners 1980 Extended Term Insurance Table for policies of ordinary insurance and not more than the Commissioners 1961 Industrial Extended Term Insurance Table for policies of industrial insurance.

(e) For insurance issued on a substandard basis, the calculation of any such adjusted premiums and present values may be based on appropriate modifications of the aforementioned tables.

(f) Any ordinary mortality tables, adopted after 1980 by the National Association of Insurance Commissioners, that are approved by regulation promulgated by the Commissioner for use in determining the minimum nonforfeiture stand-

ard may be substituted for the Commissioners 1980 Standard Ordinary Mortality Table with or without Ten-Year Select Mortality Factors or for the Commissioners 1980 Extended Term Insurance Table.

(g) Any industrial mortality tables, adopted after 1980 by the National Association of Insurance Commissioners, that are approved by regulation promulgated by the Commissioner for use in determining the minimum nonforfeiture standard may be substituted for the Commissioners 1961 Standard Industrial Mortality Table or the Commissioners 1961 Industrial Extended Term Insurance Table.

(9) The nonforfeiture interest rate per annum for any policy issued in a particular calendar year shall be equal to one hundred and twenty-five percent (125%) of the calendar year statutory valuation interest rate for such policy as defined in the Standard Valuation Law, rounded to the nearer one quarter of one percent (1/4 of 1%).

(10) Notwithstanding any other provision in this code to the contrary, any refiling of nonforfeiture values or their methods of computation for any previously approved policy form which involves only a change in the interest rate or mortality table used to compute nonforfeiture values shall not require refiling of any other provisions of that policy form.

**[\*801]** Section 8. Consistency of Progression of Cash Surrender Values With Increasing Policy Duration

This section, in addition to all other applicable sections of this law, shall apply to all policies issued on or after January 1, 198 (insert the fourth calendar year commencing after the effective date of this amendatory Act of 198 ). Any cash surrender value available under the policy in the event of default in a premium payment due on any policy anniversary shall be in an amount which does not differ by more than two tenths of one percent of either the amount of insurance, if the insurance be uniform in amount, or the average amount of insurance at the beginning of each of the first ten policy years, from the sum of (a) the greater of zero and the basic cash value hereinafter specified and (b) the present value of any existing paid-up additions less the amount of any indebtedness to the company under the policy.

The basic cash value shall be equal to the present value, on such anniversary, of the future guaranteed benefits which would have been provided for by the policy, excluding any existing paid-up additions and before deduction of any indebtedness to the company, if there had been no default, less the then present value of the nonforfeiture factors, as hereinafter defined, corresponding to premiums which would have fallen due on and after such anniversary. Provided, however, that the effects on the basic cash value of supplemental life insurance or annuity benefits or of family coverage, as described in section three, shall be the same as are the effects specified in section three, on the cash surrender values defined in that section.

The nonforfeiture factor for each policy year shall be an amount equal to a percentage of the adjusted premium for the policy year, as defined in section five-c Except as is required by the next succeeding sentence of this paragraph, such percentage:

(a) must be the same percentage for each policy year between the second policy anniversary and the later of (i) the fifth policy anniversary and (ii) the first policy anniversary at which there is available under the policy a cash surrender value in an amount, before including any paid-up additions and before deducting and indebtedness, of at least two tenths of one percent of either the amount of insurance, if the insurance be uniform in amount, or the average amount of insurance at the beginning of each of the first ten policy years; and

(b) must be such that no percentage after the later of the two policy anniversaries specified in the preceding item (a) may apply to fewer than five consecutive policy years.

Provided, that no basic cash value may be less than the value which would be obtained if the adjusted premiums for the policy, as defined in section five-c, were substituted for the nonforfeiture factors in the calculation of the basic cash value.

All adjusted premiums and present values referred to in this section shall for a particular policy be calculated on the same mortality and interest bases as are used in demonstrating the policy's compliance with the other sections of this law. The cash surrender values referred to in this section shall include any endowment benefits provided for by the policy.

Any cash surrender value available other than in the event of default in a premium payment due on a policy anniversary, and the amount of any paid-up nonforfeiture benefit available under the policy in the event of default in a premium payment shall be determined in manners consistent with the manners specified for determining the analogous minimum amounts in sections two, three, four, five-c, and seven. The amounts of any cash surrender values and of any



paid-up nonforfeiture benefits granted in connection with additional benefits such as those listed as items (i) through (vi) in section seven shall conform with the principles of this section eight.

#### Section 9[7]. Exceptions

This Act shall not apply to any of the following:

- (a) reinsurance,
- (b) group insurance,

[\*802] Standard Valuation Law \*

\* [Editors Note -- This is a retyped copy of the Standard Valuation Law which incorporates editorial and task force changes.]

#### Section 1. Title.

This Act shall be known as the Standard Valuation Law.

#### Section 2. Reserve Valuation.

The commissioner shall annually value, or cause to be valued, the reserve liabilities (hereinafter called reserves) for all outstanding life insurance policies and annuity and pure endowment contracts of every life insurance company doing business in this state, and may certify the amount of any such reserves, specifying the mortality table or tables, rate or rates of interest, and methods (net level premium method or other) used in the calculation of such reserves. In calculating such reserves, he may use group methods and approximate averages for fractions of a year or otherwise. In lieu of the valuation of the reserves herein required of any foreign or alien company, he may accept any valuation made, or caused to be made, by the insurance supervisory official of any state or other jurisdiction when such valuation compiles with the minimum standard herein provided and if the official of such state or jurisdiction accepts as sufficient and for all valid legal purposes the certificate of valuation of the commissioner when such certificate states the valuation to have been made in a specified manner according to which the aggregate reserves would be at least as large as if they had been computed in the manner prescribed by the law of that state or jurisdiction.

#### Section 3. Computation of Minimum Standard.

Except as otherwise provided in sections three-a and three-b, the minimum standard for the valuation of all such policies and contracts issued prior to the effective date of this Act shall be that provided by the laws in effect immediately prior to such date. Except as otherwise provided in sections three-a and three-b, the minimum standard for the valuation of all such policies and contracts issued on or after the effective date of this Act shall be the commissioners reserve valuation methods defined in sections four, four-a and seven, three and one-half percent (3 1/2%) interest, or in the case of policies and contracts, other than annuity and pure endowment contracts, issued on or after (insert effective date of 1972 NAIC Amendments to the Standard Valuation Law), four percent (4%) interest for such policies issued prior to [the effective date of this amendatory Act of 197 ] (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), five and one-half percent (5 1/2%) interest for single premium life insurance policies and four and one-half percent (4 1/2%) interest for all other such policies issued on and after (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), and the following tables:

(a) For all ordinary policies of life insurance issues on the standard basis, excluding any disability and accidental death benefits in such policies, -- the Commissioners 1941 Standard Ordinary Mortality Table for such policies issued prior to the operative date of Section five-a of the Standard Nonforfeiture Law for Life Insurance as amended, the Commissioners 1958 Standard Ordinary Mortality Table for such policies issued on or after the operative date of section five-a of the Standard Nonforfeiture Law for Life Insurance as amended and prior to the operative date of section five-c of the Standard Nonforfeiture Law for Life Insurance as amended, provided that for any category of such policies issued on female risks, all modified net premiums and present values referred to in this Act may be calculated according to an age not more than six years younger than the actual age of the insured; and for such policies issued on or after the operative date of section five-c of the Standard Nonforfeiture Law for Life Insurance as amended (i) the Commissioners 1980 Standard Ordinary [\*803] Mortality Table, or (ii) at the election of the company for any one or more specified plans of life insurance, the Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Select Mortality Factors, or (iii) any ordinary mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is

approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such policies.

(b) For all industrial life insurance policies issued on the standard basis, excluding any disability and accidental death benefits in such policies, -- the 1941 Standard Industrial Mortality Table for such policies issued prior to the operative date of section five-b of the Standard Nonforfeiture Law for Life Insurance as amended, and for such policies issued on or after such operative date the Commissioners 1961 Standard Industrial Mortality Table or any industrial mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by one commissioner for use in determining the minimum standard of valuation for such policies.

(c) For individual annuity and pure endowment contracts, excluding any disability and accidental death benefits in such policies, -- the 1937 Standard Annuity Mortality Table, or, at the option of the company, the Annuity Mortality Table for 1949, Ultimate, or any modification of either of these tables approved by the commissioner.

(d) For group annuity and pure endowment contracts, excluding any disability and accidental death benefits in such policies -- the Group Annuity Mortality Table for 1951, any modification of such table approved by the commissioner, or, at the option of the company, any of the tables or modifications of tables specified for individual annuity and pure endowment contracts.

(e) For total and permanent disability benefits in or supplementary to ordinary policies or contracts -- for policies or contracts issued on or after January 1, 1966, the tables of Period 2 disablement rates and the 1930 to 1950 termination rates of the 1952 Disability Study of the Society of Actuaries, with due regard to the type of benefit or any tables of disablement rates and termination rates, adopted after 1980 by the National Association of Insurance Commissioners, that are approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such policies; for policies or contracts issued on or after January 1, 1961, and prior to January 1, 1966, either such tables or, at the option of the company, the Class (3) Disability Table (1926); and for policies issued prior to January 1, 1961, the Class (3) Disability Table (1926). Any such table shall, for active lives, be combined with a mortality table permitted for calculating the reserves for life insurance policies.

(f) For accidental death benefits in or supplementary to policies -- for policies issued on or after January 1, 1966, the 1959 Accident Death Benefits Table or any accidental death benefits table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such policies; for policies issued on or after January 1, 1961, and prior to January 1, 1966, either such table or, at the option of the company, the Inter-Company Double Indemnity Mortality Table. Either table shall be combined with a mortality table for calculating the reserves for life insurance policies.

(g) For group life insurance, life insurance issued on the substandard basis and other special benefits -- such tables as may be approved by the commissioner.

### Section 3a. Computation of Minimum Standard for Annuities.

Except as provided in section three-b, the minimum standard for the valuation of all individual annuity and pure endowment contracts issued on or after the operative date of this section three-a, as defined herein, and for all annuities and pure endowments purchased on or after such operative date under group annuity and pure endowment contracts, shall be the Commissioner's reserve valuation methods defined in sections four and four-a and the following tables and interest rates:

(a) For individual annuity and pure endowment contracts issued prior to (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), excluding any disability and accidental death benefits in such contracts -- the 1971 Individual Annuity Mortality Table, or any modification of this table approved by the commissioner, and six percent (6%) interest for single premium immediate annuity contracts, and four percent (4%) interest for all other individual annuity and pure endowment contracts.

[\*804] (b) For individual single premium immediate annuity contracts issued on or after (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), excluding any disability and accidental death benefits in such contracts, -- the 1971 Individual Annuity Mortality Table or any individual annuity mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such contracts, or any modification of these tables approved by the commissioner, and seven and one-half percent (7 1/2%) interest.

(c) For individual annuity and pure endowment contracts issued on or after (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law), other than single premium immediate annuity contracts, excluding any disability and accidental death benefits in such contracts -- the 1971 Individual Annuity Mortality Table or any individual annuity mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioner for use in determining the minimum standard of valuation for such contracts, or any modification of these tables approved by the commissioner, and five and one-half percent (5 1/2%) interest for single premium deferred annuity and pure endowment contracts and four and one-half percent (4 1/2%) interest for all other such individual annuity and pure endowment contracts.

(d) For all annuities and pure endowments purchased prior to (insert effective date of 1976 NAIC Amendments to the Standard Valuation Law) under group annuity and pure endowment contracts, excluding any disability and accidental death benefits purchased under such contracts, -- the 1971 Group Annuity Mortality Table or any group annuity mortality table, adopted after 1980 by the National Association of Insurance Commissioners, that is approved by regulation promulgated by the commissioner for use in determining the standard of valuation for such annuities and pure endowments, or any modification of these tables approved by the commissioner, and seven and one-half percent (7 1/2%) interest.

After (insert effective date of 1972 NAIC Amendments to the Standard Valuation Law), any company may file with the commissioner a written notice of its election to comply with the provisions of this section after a specified date before January 1, nineteen hundred and seventy-nine, which shall be the operative date of this section for such company, provided, a company may elect a different operative date for individual annuity and pure endowment contracts from that elected for group annuity and pure endowment contracts. If a company makes no such election, the operative date of this section for such company shall be January 1, nineteen hundred and seventy-nine.

#### Section 3b. Computation of Minimum Standard by Calendar Year of Issue.

##### (A) Applicability of Section 3b.

(1) The interest rates used in determining the minimum standard for the valuation of:

(a) all life insurance policies issued in a particular calendar year, on, or after the operative date of section five-c of the Standard Nonforfeiture Law for Life Insurance,

(b) all individual annuity and pure endowment contracts issued in a particular calendar year on or after January 1, 1980- (insert the calendar year next following the effective year of passage of this amendatory Act of 198 ),

(c) all annuities and pure endowments purchased in a particular calendar year on or after January 1, 198 (insert the calendar year next following the effective year of passage of this amendatory Act of 198 ) under group annuity and pure endowment contracts, and

(d) the net increase, if any, in a particular calendar year after January 1, 198 (insert the calendar year next following the effective year of passage of this amendatory Act of 198 ), in amounts held under guaranteed interest contracts

shall be the calendar year statutory valuation interest rates as defined in this section.

##### [\*805] (B) Calendar Year Statutory Valuation Interest Rates

(1) The calendar year statutory valuation interest rates, I, shall be determined as follows and the results rounded to the nearer one-quarter of one percent (1/4 to 1%):

(a) For life insurance,

(b) For single premium immediate annuities and for annuity benefits involving life contingencies arising from other annuities with cash settlement options and from guaranteed interest contracts with cash settlement options,

where  $R[1]$  is the lesser of  $R$  and  $.09$ ,  $R[2]$  is the greater  $R$  and  $.09$ ,  $R$  is the reference interest rate defined in this section, and  $W$  is the weighing factor in this section,

(c) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on an issue year basis, except as stated in (b) above, the formula for life insurance stated in (a) above shall apply to annuities and guaranteed interest contracts with guarantee durations in excess of ten (10) years and the formula for single premium immediate annuities stated in (b) above shall apply to annuities and guaranteed interest contracts with guarantee duration of ten (10) years or less,

(d) For other annuities with no cash settlement options and for guaranteed interest contracts with no cash settlement options, the formula for single premium immediate annuities stated in (b) above shall apply.

(e) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a change in fund basis, the formula for single premium immediate annuities stated in (b) above shall apply.

(2) However, if the calendar year statutory valuation interest rate for any life insurance policies issued in any calendar year determined without reference to this sentence differs from the corresponding actual rate for similar policies issued in the immediately preceding calendar year by less than one-half of one percent (1/2 of 1%), the calendar year statutory valuation interest rate for such life insurance policies shall be equal to the corresponding actual rate for the immediately preceding calendar year. For purposes of applying the immediately preceding sentence, the calendar year statutory valuation interest rate for life insurance policies issued in a calendar year shall be determined for 1980 (using the reference interest rate defined in 1979) and shall be determined for each subsequent calendar year regardless of when section five-c of the Standard Nonforfeiture Law for Life Insurance becomes operative.

(C) Weighting Factors

(1) The weighting factors referred to in the formulas stated above are given in the following tables:

(a) Weighting Factors for Life Insurance:

| Guarantee<br>Duration<br>(Years) | Weighting<br>Factors |
|----------------------------------|----------------------|
| 10 or less                       | .50                  |
| More than 10, but less than 20   | .45                  |
| More than 20                     | .35                  |

[\*806] For life insurance, the guarantee duration is the maximum number of years the life insurance can remain in force on a basis guaranteed in the policy or under options to convert to plans of life insurance with premium rates or nonforfeiture values or both which are guaranteed in the original policy;

(b) Weighting factor for single premium immediate annuities and for annuity benefits involving life contingencies arising from other annuities with cash settlement options and guaranteed interest contracts with cash settlement options:

.80

(c) Weighting factors for other annuities and for guaranteed interest contracts, except as stated in (b) above, shall be as specified in tables (i), (ii) and (iii) below, according to the rules and definitions in (iv), (v) and (vi) below:

(i) For annuities and guaranteed interest contracts valued on an issue year basis:

| Guarantee<br>Duration<br>(Years)    | Weighting Factor<br>for Plan Type |     |     |
|-------------------------------------|-----------------------------------|-----|-----|
|                                     | A                                 | B   | C   |
| 5 or less:                          | .80                               | .60 | .50 |
| More than 5, but not more than 10:  | .75                               | .60 | .50 |
| More than 10, but not more than 20: | .65                               | .50 | .45 |
| More than 20:                       | .45                               | .35 | .35 |

(ii) For annuities and guaranteed interest contracts values on a change in fund basis, the factors shown in (i) above increased by:

| Plan Type |     |     |
|-----------|-----|-----|
| A         | B   | C   |
| .15       | .25 | .05 |

(iii) For annuities and guaranteed interest contracts valued on an issue year basis (other than those with no cash settlement options) which do not guarantee interest on considerations received more than one year after issue or purchase and for annuities and guaranteed interest contracts valued on a change in fund basis which do not guarantee interest rates on considerations received more than 12 months beyond the valuation date, the factors shown in (i) or derived in (ii) increased by:

| Plan Type |   |   |
|-----------|---|---|
| A         | B | C |

| Plan Type |     |     |
|-----------|-----|-----|
| A         | B   | C   |
| .05       | .05 | .05 |

(iv) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, the guarantee duration is the number of years for which the contract guarantees interest rates in excess of the calendar year statutory valuation interest rate for life insurance policies with guarantee duration in excess of twenty (20) years. For other annuities with no cash settlement options and for guaranteed interest contracts with no cash settlement options, the guarantee duration is the number of years from the date of issue or date of purchase to the date annuity benefits are scheduled to commence.

[\*807] (v) Plan type as used in the above tables is defined as follows:

- Plan Type A: At any time policyholder may withdraw funds only (1) with an adjustment to reflect changes in interest rates or asset values since receipt of the funds by the insurance company, or (2) without such adjustment but in installments over five years or more, or (3) as an immediate life annuity, or (4) no withdrawal permitted.
- Plan Type B: Before expiration of the interest rate guarantee, policyholder may withdraw funds only (1) with an adjustment to reflect changes in interest rates or asset values since receipt of the funds by the insurance company, or (2) without such adjustment but in installments over five years or more, or (3) no withdrawal permitted.  
At the end of interest rate guarantee, funds may be withdrawn without such adjustment in a single sum or installments over less than five years.
- Plan Type C: Policyholder may withdraw funds before expiration of interest rate guarantee in a single sum or installments over less than five years either (1) without adjustment to reflect changes in interest rates or asset values since receipt of the funds by the insurance company, or (2) subject only to a fixed surrender charge stipulated in the contract as a percentage of the fund.

(vi) A company may elect to value guaranteed interest contracts with cash settlement options and annuities with cash settlement options on either an issue year basis or on a change in fund basis. Guaranteed interest contracts with no cash settlement options and other annuities with no cash settlement options must be valued on an issue year basis. As used in this section, an issue year basis of valuation refers to a valuation basis under which the interest rate used to determine the minimum valuation standard for the entire duration of the annuity or guaranteed interest contract is the calendar year valuation interest rate for the year of issue or year of purchase of the annuity or guaranteed interest contract, and the change in fund basis of valuation refers to a valuation basis under which the interest rate used to determine the minimum valuation standard applicable to each change in the fund held under the annuity or guaranteed interest contract is the calendar year valuation interest rate for the year of the change in the fund.

#### (D) Reference Interest Rate

(1) Reference Interest Rate referred to in subsection (b) of this section shall be defined as follows:

(a) For all life insurance, the lesser of the average over a period of thirty-six (36) months and the average over a period of twelve (12) months, ending on June 30 of the calendar year next preceding the year of issue, of the Monthly Average of the Composite Yield on Seasoned Corporate Bonds, as published by Moody's Investors Service, Inc.

(b) For single premium immediate annuities and for annuity benefits involving life contingencies arising from other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or year of purchase, of the Monthly Average of the Composite Yield on Seasoned Corporate Bonds, as published by Moody's Investors Service, Inc.

(c) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a year of issue basis, except as stated in (b) above, with guarantee duration in excess of ten (10) years, the lesser of the average over a period of thirty-six (36) months and the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or purchase, of the Monthly Average of the Composite Yield on Seasoned Corporate Bonds, as published by Moody's Investors Service, Inc.

[\*808] (d) For other annuities with cash settlement options and guaranteed interest contracts with cash settlement options, valued on a year of issue basis, except as stated in (b) above, with guarantee duration of ten (10) years or less, the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or purchase, of the Monthly Average of the Composite Yield on Seasoned Corporate Bonds, as published by Moody's Investors Service, Inc.

(e) For other annuities with no cash settlement options and for guaranteed interest contracts with no cash settlement options, the average over a period of twelve (12) months, ending on June 30 of the calendar year of issue or purchase, of the Monthly Average of the Composite Yield on Seasoned Corporate Bonds, as published by Moody's Investors Service, Inc.

(f) For other annuities with cash settlement options and guaranteed interest, contracts with cash settlement options, valued on a change in fund basis, except as stated in (b) above, the average over a period of twelve (12) months, ending on June 30 of the calendar year of the change in the fund, of the Monthly Average of the Composite Yield on Seasoned Corporate Bonds, as published by Moody's Investors Service, Inc.

#### (E) Alternative Method for Determining Reference Interest Rates

(1) In the event that the Monthly Average of the Composite Yield on Seasoned Corporate Bonds is no longer published by Moody's Investors Service, Inc., or in the event that the National Association of Insurance Commissioners determines that the Monthly Average of the Composite Yield on Seasoned Corporate Bonds as published by Moody's Investors Service, Inc. is no longer appropriate for the determination of the reference interest rate, then an alternative method for determination of the reference interest rate, which is adopted by the National Association of Insurance Commissioners and approved by regulation promulgated by the commissioner, may be substituted.

#### Section 4. Reserve Valuation Method -- Life Insurance and Endowment Benefits.

Except as otherwise provided in sections four-a and seven, reserves according to the commissioners reserve valuation method, for the life insurance and endowment benefits of policies providing for a uniform amount of insurance and requiring the payment of uniform premiums shall be the excess, if any, of the present value, at the date of valuation, of such future guaranteed benefits provided for by such policies, over the then present value of any future modified net premiums therefor. The modified net premiums for any such policy shall be such uniform percentage of the respective contract premiums for such benefits that the present value, at the date of issue of the policy, of all such modified net premiums shall be equal to the sum of the then present value of such benefits provided for by the policy and the excess of (a) over (b), as follows:

(a) A net level annual premium equal to the present value, at the date of issue, of such benefits provided for after the first policy year, divided by the present value, at the date of issue, of an annuity of one per annum payable on the first and each subsequent anniversary of such policy on which a premium falls due; provided, however, that such net level annual premium shall not exceed the net level annual premium on the nineteen year premium whole life plan for insurance of the same amount at an age one year higher than the age at issue of such policy.

(b) A net one year term premium for such benefits provided for in the first policy year.

Provided that for any life insurance policy issued on or after January 1, 198 (insert the fourth calendar year commencing after the effective date of this amendatory Act of 198 ) for which the contract premium in the first policy year exceeds that of the second year and for which no comparable additional benefit is provided in the first year of such excess and which provides an endowment benefit or a cash surrender value or a combination thereof in an amount greater than such excess premium, the reserve according to the commissioners reserve valuation method as of any policy anniversary occurring on or before the assumed ending date defined herein as the first policy anniversary on which the sum of any endowment benefit and any cash surrender value then available is greater than such excess premium shall, except as otherwise provided in section seven, be the greater of the reserve as of such policy anniversary calculated as described in the preceding paragraph and the reserve as of such policy anniversary calculated as described in that paragraph, but with (i) the value defined in subparagraph (a) of that paragraph being reduced by fifteen percent of the

amount of such excess first year premium, (ii) all present values of benefits and premiums being [\*809] determined without reference to premiums or benefits provided for by the policy after the assumed ending date, (iii) the policy being assumed to mature on such date as an endowment, and (iv) the cash surrender value provided on such date being considered as an endowment benefit. In making the above comparison the mortality and interest bases stated in section three and three-b shall be used.

Reserves according to the commissioner's reserve valuation method for: (i) life insurance policies providing for a varying amount of insurance or requiring the payment of varying premiums; (ii) group annuity and pure endowment contracts purchased under a retirement plan or plan of deferred compensation, established or maintained by an employer (including a partnership or sole proprietorship) or by an employee organization, or by both, other than a plan providing individual retirement accounts or individual retirement annuities under Section 408 of the Internal Revenue Code, as now or hereafter amended, (iii) disability and accidental death benefits in all policies and contracts; and (iv) all other benefits, except life insurance and endowment benefits in life insurance policies and benefits provided by all other annuity and pure endowment contracts, shall be calculated by a method consistent with the principles of the preceding paragraphs of this section.

#### Section 4a. Reserve Valuation Method -- Annuity and Pure Endowment Benefits.

This section shall apply to all annuity and pure endowment contracts other than group annuity and pure endowment contracts purchased under a retirement plan or plan of deferred compensation, established or maintained by an employer (including a partnership or sole proprietorship or by an employee organization, or by both, other than a plan providing individual retirement accounts or individual retirement annuities under Section 408 of the Internal Revenue Code, as now or hereafter amended.

Reserves according to the commissioner annuity reserve method for benefits under annuity or pure endowment contracts, excluding any disability and accidental death benefits in such contracts, shall be the greatest of the respective excesses of the present values, at the date of valuation, of the future guaranteed benefits, including guaranteed nonforfeiture benefits, provided for by such contracts at the end of each respective contract year, over the present value, at the date of valuation, of any future valuation considerations derived from future gross consideration, required by the terms of such contract, that become payable prior to the end of such respective contract year. The future guaranteed benefits shall be determined by using the mortality table, if any, and the interest rate, or rates, specified in such contracts for determining guaranteed benefits. The valuation considerations are the portions of the respective gross considerations applied under the terms of such contracts to determine nonforfeiture values.

#### Section 5. Minimum Reserves.

In no event shall a company's aggregate reserves for all life insurance policies, excluding disability and accidental death benefits, issued on or after the effective date of this Act, be less than the aggregate reserves calculated in accordance with the methods set forth in Sections four, four-a, seven and eight and the mortality table or tables and rate or rates of interest used in calculating nonforfeiture benefits for such policies.

#### Section 6. Optional Reserve Calculation.

Reserves for all policies and contracts issued prior to the effective date of this Act may be calculated, at the option of the company, according to any standards which produce greater aggregate reserves for all such policies and contracts than the minimum reserves required by the laws in effect immediately prior to such date.

Reserves for any category of policies, contracts or benefits as established by the commissioner, issued on or after the effective date of this Act, may be calculated, at the option of the company, according to any standards which produce greater aggregate reserves for such category than those calculated according to the minimum standard herein provided, but the rate or rates of interest used for policies and contracts, other than annuity and pure endowment contracts, shall not be higher than the corresponding rate or rates of interest used in calculating any nonforfeiture benefits provided therein.

Any such company which at any time shall have adopted any standard of valuation producing greater aggregate reserves than those calculated, according to the minimum standard herein provided may, with the approval of the commissioner, adopt any lower standard of valuation, but not lower than the minimum herein provided.

#### [\*810] Section 7. Reserve Calculation -- Valuation Net Premium Exceeding the Gross Premium Charged.

If in any contract year the gross premium charged by any life insurance company on any policy or contract is less than the valuation net premium for the policy or contract calculated by the method used in calculating the reserve thereon but using the minimum valuation standards of mortality and rate of interest, the minimum reserve required for such policy or contract shall be the greater of either the reserve calculated according to the mortality table, rate of interest, and method actually used for such policy or contract, or the reserve calculated by the method actually used for such policy or contract but using the minimum valuation standards of mortality and rate of interest and replacing the valuation net premium by the actual gross premium in each contract year for which the valuation net premium exceeds the actual gross premium. The minimum valuation standards of mortality and rate of interest referred to in this section are those standards stated in sections three and three-b. Provided that for any life insurance policy issued on or after January 1, 198 (insert the fourth calendar year commencing after the effective date of this amendatory Act of 198 ) for which the gross premium in the first policy year exceeds that of the second year and for which no comparable additional benefit is provided in the first year for such excess and which provides an endowment benefit or a cash surrender value or a combination thereof in an amount greater than such excess premium, the foregoing provisions of this section seven shall be applied as if the method actually used in calculating the reserve for such policy were the method described in section four, ignoring the second paragraph of section four. The minimum reserve at each policy anniversary of such a policy shall be the greater of the minimum reserve calculated in accordance with section four, including the second paragraph of that section, and the minimum reserve calculated in accordance with this section seven.

#### Section 8. Reserve Calculation -- Indeterminate Premium Plans.

In the case of the plan of life insurance which provides for future premium determination the amounts of which are to be determined by the insurance company based on then estimates of future experience, or in the case of any plan of life insurance or annuity which is of such a nature that the minimum reserves cannot be determined by the methods described in sections four, four-a, and seven, the reserves which are held under any such plan must:

(a) be appropriate in relation to the benefits and the pattern of premiums for that plan, and

(b) be held under any such plan must:

(a) be appropriate to the benefits and the pattern of premiums for that plan, and

(b) be computed by a method which is consistent with the principles of this Standard Valuation Law, as determined by regulations promulgated by the commissioner.

[Note: If desired the following paragraph may be added.]

Notwithstanding any other provision in the laws of this state, any policy, contract, or certificate providing life insurance under any such plan must be affirmatively approved by the commissioner before it can be marketed, issued, delivered or used in this state.

[Drafting Comment: If the previous paragraph is enacted in a state where prior filing and approval of life insurance policy forms has not been previously required by statute, this paragraph would mandate such action for plans requiring approval under section eight. If the previous paragraph is enacted in a state where approval is deemed under certain circumstances, such deemed provision would be overridden by the terms of this section eight. In some states specific reference must be made to any statutory provision which is overridden.]

#### Section 9. Effective Date.

All acts and parts of acts inconsistent with the provisions of this Act are hereby repealed as of the effective date of this Act. This Act shall take effect January first, nineteen hundred and forty-four.

**[\*811]** Legislative History (all references are to Proceedings of the NAIC)

1942 Proc. Supp. 157-162

1942 Proc. Supp. 266-270

1947 Proc. 252-254

1959 Proc. I 197-202

1960 Proc. II 536-537

1962 Proc. I 145-146



1973 Proc. I 284

1973 Proc. II 546-549

1974 Proc. II 461-466

1977 Proc. I 487-491 (amended)

1980 Proc. II 893

1981 Proc. I 804

1981 Proc. II 802-811

**[\*812] ATTACHMENT TWO-B**

State Board of Insurance, 1110 San Jacinto, Austin, Texas 78786, 512/475-3325

May 8, 1981

Commissioner J. Richard Barnes, Colorado Department of Insurance, 106 State Office Building, Denver, Colorado 80203

Re: Request for Adoption of a Change in Existing Actuarial Guideline II, Entitled "VALUATION OF ACTIVE LIFE FUNDS, HELD RELATIVE TO GROUP ANNUITY CONTRACTS" by the NAIC (C3) Subcommittee in June 1981

Dear Commissioner Barnes:

The NAIC (C4) Technical Subcommittee recommends that the NAIC (C3) Subcommittee adopt a change in an existing actuarial guideline at its June, 1981, meeting. The change would affect Actuarial Guideline II, entitled "Valuation of Active Life Funds Held Relative to Group Annuity Contracts," appearing on pages 297 and 298 of the NAIC Financial Condition Examiners Handbook.

The recommended change would add a new paragraph between the second and third paragraphs of this guideline, reading as follows:

"The valuation procedures and standards specified in this guideline shall not be applicable to the extent that the valuation procedures and standards relating to reserves for deposit administration group annuity funds with interest rate guarantees (i.e., group annuity and guaranteed interest contracts) in the amendments to the Standard Valuation Law adopted by the National Association of Insurance Commissioners in December 1980, or in later NAIC amendments, have become applicable in a jurisdiction."

The attachment to this letter is a marked-up copy of Actuarial Guideline II, illustrating this proposed change.

The proposed change makes it clear that Actuarial Guideline II would no longer apply after the Standard Valuation Law provides a specific manner for treating these types of contracts. Actuarial Guideline II had been intended only as an interim measure.

If this change is adopted by the (C3) Subcommittee in June, 1981, the (C4) Technical Subcommittee intends to recommend it to the NAIC (A5) Subcommittee for adoption in December, 1981. Adoption by both these NAIC subcommittees is required in order to complete the procedures for material to be included in the NAIC Financial Condition Examiners Handbook.

Please let me know if there are any questions.

Very truly yours,

Ted Becker, Chairman, NAIC (C4) Life, Accident and Health Insurance Technical Subcommittee.

cc: All other State Insurance Commissioners, (C4) Technical Subcommittee Members.

**[\*813] FINANCIAL CONDITION EXAMINERS HANDBOOK**

The valuation procedures and standards specified in this guideline shall not be applicable to the extent that the valuation procedures and standards relating to reserves for deposit administration group annuity funds with interest rate guarantees (i.e., group annuity and guaranteed interest contracts) in the amendments to the Standard Valuation Law

adopted by the National Association of Insurance Commissioners in December 1980, or in later NAIC amendments, have become applicable in a jurisdiction.

## ACTUARIAL GUIDELINE II

### RESERVE REQUIREMENTS WITH RESPECT TO INTEREST RATE GUARANTEES ON ACTIVE LIFE FUNDS HELD RELATIVE TO GROUP ANNUITY CONTRACTS

As part of the determination of the aggregate minimum group annuity reserves, a computation must be made of minimum reserves for deposit administration group annuity funds with interest rate guarantees including all such funds pertaining to possible purchase of group annuities whether such funds are held in a separate account or in a general account, whether shown as premiums, advance premiums, auxiliary funds, etc. and whether the liability is shown as Exhibit 8 or elsewhere. In making such computation, the procedure and minimum standards described below shall be applicable for the December 31 calendar year "y" valuation giving recognition to the dates deposits were made. Where appropriate and with the approval of the commissioner, recognition may be given to the extent and time of application of active life funds to purchase annuities, expense assessments against the funds, and excess of purchase price over minimum reserves. In no event shall the reserve be less than the transfer value, if any, of the fund. Approximate methods and averages may be employed with the approval of the commissioner.

To the extent that the application of these valuation procedures and standards would require a company to establish aggregate minimum reserves for group annuities and related funds in excess of reserves which it would not otherwise hold if these valuation procedures and standards did not apply, such company shall set up additional reserve liability shown in its general account or in a separate account, whether shown in Exhibit 8 or elsewhere.

For funds received:

(1) Prior to calendar year 1976, follow the procedure used at that time.

(2) In calendar year 1976 or later, follow the minimum standards described below:

(a) Contracts having no guaranteed interest rates in excess of 6% on future contributions to be received more than one year subsequent to the valuation date.

The minimum reserve shall be equal to the sum of the minimum reserves for funds attributable to contributions received in each calendar year.

**[\*814]** Where  $V[y]$  = Minimum reserve for funds attributable to contributions received in calendar year y

$C[y]$  = Portion of guaranteed fund attributable to contributions received in calendar year y

$i[gy]$  = Interest rate guaranteed under the contract with respect to funds attributable to contributions received in calendar year y

$i[py]$  = Lowest of:

(1) The net new money rate credited by the company on group annuity funds attributable to contributions received in calendar year y less .005; or

(2)  $i[gy]$ ; or

(3)  $i[my]$ ; where

$i[my]$  = (i) for calendar years y + 1 through y + 10, the values shown in the table of values of  $i[my]$  distributed each year by the Central Office of the National Association of Insurance Commissioners;

(ii) for calendar years y + 11 and later, .060.

n = Number of guarantee years, and fractions thereof, remaining as of the December 31 valuation.

(b) Contracts having guaranteed interest rates in excess of 6% on future contributions to be received more than one year subsequent to the valuation date.

The same procedures as set forth under (a) above shall be used except that the deduction under (1) of  $i[py]$  shall be .01 instead of .005 and  $i[my]$  for calendar years y + 1 through y + 10 shall be reduced by .005.

Table of Values of  $i[my]$

1981-2 NAIC Proc. 767, \*

(Effective for the December 31, 1977 Valuation)

| Calendar Year y in Which<br>Contributions Were Received * | Value of i[my] for Calendar<br>Years y + 1 Through y + 10 |
|---|---|
| 1976  | .089  |
| 1977  | .087  |
| 1978  | .081  |
| 1979  | .084  |
| 1980  | .095  |

\* Note: These factors were based upon gross new money rates for reporting annuity writing companies less .01.

[\*815] ATTACHMENT TWO-C

State Board of Insurance, 1110 San Jacinto, Austin, Texas 78786, 512/475-3325

May 8, 1981

Commissioner J. Richard Barnes, Colorado Department of Insurance, 106 State Office Building, Denver, Colorado 80203

Re: Request for Adoption of a New Actuarial Guideline Entitled, "PROPOSED GUIDELINE FOR INTERPRETATION OF NAIC STANDARD NONFORFEITURE LAW FOR INDIVIDUAL DEFERRED ANNUITIES" by the NAIC (C3) Subcommittee in June 1981

Dear Commissioner Barnes:

The NAIC (C4) Technical Subcommittee recommends that the NAIC (C3) Subcommittee adopt a new actuarial guideline at its June, 1981, meeting. This guideline is now entitled "Proposed Guideline for Interpretation of NAIC Standard Nonforfeiture Law for Individual Deferred Annuities," but the word "proposed" is to be deleted if the guideline is so adopted.

The attachment to this letter gives the entire text of the proposed guideline.

As in the case of other actuarial guidelines, this proposed guideline is intended for eventual inclusion in the NAIC Financial Condition Examiners Handbook. Such inclusion would require that both the (C3) Subcommittee and the (A5) Subcommittee adopt the guideline. If it is adopted by the (C3) Subcommittee in June, 1981, the (C4) Technical Subcommittee intends to submit it on to the (A5) Subcommittee with a recommendation for adoption in December, 1981, to complete this procedure.

As the title of this proposed guideline indicates, it interprets the Standard Nonforfeiture Law for Individual Deferred Annuities. Specifically, the guideline is concerned with the determination of minimum cash surrender benefits for such annuities in cases where excess interest or dividends have been credited to the contract.

The (C4) Technical Subcommittee had been studying such cases for some time and had asked the American Council of Life Insurance (ACLI) to present its views. This proposed guideline was then developed by the ACLI and recommended to the (C4) Technical Subcommittee in August, 1980. Subsequently, the guideline was reviewed by the new American Academy of Actuaries Subcommittee for Liaison (Life Insurance) with the NAIC (C4) Technical Subcommittee. This Academy subcommittee also recommended the guideline to the (C4) Technical Subcommittee in April, 1981. The (C4) Technical Subcommittee then voted to adopt the guideline in April, 1981, at its meeting in San Francisco.

The text of the proposed guideline in the attachment to this letter is identical to that which was originally recommended by the ACLI. This text was included in Attachment 15 in the December, 1980, Semi-Annual Report of the (C4) Technical Subcommittee.

Please let me know if you have any questions.

Very truly yours,

Ted Becker, Chairman, NAIC (C4) Life, Accident and Health Insurance Technical Subcommittee.

cc: All other State Insurance Commissioners, (C4) Technical Subcommittee Members.

**[\*816] PROPOSED GUIDELINE FOR INTERPRETATION OF NAIC STANDARD NONFORFEITURE LAW FOR INDIVIDUAL DEFERRED ANNUITIES**

For contracts which provide cash surrender benefits, the NAIC Model Law prescribes a basis for determination of minimum cash surrender benefits. That Law does not require that a company grant additional amounts in excess of the amounts guaranteed in the contract, either in the form of excess interest credits or otherwise. When such additional amounts have been credited to the contract, the question of how the Model Law applies to such amounts must be considered.

Under one interpretation the portion of the maturity values which would arise from such amounts may be discounted to the date of surrender at an interest rate 1% higher than the rate specified in the contract for accumulating such amounts. This interpretation would permit a surrender charge against such amounts on the same basis as the surrender charge which may be applied to the contractually guaranteed portion of the interest credited to the contract.

Under another interpretation such amounts could not be treated as providing a portion of the maturity value and, therefore, would be included in the phrase "any additional amounts credited by the company to the contract." This interpretation would require that the cash surrender value be increased by 100% of the accrued value of such amounts.

By providing for a surrender charge to be made in determining the minimum cash surrender value, the Model Law enables a company to provide for recovery of all or part of any (1) excess first year expenses not yet recovered, and (2) potential investment losses at surrender. The reason for permitting surrender charges to be made against accumulated amounts of contractually guaranteed interest are equally valid reasons for permitting surrender charges against any non-guaranteed interest credited. If such surrender charges were not permitted, companies offering such contracts may be discouraged from crediting as much additional interest as they might if the additional interest were to contribute to the minimum cash surrender value in the same manner as do the interest amounts derived from the rates guaranteed in the contract.

In view of the above considerations, the following guidelines are recommended:

**I. Treatment of Amounts of Excess Interest Credited to Deferred Annuity Contracts**

The NAIC Standard Nonforfeiture Law for Individual Deferred Annuities shall be interpreted to permit the portion of the maturity value which would arise from the amounts of interest credited in excess of the minimum rates guaranteed in the contract to be discounted to the date of surrender at an interest rate 1% higher than the rate specified in the contract for accumulating such amounts, provided such excess interest is declared prior to the period for which it is to be effective, and provided such excess interest accrues over the effective period. Amounts of excess interest treated in accordance with the above interpretation shall not be included by the phrase "additional amounts credited by the company to the contract" in Section 6 of the Model Law.

**II. Treatment of Dividends Credited to Deferred Annuity Contracts**

No single rule can be given for the treatment of dividends credited to deferred annuity contracts. The contractual wording of the applicable dividend option must be taken into account together with the appropriate provisions of the NAIC Standard Nonforfeiture Law for Individual Deferred Annuities.

If the dividend option in effect provides that dividends be left on deposit at interest, without any further qualification, then the cash surrender value should be increased by the full accumulated amount. In this case, the phrase "increased by any additional amounts credited by the company to the contract" applies and no surrender charge may be made.

In other cases, the dividends may be added, directly or indirectly, to the contractual value and made subject to the surrender charge provision. This would be the case when dividends are applied to purchase additional paid-up benefits or applied as premiums.

Contracts may contain other provisions or variations of these provisions. In such cases, the terms of the contract and the provision of the NAIC Standard Nonforfeiture Law for Individual Deferred Annuities should be taken into account.

1981-2 NAIC Proc. 767, \*

[\*817] ATTACHMENT TWO-D

STATE BOARD OF INSURANCE, 1110 San Jacinto, Austin, Texas 78786, 512/475-3325

May 8, 1981

Mr. Roger C. Day, Commissioner of Insurance, Utah Department of Insurance, 326 South 5th East, Salt Lake City, Utah 84102

Re: Recommendation of Revised Version of NAIC Model Regulation on Reserve Standards for Individual Health Insurance Policies

Dear Commissioner Day:

Please refer to the attached copy of my letter to you dated November 21, 1980, along with its attachments. This material relates to a proposed revision of the NAIC Model Regulation on Reserve Standards for Individual Health Insurance Policies.

The NAIC (C4) Technical Subcommittee now recommends that the proposed revision described in this material be adopted by the NAIC (C1) Accident and Health Subcommittee, at its June, 1981, meeting.

Please note that the (C1) Subcommittee has not considered this proposed revision previously, even though my November 21, 1980, letter purported to be a recommendation for adoption by the (C1) Subcommittee at its December, 1980, meeting. The (C4) Technical Subcommittee met on November 29 and 30, 1980, and decided to withdraw its recommendation for action by the (C1) Subcommittee in December, 1980. The principal reason for this withdrawal was the feeling that there was not a reasonable time interval between November 21, 1980, and the date of the (C1) Subcommittee's December, 1980, meeting.

The (C4) Technical Subcommittee met again on April 2 and 3, 1981. The proposed revision was reconsidered at this meeting. The (C4) Technical Subcommittee agreed that this proposed revision should be recommended to the (C1) Subcommittee for adoption in June 1981.

Thus, the revision which is now being recommended to the (C1) Subcommittee is identical in wording to that described in my November 21, 1980, letter. The only change is that it is being recommended for adoption in June, 1981, rather than in December, 1980.

Please let me know if you have any questions.

Very truly yours,

Ted Becker, Chairman, NAIC (C4) Life, Accident and Health Insurance Technical Subcommittee.

cc: All other State Insurance Commissioners, (C4) Technical Subcommittee Members.

[\*818] STATE BOARD OF INSURANCE, 1110 San Jacinto, Austin, Texas 78786, 512/475-3325

November 21, 1980

Mr. Roger C. Day, Commissioner of Insurance, Utah Department of Insurance, 326 South 5th East, Salt Lake City, Utah 84102

Re: Recommendation of Revised Version of NAIC Model Regulation on Reserve Standards for Individual Health Insurance Policies

Dear Commissioner Day:

Our NAIC (C4) Technical Subcommittee would like to bring a proposed revision of the current NAIC Model Regulation on Reserve Standards for Individual Health Policies to your attention in your capacity as Chairman of the (C1) Subcommittee. The (C4) Technical Subcommittee would like to recommend adoption of this revised Regulation in December, 1980.

This mailing includes three enclosures as follows: (1) a letter from Paul Barnhart to me dated October 29, (2) a copy of the proposed revision itself, and (3) a copy of the current regulation.

Mr. Barnhart is Chairman of a special new Subcommittee of the American Academy of Actuaries Committee on Health Insurance. This Academy Subcommittee works exclusively on matters relating to our NAIC (C4) Technical

Subcommittee. The proposed revision was developed by this Academy Subcommittee in response to a request by the (C4) Technical Subcommittee, in order to properly refer to those 1974 Medical Expense Tables which had been adopted previously by the Technical (C4) Subcommittee. For further information about the 1974 Medical Expense Tables, please see the paper "Development of the 1974 Medical Expense Tables" by Anthony J. Houghton and Ronald M. Wolf in the Society of Actuaries Transactions, Volume XXX, pages 9 to 69 along with the discussion which follows immediately on pages 71 to 123. (Note that the (C4) Technical Subcommittee did not adopt two of the tables mentioned in the paper - major medical expense benefit and cancer expense benefit.)

The proposed revision itself refers to the appropriate tables of the 1974 Medical Expense Tables in "Appendix A." These tables would be the minimum morbidity standard for policies issued after January 1, 1982. Mr. Barnhart's letter of October 29 explains some additional changes which were incorporated in the proposed revision at the suggestion of members of the Academy Subcommittee. These additional changes are primarily concerned with defining the minimum standard for interest rates used in reserve calculations.

This proposed revision was wailed to the other members of the (C4) Technical Subcommittee on November 10, with the request that they review it and take a position on it by November 19. A telephone survey of the (C4) Technical Subcommittee members on November 19 and 20 indicated that 6 of them voted for the proposed revision and 0 of them voted against the proposed revision. The rest of the 11 members either could not be reached by telephone or did not feel that they wished to vote at this time.

Since a majority of the (C4) Technical Subcommittee members did vote for this proposed revision, it is being submitted and recommended to you. There were no changes by the (C4) Technical Subcommittee, and the recommended version is identical to that prepared by the Academy Subcommittee.

[\*819] The proposed revision consists of six pages. This proposed revision differs from the current Regulation in that "Appendix A" has been added. Other differences are marked by the letters "R", "R[1]", "R[2]" and "R[3]" in the left margin. Brackets have been used to indicate language which is to be added, or which has been changed from the language in the current regulation.

A copy of the current regulation is also included for ready reference. The three pages of the current instrument are numbered "50-1", "50-2" and "50-3" in the lower corners of the pages.

Please let me know if you have any questions.

Very truly yours,

Ted Becker, Chairman, NAIC (C4) Life, Accident and Health Insurance Technical Subcommittee.

cc: All other State Insurance Commissioners, (C4) Technical Subcommittee & Mailing List.

October 29, 1980

Mr. Ted Becker, Staff Actuary, Texas State Board of Insurance, 1110 San Jacinto, Austin, Texas 78786

Re: Proposed Revision in NAIC Model Regulation on Individual Health Reserve Standards

Dear Ted:

Enclosed is my subcommittee's recommended revision of the health reserves regulation, incorporating suggestions from all committee members I have heard from. Changes from the old regulation are marked by an "R" in the left margin, with new insertions further identified by [---].

The reasons for several of these should be self-evident (largely to clarify). A few need some comment, and these are identified by R followed by a suffix number.

R1. The old Reg. simply read "currently issued" life insurance. This is not a problem as long as the maximum "currently issued" rate is the high rate. But if the maximum currently issued rate is reduced, the old reg. has the effect of forcing companies to revalue old issues to a lower rate. The change recommended here would appear to be the proper maximum requirement.

R2. Here, since the claim reserves are established in accordance with claim incurral dates, it would appear that the claim date is a much more appropriate basis than the issue date. Otherwise, companies could be obliged to set up new

claim reserves, at any given time, on a variety of interest rates. A similar claim date rule is proposed as to the disabled life morbidity standard in the Appendix.

R3. Since the morbidity standard is the most variable item in the Reg., it appears more efficient to set this out in an Appendix which can then be more conveniently revised when and as necessary without having to go into the main body of the Reg.

I hope the additional revisions proposed as to dates of issue or claim incurrual will not be deemed "controversial", but rather as practical and obviously desirable improvements in the rules.

[\*820] We have not attempted to address the 1971 rules adopted with respect to Return of Premium or Cash Value policies.

Give me a call if we seem to be creating any problems with these proposed revisions.

Cordially,

Paul Barnhart

cc: Mr. John O. Montgomery, Subcommittee Members, Mr. William A. Halvorson, Mr. W. H. Odell

#### RESERVE STANDARDS FOR INDIVIDUAL HEALTH INSURANCE POLICIES

##### I. Active Life Reserves

###### 1. General

R

Active life reserves are required for all in force policies and are in addition to any reserves required in connection with claims. For policy Types A, B and C, described hereafter, the minimum reserve [is] determined as specified herein.

R

It [is emphasized, however, that these are minimum standards and that (Insert Statutory Reference) requires that higher, adequate reserves] be established by the insurer in any case where experience indicates that these minimum standards do not place a sound value on the liabilities under the policy. For policy Type D, the [minimum] reserve should be the gross prorata unearned premium.

###### 2. Types of individual health insurance policies.

A. Policies which are guaranteed renewable for life or to a specified age, such as 60 or 65, at guaranteed premium rates.

B. Policies which are guaranteed renewable for life or to a specified age, such as 60 or 65, but under which the insurer reserves the right to change the scale of premiums.

C. Policies in which the insurer has reserved the right to cancel or refuse renewal for one or more reasons, but has agreed implicitly or explicitly that, prior to a specified time or age, it will not cancel or decline renewal solely because of deterioration of health after issue; however, policies shall not be considered of this type if the insurer has reserved the right to refuse renewal provided the right is to be exercised at the same time for all policies in the same category, unless premiums are based on the level premium principle.

D. All other individual policies.

Notes:

(a) The above does not classify "franchise" as a type of policy. Such policies are frequently written under an agreement limiting the insurer's right to cancel or refuse renewal. Usually the right is reserved to refuse renewal of all policies in the group or other categories such as those ceasing to be members of the association, and this would place such policies in Type D in accordance with the last clause under C above. However, if premiums are based on the level premium principle or if the renewal undertaking for the individual meets the requirements for Type A, B or C, the franchise policy should be so classified for reserve purposes.

[\*821] (b) A policy may have guarantees qualifying it as Type A, B or C until a specified age or duration after which the guarantees, or lack of guarantees, may qualify it as Type A, B, C or D. In such case, the policy in each period should be considered for reserve purposes according to the type to which it then belongs.

(c) Where all of the benefits of a policy, as provided by rider or otherwise, are not of the same Type (A, B, C or D), each benefit should be considered for reserve purposes according to the type to which it belongs.

### 3. Reserve standards for policies of Type A, B or C.

R

(a) Interest. The maximum interest rate for reserves should be [the greater of: (1) the maximum rate permitted by law in the valuation of currently issued life insurance, or (2) the maximum rate permitted by law in the valuation of life insurance issued on the same date as the health insurance.]

R

(b) Mortality. The mortality assumptions used for reserves should be according to a table permitted by law in the valuation of [life insurance issued on the same date as the health insurance.]

R

(c) Morbidity or other contingency:

[Minimum standards with respect to morbidity are those stated in Appendix A of this regulation, which is subject to revision from time to time with respect to dates of issue of contracts.]

(d) Negative Reserves. Negative reserves on any benefit may be offset against positive reserves for other benefits in the same policy, but the mean reserve on any policy should never be taken as less than one-half the valuation net premium.

(e) Preliminary Term. The minimum reserve shall be on the basis of two-years preliminary term.

(f) Reserve Method. Mean reserves diminished by appropriate credit for valuation net deferred premiums. In no event, however, should the aggregate reserve for all policies valued on the mean reserve basis, diminished by any credit for deferred premiums, be less than the gross prorata unearned premiums under such policies.

(g) Alternative Valuation Procedures and Assumptions. Provided the reserve on all policies to which the method or basis is applied is not less in the aggregate than the amount determined according to the applicable standards specified above, an insurer may use any reasonable assumptions as to the interest rate, mortality rates, or the rates of morbidity or other contingency, and may introduce an assumption as to the voluntary termination of policies. Also, subject to the preceding condition, the insurer may employ methods other than the methods stated above in determining a sound value of its liabilities under such policies, including but not limited to the following: (i) the use of mid-terminal reserves in addition to either gross or net prorata unearned premium reserves; (ii) optional use of either the level premium, the one-year preliminary term, or the two-year preliminary term method; (iii) prospective valuation on the basis of actual gross premiums with reasonable allowance for future expenses; (iv) the use of approximations such as those involving age groupings, groupings of several years of issue, average amounts of indemnity; (v) the computation of the reserve for one policy benefit as a percentage of, or by other relation to, the aggregate policy reserves, exclusive of the benefit or benefits so valued; (vi) the use of composite annual claim cost for all or any combination of the benefits included in the policies valued.

For statement purposes the net reserve liability may be shown as the excess of the mean reserve over the amount of net unpaid and deferred premiums, or, regardless of the underlying method of calculation, it may be divided between the gross prorata unearned premium reserve and a balancing item for the "additional reserve."

II. Claim Reserves -- Present Value of Amounts not yet due on Claims (also called "Disabled Life Reserves" in the case of insurance providing loss-of-time benefits for disability due to accident or sickness).

#### [\*822] 1. General

Reserves are required for claims on all health insurance policies, whether to Type A, B, C or D, providing benefits for continuing loss, such as loss of time or hospitalization.

#### 2. Claim reserve standards for total disability due to accident or sickness.



## R2

(a) Interest. The maximum interest rate for reserves should be the maximum rate permitted by law in the valuation of life insurance issued on the [same date as the date the claim is incurred.]

## R3

(b) Morbidity. [Minimum standards with respect to morbidity are those stated in Appendix A of this regulation,] except that for unreported claims and resisted claims and, at the option of the insurer, claims with a duration of disablement of less than two years, reserves may be based on the individual insurer's experience or other assumptions designed to place a sound value on the liabilities. Reserves based on such experience or assumptions should be verified by the development of each year's claims over a period of years along the lines of Schedule O.

(c) For policies with an elimination period, the duration of disablement should be considered as dating from the time that benefits would have begun to accrue had there been no elimination period.

(d) A new disability connected directly or indirectly with a previous disability which had a duration of at least one year and terminated within six months of the new disability should be considered a continuation of the previous disability.

## 3. Reserve standards for all other claim reserves.

(a) Interest. The maximum interest rate for reserves should be the maximum rate permitted by law in the valuation of life insurance issued on the [same date as the date the claim is incurred.]

(b) Morbidity or other contingency. The reserve should be based on the individual insurer's experience or other assumptions designed to place a sound value on the liabilities. The results should be verified by the development of each year's claims over a period of years along the lines of Schedule O.

## 4. Valuation procedures.

The insurer may employ suitable approximations and estimates, including but not limited to groupings and averages, in computing claim reserves.

## [\*823] Model Regulation on Reserve Standards for Individual Health Insurance Policies \*

\* [Editor's Note -- This is a retyped copy of the Model Regulation which incorporated all editorial and task force changes.]

## Section 1. Active Life Reserves -- General.

Active life reserves are required for all in force policies and are in addition to any reserves required in connection with claims. For policy Types A, B and C, described below, the minimum reserve is determined as specified herein. It is emphasized, however, that these are minimum standards and that [insert statutory reference] requires that higher, adequate reserves be established by the insurer in any case where experience indicates that these minimum standards do not place a sound value on the liabilities under the policy. For policy Type D, the minimum reserve should be the gross pro rata unearned premium.

## Section 2. Types of Individual Health Insurance Policies.

Type A: Policies which are guaranteed renewable for life or to a specified age, such as 60 or 65, at guaranteed premium rates.

Type B: Policies which are guaranteed renewable for life or to a specified age, such as 60 or 65, but under which the insurer reserves the right to change the scale of premiums.

Type C: Policies in which the insurer has reserved the right to cancel or refuse renewal for one or more reasons, but has agreed implicitly or explicitly that, prior to a specified time or age, it will not cancel or decline renewal solely because of deterioration of health after issue; however, policies shall not be considered of this type if the insurer has reserved the right to refuse renewal provided the right is to be exercised at the same time for all policies in the same category, unless premiums are based on the level premium principle.

Type D: All other individual policies.

## Notes:

(a) The above does not classify "franchise" as a type of policy. Such policies are frequently written under an agreement limiting the insurer's right to cancel or refuse renewal. Usually the right is reserved to refuse renewal of all policies in the group or other categories such as those ceasing to be members of the association, and this would place such policies in Type D in accordance with the last clause under C above. However, if premiums are based on the level premium principle or if the renewal undertaking for the individual meets the requirements for Type A, B or C, the franchise policy should be so classified for reserve purposes.

(b) A policy may have guarantees qualifying it as Type A, B or C until a specified age or duration after which the guarantees, or lack of guarantees, may qualify it as Type A, B or D. In such case, the policy in each period should be considered for reserve purposes according to the type to which it then belongs.

(c) Where all the benefits of a policy, as provided by rider or otherwise, are not of the same Type (A, B, C or D), each benefit should be considered for reserve purposes according to the type to which it belongs.

**[\*824]** Section 3. Reserve Standards for Policies of Type A, B or C.

(a) Interest. The maximum interest rate for reserves should be the greater of (i) the maximum rate permitted by law in the valuation of currently issued life insurance or (ii) the maximum rate permitted by law in the valuation of life insurance issues on the same date as the health insurance.

(b) Mortality. The mortality assumptions used for reserves should be according to a table permitted by law in the valuation of life insurance issued on the same date as the health insurance.

(c) Morbidity or other contingency. Minimum standards with respect to morbidity are those stated in Appendix A of this regulation, which is subject to revision from time to time with respect to dates of issue of contracts.

(d) Negative Reserves. Negative reserves on any benefit may be offset against positive reserves for other benefits in the same policy, but the mean reserve on any policy should never be taken as less than one-half of the valuation net premium.

(e) Preliminary Term. The minimum reserves shall be on the basis of two-years preliminary term.

(f) Reserve Method. Mean reserves diminished by appropriate credit for valuation net deferred premiums. In no event, however, should the aggregate for all policies valued on the mean reserve basis, diminished by any credit for deferred premiums, be less than the gross pro rata unearned premiums under such policies.

(g) Alternative Valuation Procedures and Assumptions. Provided the reserve on all policies to which the method or basis is applied is not less in the aggregate than the amount determined according to the applicable standards specified above, an insurer may use any reasonable assumptions as to the interest rate, mortality rates, or the rates of morbidity or other contingency, and may introduce an assumption as to the voluntary termination of policies. Also, subject to the preceding condition, the insurer may employ methods other than the methods stated above in determining a sound value of its liabilities under such policies, including but not limited to the following: (i) the use of mid-terminal reserves to either gross or net pro rata unearned premium reserves; (ii) optional use of either the level premium, the one-year preliminary term, or the two-year preliminary term method; (iii) prospective valuation on the basis of actual gross premiums with reasonable allowance for future expenses; (iv) the use of approximations such as those involving age groupings, groupings of several years of issue, average amounts of indemnity; (v) the computation of the reserve for one policy benefit as a percentage of, or by other relation to, the aggregate policy reserves, exclusive of the benefit or benefits so valued; (vi) the use of composite annual claim cost for all or any combination of the benefits included in the policies valued.

For statement purposes the net reserve liability may be shown as the excess of the mean reserve over the amount of net unpaid and deferred premiums, or, regardless of the underlying method of calculation, it may be divided between the gross pro rate unearned premium reserve and a balancing item for the "additional reserve."

Section 4. Claim Reserves.

(a) Reserves are required for claims on all health insurance policies, whether of Type A, B, C or D, providing benefits for continuing loss, such as loss of time for hospitalization.

(b) Claim Reserve Standards for Total Disability Due to Accident or Sickness.

(i) Interest. The maximum interest rate for reserves should be the maximum rate permitted by law in the valuation of life insurance issued on the same date as the date the claim is incurred.

**[\*825]** (ii) Morbidity. Minimum standards with respect to morbidity are those stated in Appendix A of this regulation, except that for the reported claims and resisted claims and, at the option of the insurer, claims with a duration of disablement of less than two years, reserves may be based on the individual insurer's experience or other assumptions designed to place a sound value on the liabilities. Reserves based on such experience or assumptions should be verified by the development of each year's claims over a period of years along the lines of Schedule O.

(iii) For policies with an elimination period, the duration of disablement should be considered as dating from the time that benefits would have begun to accrue had there been no elimination period.

(iv) A new disability connected directly or indirectly with a previous disability which had a duration of at least one year and termination within six months of the new disability should be considered a continuation of the previous disability.

(c) Reserve Standards for All Other Claim Reserves.

(i) Interest. The maximum interest rate for reserves should be the maximum rate permitted by law in the valuation of life insurance issued on the same date as the date the claim is incurred.

(ii) Morbidity or other contingency. The reserve should be based on the individual insurer's experience or other assumptions designed to place a sound value on the liabilities. The results should be verified by the development of each year's claims over a period of year along the lines of Schedule O.

Section 5. Valuation Procedures.

The insurer may employ suitable approximations and estimates, including but not limited to groupings and averages, in computing claim reserves.

Legislative History (all references are to the Proceedings of the NAIC).

1941 Proc. I 60-162

1957 Proc. I 77-85

1959 Proc. I 90

1965 Proc. I 72-86

1981 Proc. II 823-825

**[\*826]** APPENDIX A (effective January 1, 1981)

Minimum morbidity standards for valuation of individual health insurance policies are as follows:

1. Total Disability due to accident or sickness.

Active Life Reserves:

Policies issued on or after January 1, 1965:

The 1964 Commissioners Disability Table.

Claim Reserves:

The minimum morbidity standard in effect for active life reserves on currently issued policies, as of the date the claim is incurred.

2. Hospital Benefits, Surgical Benefits and Maternity Benefits (either Specified or Expense Reimbursement).

Policies issued on or after January 1, 1955 and before January 1, 1982:

The 1956 Intercompany Hospital-Surgical Tables.

Policies issued on or after January 1, 1982:

The 1974 Medical Expense Tables (Table A). \*

\* [Drafting Note: See Houghton & Wolf, Development of the 1974 Medical Expense Tables, XXX TRANSACTIONS OF SOC'Y OF ACTUARIES 9(1978). Note that the NAIC did not adopt the tables on major medical expense benefit and cancer expense benefit.]

3. Accidental Death Benefits.

Policies issued on or after January 1, 1965:

The 1959 Accidental Death Benefits Table.

4. All other benefits, including major medical, cancer expense, and other than total disability.

The insurer should adopt a standard which will produce reserves that place a sound value on its liabilities under such benefit.

[\*827] ATTACHMENT THREE

[Editor's Note -- Inadvertently omitted from 1981 Proceedings Vol. I.]

State Board of Insurance, 1110 San Jacinto, Austin, Texas 78786, 512/473-3325

November 19, 1980

Mr. H. Peter Hudson, Commissioner of Insurance, Indiana Department of Insurance, 509 State Office Building, Indianapolis, Indiana 46204

Re: NAIC Life Insurance (C3) Subcommittee, Recommendations for Adoption in December 1980

Dear Commissioner Hudson:

This is a supplementary mailing to the material enclosed with my letter dated October 31, 1980, mailed on November 3, 1980. It relates to the revised versions of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance, which our (C4) Technical Subcommittee is recommending for adoption in December, 1980.

The November 3 mailing (my letter dated October 31) had included the following material relating to these two laws: (1) a special report to your Life Insurance (C3) Subcommittee dated November 3; (2) drafts of the complete text of the recommended revisions for these two laws dated October 20; (3) a five-page "Summary of Proposed Revisions of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance"; and (4) certain other material prepared by John Montgomery, vice-chairman of the (C4) Technical Subcommittee, as described in the special report of November 3.

This supplementary mailing includes the "additional explanatory material" mentioned on pages 2 and 3 of the special report of November 3. All of this material has been incorporated into one instrument entitled "Detailed Analysis of Recommended Changes in the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance." The mortality rates under the new mortality tables and the report of the Technical Advisory Committee on Dynamic Interest and Related Matters are included as Appendix A and Appendix B to this instrument.

This "Detailed Analysis of Recommended Changes in the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" also includes a list of some persons who assisted in developing the concepts or the language which was subsequently adopted by the (C4) Technical Subcommittee.

Pages 1 and 2 of the "Detailed Analysis of Recommended Changes in the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance" mention some additional proposed changes in the Standard Valuation Law which were developed by John Montgomery. These proposed changes are not described elsewhere in that instrument, and they are not incorporated in the October 20 draft of the Standard Valuation Law. Please refer to the mailing of November 3 (my letter dated October 31), and to the additional material which was prepared by Mr. Montgomery and which was included with that mailing, for more information on these additional proposed changes.

Please let me know if you have any questions.

Very truly yours,

Ted Becker, Chairman, NAIC Life, Accident and Health Insurance (C4) Technical Subcommittee.

cc: All other Insurance Commissioners, and (C4) Technical Subcommittee & mailing list.

**[\*828] DETAILED ANALYSIS OF RECOMMENDED CHANGES IN THE STANDARD VALUATION LAW, AND THE STANDARD NONFORFEITURE LAW FOR LIFE INSURANCE**

This instrument is designed as additional explanatory material for the Life Insurance (C3) Subcommittee to use in considering the proposed changes in the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance which are incorporated in the revisions of these model laws prepared by the Life, Accident and Health Insurance (C4) Technical Subcommittee. It includes a section-by-section analysis of these changes. This revised language is recommended for adoption by the Life Insurance (C3) Subcommittee in December, 1980.

The complete text for the recommended laws is contained in two drafts dated October 20, 1980. Copies of these drafts have been mailed to the commissioner of insurance for each state, along with certain explanatory materials. The drafts follow the conventional system of underlining proposed additional language, and of using brackets to indicate deletions. These additions and deletions correspond to changes from the current wording of the model laws, and not to changes in language from any previous exposure drafts used by the (C4) Technical Subcommittee.

The changes illustrated in the October 20, 1980, drafts are recommended by the (C4) Technical Subcommittee only as a complete package. The (C4) Technical Subcommittee would withdraw its support if these changes are modified in any respect (except in response to the specific problem described in the next paragraph).

The (C4) Technical Subcommittee has identified one additional situation which needs to be covered in the Standard Valuation Law. This is the case of life insurance policies which need additional reserves, over the minimum reserve otherwise required, because the net premium is not adequate to provide for the yearly increments in cash surrender values in future policy years. John Montgomery, vice-chairman for the (C4) Technical Subcommittee, has recently prepared some proposed language which would add a new Section 7-a to the Standard Valuation Law in an attempt to address this situation. Mr. Montgomery's proposal would also make relatively minor changes in Sections 4, 5 and 7 of the Standard Nonforfeiture Law, for consistency with his proposed Section 7-a. It should be noted that Mr. Montgomery's proposal has not been adopted by the (C4) Technical Subcommittee, nor has it been previously exposed to the (C4) Technical Subcommittee members or to other interested persons. This language is not included in the October 20, 1980, draft of the Standard Valuation Law.

Let us now proceed to the section-by-section list of the changes marked as additions and deletions in the October 20, 1980, drafts, with some additional comments on these changes which may be helpful.

**RECOMMENDED CHANGES IN THE STANDARD VALUATION LAW**

Sections 1 and 2 -- There are no changes recommended in Sections 1 or 2.

Section 3 -- Section 3 describes the mortality tables and interest rates which are the minimum standard for reserve calculations for life insurance policies and annuity contracts, unless otherwise provided in Section 3-a or in the new Section 3-b. Section 3-a is so worded that Section 3 does not apply to any currently issued annuity or pure endowment contracts, nor does it apply to any annuity or pure endowment contracts which may be issued in the future. Section 3 defines the minimum standard of mortality used in calculating reserves for all other types of contracts which are subject to the Standard Valuation Law, as well as the minimum standard for morbidity in calculating reserves for disability benefits attached to life insurance policies and annuity contracts. Section 3 also defines the minimum standard of interest used in calculating reserves for all types of currently issued contracts which are subject to the Standard Valuation Law, other than annuity or pure endowment contracts. Section 3 would continue to define the minimum standard of interest used in calculating reserves for all types of contracts issued in the future which are subject to the Standard Valuation Law, other than annuity or pure endowment contracts, until such time as the provisions of the new Section 3-b become operative. (Note that the minimum standard of interest for reserve calculations is expressed in terms of a maximum interest rate.)

There are three rather important changes in the language of this Section 3.

**[\*829]** The first important change in Section 3 provides for the new Section 3-b to eventually define maximum interest rates which can be used for reserve calculations, for all types of contracts which are subject to the Standard Valuation Law, other than annuity or pure endowment contracts. (A similar change in Section 3-a would make the new Section 3-a cover annuity, or pure endowment contracts also.) The new Section 3-b will apply to all these types, issued after specified operative dates in the future.

The second and third important changes in Section 3 relate to new tables.

The second important change makes use of new mortality tables, for individual ordinary policies developed by the Society of Actuaries Special Committee to Recommend New Mortality Tables for Valuation. These tables are constructed separately for males and females. An insurance company could use either the Commissioners 1980 Standard Ordinary Mortality Table or the Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Select Mortality Factors. The Commissioners 1980 Standard Ordinary Mortality Table would automatically apply, unless the company elects the Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Select Mortality Factors for one or more specific plans of life insurance.

Additional data on the mortality tables is included as Appendix A to this instrument.

The Commissioners 1980 Standard Ordinary Mortality Table is similar to the table which is specified in the current model law (the Commissioners 1985 Standard Ordinary Mortality Table) in that the mortality rates depend solely on the attained age of the insured individual; but, of course, this new table reflects the improvement in mortality that has occurred in recent years at almost all ages. The Commissioners 1980 Standard Ordinary Mortality Table with Ten-Year Mortality Factors makes use of the same underlying data as the Commissioners 1980 Standard Ordinary Mortality Table, but this alternate table has mortality rates which depend on both the age at issue of the insured and the number of years which have elapsed since the year of issue. For policies which have been in force ten years or more, the select period is assumed to have "expired" and the mortality rates depend entirely on the attained age of the insured. These new tables would become the minimum standard only for policies issued after the operative date of Section 5-c of the Standard Nonforfeiture Law for Life Insurance. (Please see the comments on Section 5-c of that law.)

The third important change is to identify a procedure whereby new tables could become effective in the future as the minimum standard for reserve calculations in a state, even though such tables were not specifically named in the text of the Standard Valuation Law. The two-step procedure would require that the new table be adopted within the NAIC, and then this new table would also have to be approved in a regulation promulgated by the commissioner of insurance for that state. This new procedure could be applied to new mortality tables for individual life insurance (industrial and ordinary), or accidental death benefits supplementary to life insurance policies or annuity contracts. The procedure could also be applied to new morbidity tables to be used in calculating reserves for disability benefits attached to life insurance policies or annuity contracts. It is not necessary for the text of Section 3 to refer to new mortality tables for annuity contracts or pure endowment contracts, because Section 3-a would apply to any currently issued annuity or pure endowment contracts and to any such contracts that may be issued in the future.

There are other changes in Section 3 illustrated in the draft of October 20, 1980, but these are not of a substantive nature. Some of these changes are designed to make the language consistent and harmonious with the recommended language appearing elsewhere in the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance. Other changes are designed to make the style of capitalization and cross-references to other portions of the model laws more uniform from section-to-section. In analyzing the remaining sections of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance, any such relatively minor changes will be described as "nonsubstantive" changes.

#### Section 3-a

Section 3-a describes the mortality tables and interest rates which at the minimum standard for reserve calculations for annuity and pure endowment contracts, unless otherwise provided in the new Section 3-b. Section 3-a defines the minimum standard of mortality for all currently issued annuity and pure endowment contracts, and for all such contracts that may be issued in the future. Section 3-a also defines the minimum standard of interest for all currently issued annuity and pure endowment contracts, as well as the minimum standard for all such contracts which are issued in the future until such time as the provisions of the new Section 3-b become operative.

[\*830] There are two rather important changes in the language of Section 3-a. They are analogous to the first and third of the important changes listed previously for Section 3.

The first important change provides for the new Section 3-b to eventually define the maximum interest rates used for calculating reserves for annuity and pure endowment contracts. The new Section 3-b will apply to all the annuity and pure endowment contracts issued after specified operative dates in the future.

The second important change is to identify a procedure whereby new individual annuity mortality tables or group annuity mortality tables could become effective in the future as the minimum standard for reserve calculations, even

though such tables were not specifically named in the text of the Standard Valuation Law. The two-step procedure is the same as that described above under the comments for Section 3. First, the new table would have to be adopted within the NAIC. Then, the new table would also have to be approved in a regulation promulgated by the commissioner of insurance for that state.

The other changes in Section 3-a are all "nonsubstantive" changes as defined in the comments for Section 3.

#### Section 3-b

Section 3-b describes the "dynamic" interest basis for determining the maximum interest rate, which can be used to calculate reserves according to the minimum standard for various types of life insurance policies and annuity contracts. This concept is new in the Standard Valuation Law.

The entire text of Section 3-b is new material.

The "dynamic" interest concept is discussed rather thoroughly in a report prepared by Charles Greeley, chairman of the Technical Advisory Committee on Dynamic Interest and Related Matters. The report from Mr. Greeley's committee is included as Appendix B to this instrument.

The wording of Section 3-b is very similar to that described in Appendix B, and it appears unnecessary to discuss Section 3-b in any great detail. Where differences in the wording do exist, Section 3-b may use more formal language to convey essentially the same meaning as Appendix B. One example is that Section 3-b does not use the terms "book value" and "market value" in classifying annuities, which are used in Appendix B. However, the effect of the language in Section 3-b and that in Appendix B is intended to be the same.

In the case of life insurance policies, the "dynamic" interest basis would apply only to new life insurance policies issued on or after the operative date of Section 5-c of the Standard Nonforfeiture Law for Life Insurance.

In the case of annuity and pure endowment contracts, the "dynamic" interest basis would apply on and after January 1 of the calendar year next following the effective year of passage of this new version of the Standard Valuation Law.

Note that Section 3-b does not have a title. Therefore, the draft of October 20, 1980, proceeds immediately to subsection (A), "Applicability of this Section."

#### Section 4

Section 4 describes the Commissioners Reserve Valuation Method, which is used to calculate minimum reserves under the Standard Valuation Law.

There is only one important change in the language of this Section 4.

This change would affect new life insurance policies, written under certain plans, which are issued on or after January 1 of the fourth calendar year following the effective date of passage of this new version of the Standard Valuation Law. The plans affected by this change in Section 4 are those which possess all of the following characteristics: (1) the gross premium for the first year exceeds that for the second year, (2) there is not additional first year benefit corresponding to that extra first year premium, and (3) in some subsequent year, there is an endowment benefit or a cash surrender [\*831] benefit (or a combination of these benefits) exceeding that extra first year premium. The language of Section 4 would apply special procedures for computing reserves for such plans. These procedures would generally require somewhat higher minimum reserves for such plans, than the minimum reserves which are required under the current law. Note that this change would have no effect on existing life insurance policies, or any policies sold in the future for at least a period of four years.

There are several other changes in Section 4 which are "nonsubstantive" changes as defined in the comments for Section 3.

#### Section 4-a

There is one change recommended in Section 4. It is a "nonsubstantive" changes as defined in the comments for Section 3.

#### Section 5

Section 5 describes the aggregate reserves which an insurance company must hold for its life insurance policies. The only recommended changes are those necessary to refer to the new Section 8, in addition to other applicable sections of the Standard Valuation Law.

#### Section 6

There are no changes recommended in Section 6.

#### Section 7

Section 7 describes the conditions under which a life insurance policy or annuity contract may require an extra reserve, over the minimum reserve which would otherwise be required, because the gross premium is relatively low in relation to the benefits provided.

The changes in the first paragraph of Section 7 clarify the meaning of the minimum standards for mortality and interest to be used in making the reserve calculations. These standards are identified as the "minimum valuation standards" and there is a specific cross reference back to Sections 3 and 3-b in the Standard Valuation Law.

The changes would also include adding a new second paragraph to Section 7. This new paragraph refers to exactly the same group of life insurance policies described in the second paragraph under Section 4 of the Standard Valuation Law. (Please see the comments which have already been made on the changes in Section 4.) The change in Section 7 would act to keep the special procedures defined in the second paragraph of Section 4 from affecting the calculations under Section 7. In other words, the test calculation made under Section 7, to determine whether an extra reserve is needed on account of the gross premium rate for such a life insurance policy, would not be affected by the changed language in Section 4.

#### Section 8

Section 8 describes the calculation of reserves for certain types of life insurance policies and annuity contracts which were not contemplated when the Standard Valuation Law was originally written. This Section 8 would cover the types of life insurance policies commonly known as "indeterminate premium plans," where the premium is not definitely fixed in amount on the date of issue of the policy. Section 8 would also cover various types of life insurance policies and annuity contracts where the present value of future guaranteed benefits on the date of issue of the policy cannot be expressed as a specific number of that date, or where the ratios of the gross premiums paid in different policy years to each other can not all be expressed as specific numbers on the date of issue.

The entire text of Section 8 is new material.

The language of Section 8 allows the commissioner of insurance for a state to promulgate regulations pertaining to these types of life insurance policies or annuity contracts. Such regulations would define appropriate reserves for these life insurance policies or annuity contracts, according to a method which is consistent with the principles stated elsewhere in the Standard Valuation Law. Insurance companies would then be able to issue such life insurance policies or annuity contracts, provided that the approval requirements (if any) for that state had been met and provided that reserves were calculated as required by the regulations.

[\*832] There is also an optional paragraph in Section 8 which would require any such life insurance policy or annuity contract to be affirmatively approved before it could be sold within the state. This paragraph would be included in the Standard Valuation Law in those states where it is desired. It is expected that this optional paragraph would be included in the laws of those states where an approval once granted can only be withdrawn after involved or complex procedures, or those states where one or more insurance companies have been abusing the deemer provision contained elsewhere in the law of that state. (Please see also the special Drafting Comment contained in the draft.)

Note that there is a parallel provision to Section 8 in the proposed language for the Standard Nonforfeiture Law for Life Insurance. See Section 6 in the October 20, 1980, draft for that law. The recommended language in Section 6 of that law would allow the commissioner's regulations to define minimum cash surrender values and minimum nonforfeiture values for these types of life insurance policies, in addition to the reserves for such policies.

The NAIC Life, Accident and Health Insurance (C4) Technical Subcommittee is very interested in studying the types of life insurance policies and annuity contracts which would fall under Section 8 of the Standard Valuation Law and Section 6 of the Standard Nonforfeiture Law for Life Insurance. In the future, the (C4) Technical Subcommittee



hopes to develop model regulations pertaining to some of these types of life insurance policies and annuity contracts, which would include language relating to reserves, cash surrender values and other nonforfeiture benefits.

#### Section 9

Section 9 is identical to Section 8 in the current Standard Valuation Law, except that it has been renumbered.

### RECOMMENDED CHANGES IN THE STANDARD NONFORFEITURE LAW FOR LIFE INSURANCE

#### General Comments

There are two references in the Transactions of the Society of Actuaries which are important reference materials for a number of these changes in the Standard Nonforfeiture Law for Life Insurance. Copies of the Transactions are furnished by the Society of Actuaries to all its members on a regular basis. Because the volumes in which these references appear are readily accessible and because the references themselves are rather lengthy, they have not been included as attachments to this instrument.

One of these important references is the "Report on Actuarial Principles and Practical Problems with Regard to Nonforfeiture Requirements" prepared by the Society of Actuaries Special Committee on Valuation and Nonforfeiture Laws, which can be found in Transactions, Volume XXVII, pages 549 to 633. This Society of Actuaries Special Committee was chaired by Henry C. Unruh. Their report contains a list of 30 specific comments on pages 555, 556 and 557. The remainder of their report, pages 558 to 633, contains much useful background information on these 30 specific comments. A majority of these 30 specific comments are recommendations for changes in the Standard Nonforfeiture Law for Life Insurance. The Life, Accident and Health Insurance (C4) Technical Subcommittee has studied each of their recommended changes on an individual basis. A substantial number of the Society of Actuaries Special Committee's recommended changes have been adopted by the (C4) Technical Subcommittee, and are included in the draft of October 20, 1980.

The other important reference is the article "Expense Formulas for Minimum Nonforfeiture Values" by Charles F. B. Richardson, which can be found in Transactions, Volume XXIX, pages 209 to 229. The discussion material which follows the paper, on pages 231 to 241, will also be of interest. Mr. Richardson is an eminent actuary, who was formerly a member of the NAIC (C) Committee Technical Task Force to Review Valuation and Nonforfeiture Value Regulation. This technical task force was the predecessor of the present (C4) Technical Subcommittee. Mr. Richardson's paper discusses the current patterns of expenses in life insurance policies, including comments on how these patterns could be reflected in the Standard Nonforfeiture Law for Life Insurance. Pages 222 and 223 describe a specific recommended formula for expense allowances. The (C4) Technical Subcommittee made use of Mr. Richardson's paper in the recommended language for Section 5-c.

#### [\*833] Section 1

There are no changes recommended in Section 1.

#### Section 2

Section 2 describes the required provisions for cash surrender values and other nonforfeiture benefits, which must be included in all life insurance policies, except those which are specifically exempted under Section 9 of this same law.

There are three rather important changes in the language of this Section 2.

The first important change is in the first paragraph preamble, which precedes required provision (a). This change adds language to the law which clarifies that Section 2 defines the minimum requirements, and that other provisions may be included in life insurance policies which are at least as favorable to the defaulting policyholder, and which are essentially in compliance with the new Section 8 of this same law.

The second and third important changes in Section 2 would implement recommended changes by the Society of Actuaries Special Committee on Valuation and Nonforfeiture Laws. See the "General Comments" above, in this instrument and the report in Transactions, Volume XXVII.

The second important change is in required provision (a), which describes the paid-up nonforfeiture benefit or benefits available to the life insurance policyholder who defaults in the payment of premium and specifically requests a paid-up nonforfeiture benefits. This change would implement specific comment no. 25 in the report of this Society Special Committee, which reads as follows: "Substitute (nonparticipating) purchase bases granting larger than guaran-

teed amounts should be permitted for insurance options and paid-up additions." See Transactions, Volume XXVII, page 600, for additional information.

The third important change is in required provision (e), which pertains to the table of guaranteed cash values and other nonforfeiture values. The recommended language would exempt some life insurance plans from the requirement of including a table. This change would implement specific comment no. 26, which reads as follows: "Complete exposition of nonforfeiture values in a policy table should not be required for multitrack policies or 'open' plans." See Transactions, Volume XXVII, page 601, for additional information.

The other changes in Section 2 are "nonsubstantive" changes as defined in the comments for Section 3 of the Standard Valuation Law.

### Section 3

Section 3 describes the minimum cash surrender values which must be available to a policyholder under a life insurance policy on any policy anniversary.

There are three rather important changes in the language of Section 3.

The first important changes calls attention to the fact that the adjusted premiums used in calculating minimum cash surrender values will be defined in the new Section 5-c for some life insurance policies. Under the current law, the adjusted premiums could be defined only in Sections 5, 5-a or 5-b. Please see the comments under 5-c for more information.

The second and third important changes in Section 3 would implement recommended changes by the Society of Actuaries Special Committee on Valuation and Nonforfeiture Laws.

The second important change adds a second paragraph to Section 3, pertaining to the minimum cash values for life insurance policies containing additional benefits provided by riders or supplemental policy provisions. This change would implement specific comment no. 18, which reads as follows: "Term riders as defined should be treated as separate policies under a 'severability' principle." See Transactions, Volume XXVII, pages 594 and 595, for additional information.

[\*834] The third important change adds a third paragraph to Section 3, pertaining to the minimum cash values for certain life insurance policies which cover both a primary insured and the spouse of the primary insured. This change would implement specific comment no. 30, which reads as follows: "Various miscellaneous technical problems are listed." There is also a cross reference to Transactions, Volume XXVII, page 608; and the list on this page 608 includes "family policies." It should also be noted that the effect of this new third paragraph under Section 3 will be harmonious with the new second paragraph under this Section 3, if the term insurance on the spouse is considered to be term insurance provided under a supplemental policy provision.

There is one other change in Section 3 which is a "nonsubstantive" change as defined in the comments for Section 3 of the Standard Valuation Law.

### Section 4

There is one change recommended in Section 4. It is a "nonsubstantive" change as defined in the comments for Section 3 of the Standard Valuation Law.

### Section 5

Section 5 describes the calculation of the adjusted premiums used to determine minimum cash values and other nonforfeiture benefits for life insurance policies written under the Commissioners 1941 Standard Ordinary Mortality Table or the 1941 Standard Industrial Mortality Table. Therefore, Section 5 could not apply to any policies which are currently being written; and it will not apply to any new life insurance policies written in the future.

The most important change is the addition of language at the beginning, which calls attention to the fact that Section 5 does not apply to policies issued after the operative date of the new Section 5-c. Please see the comments under Section 5-c for more information.

The other changes in Section 5 are "nonsubstantive" changes as defined in the comments for Section 3 of the Standard Valuation Law.

### Section 5-a

Section 5-a describes the calculation of the adjusted premiums used to determine minimum cash values and other nonforfeiture benefits for life insurance policies written under the Commissioners 1958 Standard Ordinary Mortality Table. Section 5-a applies to all currently issued life insurance policies, other than industrial life insurance policies. Section 5-a also will apply to all life insurance policies, other than industrial life insurance policies, which are issued in the future before the operative date of the new Section 5-c.

The most important change is the addition of language at the beginning which calls attention to the fact that Section 5-b does not apply to policies issued after the operative date of the new Section 5-c. This corresponds to similar changes in wording for Section 5 and 5-a. Please see the comments under Section 5-c for more information.

The other changes in Section 5-b are "nonsubstantive" changes as defined in the comments for Section 3 of the Standard Valuation Law.

### Section 5-b

Section 5-b describes the calculation of the adjusted premiums used to determine minimum cash values and other nonforfeiture benefits for industrial life insurance policies written under the Commissioners 1961 Standard Industrial Mortality Table. Section 5-b applies to all currently issued industrial life insurance policies, as well as to all industrial life insurance policies which are issued in the future before the operative date of the new Section 5-c.

The most important change in the addition of language at the beginning which calls attention to the fact that Section 5-b does not apply to policies issued after the operative date of the new Section 5-c. This corresponds to similar changes in wording for Section 5 and 5-a. Please see the comments under Section 5-c for more information.

The other changes in Section 5-b are "nonsubstantive" changes as defined in the comments for Section 3 of the Standard Valuation Law.

### [\*835] Section 5-c

Section 5-c describes a new formula for the calculation of the adjusted premiums used to determine minimum cash values and other nonforfeiture benefits, based on the study of expenses and the formula contained in Mr. Richardson's paper. See the "General Comments" above, in this instrument, and the paper itself in Transactions, Volume XXIX. Some subsections of Section 5-c affect present values used in other sections of the Standard Nonforfeiture Law for Life Insurance as well as the adjusted premiums. Section 5-c also coordinates with Sections 3, 3-b and 3-c of the Standard Valuation Law; and thus this Section 5-c would apply to any life insurance policies issued under the new mortality bases and the "dynamic" interest basis for determining the maximum interest rate. In addition, Section 5-c contains language which would implement some more of the recommended changes by the Society of Actuaries Special Committee on Valuation and Nonforfeiture Laws.

The entire text of Section 5-c is new material.

Section 5-c would apply to all life insurance policies, including industrial life insurance policies, issued in the future after the operative date for this Section 5-c. This operative date is defined in subsection (11) of Section 5-c. This operative date would be January 1, 1989, or such earlier date as an insurance company might elect in a written notice to the commissioner of insurance. It is expected that many insurance companies will select an earlier date, in order to be able to issue policies on the new mortality and interest bases. If the recommended versions of the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance are adopted by the (C3) Subcommittee and then passed by state legislatures in timely fashion, it is possible that the majority of insurance companies will be operating under this Section 5-c in the year 1985.

Subsection (1) of this Section 5-c of the Standard Nonforfeiture Law for Life Insurance contains the new formula for adjusted premiums inspired by the Richardson paper. This first paragraph of Section 5-c would also implement some recommended changes by the Society of Actuaries Special Committee. For example, under the new formula insurance companies can exclude any uniform annual contract charge or policy fee specified in the policy, in applying the principle that the adjusted premium for any policy year should be proportional to the gross premium for that year. This is consistent with the recommended change in specific comment no. 7: "If the premiums grade by size, anomalies occur due to the uniform percentage of gross premium rule; these can be largely removed." Another example is that the new formula uses a weighting factor based on the amounts of death benefit for the first ten policy years only, instead of using the amounts of death benefit for the entire period of coverage under the policy. This is consistent with the recom-

mended change in specific comment no. 5: "Equivalent level insurance amounts should not reflect amount changes after the tenth policy year." Still another example is that the new formula uses an expense allowance based on a special "nonforfeiture net level premium" rather than the adjusted premium for the first policy year. This is consistent with the recommended change in specific comment no. 6: "Expense allowances should be based on levelized net premiums rather than the first adjusted premiums." See Transactions, Volume XXVII, pages 576 to 579, for additional information on these three examples.

Subsection (2) serves only to define the "nonforfeiture net level premium" referred to in subsection (1) and does not require any further comments.

Subsections (3), (4), (5) and (6) describe how the adjusted premiums are recalculated after a change in the benefits or the pattern of premiums in certain plans of life insurance. (These are the same plans for which a complete table of cash values and other nonforfeiture benefits would no longer be required under Section 2 elsewhere in the Standard Nonforfeiture Law for Life Insurance.) This change in subsection (3) of Section 5-c is consistent with specific comment no. 8. "On multiple track policies, the automatic track should be used for nonforfeiture compliance, and changes after issue under specified policy options should be ignored unless and until they are exercised." See Transactions, Volume XXVII, Pages 579 to 582, for additional information.

Subsection (7) allows the adjusted premiums and present values for certain life insurance policies, which are issued on a substandard mortality basis and which have graded death benefits, to be calculated in the same manner as if these policies were issued on a standard mortality basis and provided level death benefits. This is consistent with the recommended change in specific comment no. 15 which reads as follows: "Certain additional considerations are discussed in the mortality area, principally a more flexible treatment for substandard policies." See Transactions, Volume XXVII, page 591, for additional information.

[\*836] Subsections (8), (9) and (10) are the portions of the Standard Nonforfeiture Law for Life Insurance which coordinate with the new mortality bases and the "dynamic" interest basis described in Sections 3, 3-a and 3-b of the Standard Valuation Law. Please see the comments on Sections 3, 3-b and 3-c of the Standard Valuation Law and Appendix A and Appendix B elsewhere in this instrument for addition information on the new mortality bases and the "dynamic" interest basis. (As is the case with reserve calculations, the minimum standard of interest for calculations involving cash values and other nonforfeiture benefits is expressed in terms of a maximum interest rate.)

There are seven provisions under subsection (8) of Section 5-c of the Standard Nonforfeiture Law for Life Insurance identified by the letters (a), (b), (c), (d), (e), (f) and (g).

Provision (a) of subsection (8) states that the insurance company may, at its option, use a rate of interest for policies issued in the current calendar year not exceeding the "nonforfeiture interest rate" for policies issued in the immediately preceding calendar year. See also the comments on subsection (9) of Section 5-c below.

Provision (b) of subsection (8) describes the amount of cash surrender value available to the policyholder who surrenders life insurance in force under a paid-up nonforfeiture benefit.

Provision (c) of subsection (8) describes the minimum interest rate which an insurance company may use in determining the amount of any guaranteed paid-up nonforfeiture benefit available, corresponding to a certain amount of cash surrender value. Provision (c) is consistent with specific comment no. 22 which reads as follows: "Guaranteed paid-up insurance options should be those purchased by the cash value on any interest rate at least as high as that used for cash values." See Transactions, Volume XXVII, pages 598 and 599 for additional information.

Provision (d) of subsection (8) describes the mortality tables which an insurance company may use in determining the period of extended term insurance (and any accompanying pure endowment) corresponding to a certain amount of cash surrender value. Provision (d) refers to the Commissioners 1980 Extended Term Insurance Table, which was also developed by the Society of Actuaries Special Committee to Recommend New Mortality Tables for Valuation. As is the case with the Commissioners 1980 Standard Ordinary Mortality Table, the Commissioners 1980 Extended Term Insurance Table is constructed separately for males and females. Appendix A to this instrument includes data on the Commissioners 1980 Extended Term Insurance Table.

Provision (e) of subsection (8) allows an insurance company to use appropriate modifications of the named mortality tables in making calculations of adjusted premiums and present values for life insurance policies which are issued on a substandard mortality basis.

Provisions (f) and (g) of subsection (8) identify a procedure whereby new mortality tables could become effective in a state in the future to replace the Commissioners 1980 Standard Ordinary Mortality Table with or without Ten-Year Select Mortality Factors, the Commissioners 1980 Extended Term Insurance Table, the Commissioners 1961 Standard Industrial Mortality Table, or the Commissioners 1961 Industrial Extended Term Insurance Table. The two-step procedure would require that the new table be adopted within the NAIC, and then this new table would also have to be approved in a regulation promulgated by the commissioner of insurance for that state. This two-step procedure is the same as that described in the comments for Sections 3 and 3-a of the Standard Valuation Law.

Subsection (9) of Section 5-c of the Standard Nonforfeiture Law for Life Insurance defines the "nonforfeiture interest rate" for any life insurance policy issued in a particular calendar year as 125% of the calendar year statutory valuation interest rate for such policy as defined in Section 3-b of the Standard Valuation Law, rounded to the nearer 1/4 of 1%. Please see also provision (a) of subsection (8) of this Section 5-c of the Standard Nonforfeiture Law for Life Insurance. Please note also that an insurance company would not be required under these laws to use the maximum interest rates in computing its reserves, cash surrender values and other nonforfeiture benefits.

Subsection (10) of Section 5-c of the Standard Nonforfeiture Law for Life Insurance would not require an insurance company to refile the entire life insurance policy form which has been previously approved, if there are no changes other than a change in the interest rate used to calculate nonforfeiture values.

Subsection (11) of Section 5-c describes the operative date for this section of the Standard Nonforfeiture Law for Life Insurance. See the third paragraph of the comments on this Section 5-c above, in this instrument.

#### [\*837] Section 6

Section 6 describes the calculation of cash surrender values and other nonforfeiture values for certain types of life insurance policies which were not contemplated when the Standard Valuation Law and the Standard Nonforfeiture Law for Life Insurance were originally written. This Section 6 is parallel to Section 8 of the Standard Valuation Law; and it would cover the same plans of life insurance, except that Section 8 of the Standard Valuation Law would also apply to annuity contracts and to certain plans of life insurance which are exempt under Section 7 or Section 9 of the Standard Nonforfeiture Law for Life Insurance.

The entire text of Section 6 of the Standard Nonforfeiture Law for Life Insurance is new material.

As in the case with Section 8 of the Standard Valuation Law, the language of this Section 6 would allow the commissioner of insurance for a state to promulgate regulations pertaining to such plans of life insurance. Such regulations would define minimum cash values and other nonforfeiture values, according to a method which is consistent with the principles stated elsewhere in the Standard Nonforfeiture Law for Life Insurance. The commissioner of insurance would also have to be satisfied: (1) that benefits provided under the plan were substantially as favorable to the policyholder as the minimum benefits required in the previous sections of the Standard Nonforfeiture Law for Life Insurance, and (2) that the benefits and the pattern of premiums for the plan were not such as to mislead prospective policyholders or insureds. Insurance companies would then be able to issue such life insurance policies, provided that the approval requirements (if any) for that state had been met and provided that cash values and other nonforfeiture values were at least as large as the minimums required by the regulations.

There is also an optional paragraph in Section 6 which would require any such life insurance policy to be affirmatively approved before it could be sold within the state. This optional paragraph is quite similar to an optional paragraph in Section 8 of the Standard Valuation Law.

Please see the comments on Section 8 of the Standard Valuation Law in this instrument for additional information which may be pertinent.

#### Section 7

Section 7 lists several miscellaneous provisions regarding cash values and other nonforfeiture benefits.

The most important change is to include the new Section 5-c in a list of sections in the Standard Nonforfeiture Law for Life Insurance which may apply to the calculation of values.

The other changes in Section 7 are "nonsubstantive" changes as defined in the comments for Section 3 of the Standard Valuation Law.

#### Section 8

Section 8 describes the cash values for new life insurance policies, written under certain plans, which are issued on or after January 1 of the fourth calendar year following the effective date of passage of this new version of the Standard Nonforfeiture Law for Life Insurance.

The entire text of Section 8 is new material.

The plans affected by Section 8 would have one or more actual cash surrender values in later policy years which are greater than the corresponding minimum cash values for those years. The language in Section 8 is complex, but the underlying purpose is to require a reasonably orderly sequence of increases in the actual cash value from each policy year to the next. Under the current wording of the Standard Nonforfeiture Law for Life Insurance, there is no comparable requirement so that sharp increases in the actual cash value from one policy year to the next are not in violation of that law unless it can be shown that at least one actual cash value is less than the corresponding minimum cash value.

Note that the plans affected by this Section 8 are not necessarily the same plans referred to in the changes in Section 4 and Section 7 of the Standard Valuation Law.

#### [\*838] Section 9

Section 9 describes various types of insurance contracts which are exempt from the provisions elsewhere in the Standard Nonforfeiture Law for Life Insurance. Section 9 corresponds to Section 7 in the current law, but it has been renumbered.

There are five rather important changes in Section 9.

The first important change is that both provisions (e) and (f) now require a term life insurance policy not to have any guaranteed nonforfeiture or endowment benefits, in order to qualify for the exemption.

The second important change is that both provisions (e) and (f) extend the exemption to cover term policies of up to 20 years duration, expiring before age 71. This change would implement specific comment no. 17 in the report of the Society of Actuaries Special Committee on Valuation and Nonforfeiture Laws which reads as follows: "Term exemptions from cash values should be extended." See Transactions, Volume XXVII, pages 593 and 594, for additional information.

A third important change affects provision (f) only. It adds the new Section 5-c to the list of sections in the Standard Nonforfeiture Law for Life Insurance which may define the adjusted premium for a decreasing term plan.

A fourth important change adds a new provision (g) to the list of policies which are exempt from the Standard Nonforfeiture Law for Life Insurance. This exemption would apply to a policy which possesses both the following characteristics: (1) there are no guaranteed nonforfeiture or endowment benefits, and (2) the minimum cash surrender value (or the present value of any paid-up nonforfeiture benefit) at the beginning of any policy year does not exceed 2 1/2% of the death benefit at the beginning of that same policy year. This addition would implement specific comment no. 16 in the report of the Society Special Committee, which reads as follows: "Policies that never give rise to significant values should be exempted; a specific test for triviality is proposed." See Transactions, Volume XXVII, pages 593 and 594, for additional information. Note that the October 20, 1980, draft uses a more stringent triviality test of 2 1/2% of the death benefit, instead of the 3% or 4% mentioned on pages 593 and 594.

The fifth important change is the addition of language at the end of Section 9 describing how to determine the age at expiry for a joint term life insurance policy, for the purpose of qualifying for the exemptions.

The other changes in Section 9 are "nonsubstantive" changes as defined in the comments for Section 3 of the Standard Valuation Law.

#### Section 10

Section 10 is identical to Section 8 in the current Standard Nonforfeiture Law for Life Insurance, except that it has been renumbered.

#### LIST OF SOME OF THE PEOPLE WHO ASSISTED

The IC4) Technical Subcommittee would like to thank all persons who expressed an interest in the concepts and the language for these two laws.

Many persons have devoted much time and effort, and have rendered valuable assistance to the (C4) Technical Subcommittee by expressing their opinions, comments and questions.

The following list includes the names of the members of certain committees or groups who worked on projects related to these two laws, and whose work was reviewed by the (C4) Technical Subcommittee.

1. Members of the Technical Advisory Committee on Dynamic Interests and Related Matters; which reports to the (C4) Technical Subcommittee:

|                           |                                |
|---------------------------|--------------------------------|
| Charles Greeley, Chairman | Walter S. Rugland              |
| Donald Cody               | Paul E. Sarnoff                |
| Louis Garfin              | Joseph C. Sibigroth            |
| Norman E. Hill            | Wilfred L. Thornthwaite        |
| Howard H. Kayton          | Ronald C. Welch                |
| Richard S. Miller         | John C. Wooddy                 |
| Carl R. Ohman             | William A. White, (C4) liaison |

[\*839] 2. Members of the Society of Actuaries Special Committee to Recommend New Mortality Tables for Valuation:

|                             |                                    |
|-----------------------------|------------------------------------|
| Charles A. Ormsby, Chairman | Joseph C. Sibigroth, Vice-Chairman |
| Neil M. Anderson            | J. C. F. McKibbin                  |
| Wilbur M. Bolton            | William K. Nicol                   |
| Waid J. Davidson, Jr.       | Gary N. See                        |
| Kenneth P. Hinsdale         | C. David Silletto                  |
| Hodge L. Jones, Jr.         | James G. Stewart                   |
|                             | William A. White                   |

3. Members of the Society of Actuaries Special Committee on Valuation and Nonforfeiture Laws, which has now completed its report:

|                               |                                |
|-------------------------------|--------------------------------|
| Henry C. Unruh, Chairman      | John R. Gardner, Vice-Chairman |
| Ardian C. Gill, Vice-Chairman | Charles Greeley, Secretary     |
| Thomas F. Eason               | Dale R. Gustafson              |
| Robert N. Houser              | William K. Nicol               |
| Robert R. Pawelko             | Alan Richards                  |

4. Members of an ad hoc group which worked on technical questions related to these laws, involving Sections 3, 4 and 7 of the Standard Valuation Law and Section 8 of the Standard Nonforfeiture Law for Life Insurance, in August and September, 1980. The last two persons named were not members of the ad hoc group, but they participated actively in its meetings and discussions:

|                 |                                  |
|-----------------|----------------------------------|
| John K. Booth   | Gregory J. Carney                |
| Charles Greeley | Burnett Halstead                 |
| Paul E. Sarnoff | George W. Harding (non-member)   |
|                 | Joseph C. Sibigroth (non-member) |

In addition to the people listed above, Charles F. B. Richardson deserves special mention for his study of expenses in life insurance policies and his paper on that subject in the Transactions of the Society of Actuaries. Mr. Richardson's work was most useful in preparing the proposed revision of the Standard Nonforfeiture Law for Life Insurance. (Please see the "General Comments" on this law and the comments on Section 5-c of this law, elsewhere in this instrument.)

The special report of November 3 mentioned William Carroll and John K. Booth of the American Council of Life Insurance as having assisted in the mechanical preparation of the October 20, 1980, drafts of these laws. Daniel F. Case and Anthony F. Spano of the American Council of Life Insurance have also assisted in preparing the drafts of the two laws.

Another person deserving special mention is Emil Molin, of the Indiana Department of Insurance. He is serving as Chairman of a special technical advisory committee which reports to the Life Insurance (C3) Subcommittee. This special technical advisory committee was recently appointed to work on applying the "dynamic" interest basis to policy loan interest rates. Mr. Molin has been very cooperative and courteous in coordinating the work of his technical advisory committee with the related work on "dynamic" interest which the (C4) Technical Subcommittee has been doing.

The (C4) Technical Subcommittee would like to thank all of the people named above, also all of the other people who attended its meetings and participated in the discussions of the laws, or who took the time to write letters relating to these laws.

The chairman of the (C4) Technical Subcommittee would also like to thank all the other members of the (C4) Technical Subcommittee for their diligent work on these two laws, especially in meeting the deadlines necessary to have these revisions considered by the (C3) Subcommittee in December, 1980. Also, he would like to call special attention to the extensive calculations which John Montgomery, vice-chairman of the (C4) Technical Subcommittee, has made in order to illustrate the revised language which is being recommended.

#### [\*840] APPENDIX A

##### I. Commissioners 1980 Standard Ordinary Mortality Table and the Commissioners 1980 Extended Term Insurance Table

Please refer to the two pages in this Appendix A headed "NEW MORTALITY TABLES." These two pages of mathematical tables contain columns headed "TABLE K(M)," and "TABLE K(F)," "TABLE KET(M)" and "TABLE KET(F)." These two pages show the number of people in a group of 1,000 persons of the same sex and age who would be expected to die in a one year period. This is the actuarial function " $1000q[x]$ " where "x" represents the age at the beginning of the year. These two pages show the attained age of the insured at the beginning of the year in the rows, and the columns and the rows together define mathematical tables of mortality rates per 1,000 under four different mortality tables:

The Commissioners 1980 Standard Ordinary Mortality Table for male lives has mortality rates as shown under the column "TABLE K(M)."

The Commissioners 1980 Standard Ordinary Mortality Table for female lives has mortality rates as shown under the column "TABLE K(F)."

The Commissioners 1980 Extended Term Insurance Table for male lives has mortality rates as shown under the column "TABLE KET(M)."

The Commissioners 1980 Extended Term Insurance Table for female lives has mortality rates as shown under the column "TABLE KET(F)."

##### II. Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors

The purpose of the Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors is to recognize the lower mortality rates which apply to persons who have been underwritten and recently accepted by the insurance company as life insurance risks. These lower mortality rates are assumed to apply for a maximum of ten years following the issue date of the life insurance policy resulting from this selection process. There is no applicability to mortality rates under the extended term insurance nonforfeiture option.

Please refer to the last page of this Appendix A headed "Table A." The mathematical tables on this page are used to obtain mortality rates per 1,000 " $1000q[x]$ " for the Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors. These mortality rates per 1,000 are not shown directly on this page; but such rates can easily be calculated using the selection factors given. The mortality rates for the Commissioners Standard Ordinary Mortality Table with Ten-year Select Mortality Factors depend on both the issue age and the policy year, as well as upon the sex of the individual. The policy years are shown in the columns, and the issue ages are shown in the rows with separate rows for male and female insureds. Issue ages are bracketed together where the same selection factor applies. The selection factors themselves are in the form of a certain per cent of the mortality rate which would apply under the Commissioners 1980 Standard Ordinary Mortality Table. The selection factor is 100% for all policy years 11 or over, and this selection factor never exceeds 100% under any conditions. The minimum selection factor is 48%, applying to male insureds at issue ages 65 and over, during the first policy year. The selection factor is multiplied by the mortality rate for the current attained age, not by the mortality rate for the issue age.

Here are three examples illustrating the use of "Table A" to obtain the mortality rate per 1,000 under the Commissioners 180 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors:

1. Find the mortality rate per 1,000 " $1000q[x]$ " using the Ten-year Select Mortality Factors for a male insured under a policy issued at age 23 for the third policy year.



First we note that the attained age of the insured at the beginning of the third policy year is 25. (This is the sum of the issue age 23 and the policy year 3, reduced by one.) Then we use the two pages headed "NEW MORTALITY TABLES" to find the mortality rate per 1,000 under the Commissioners 1980 Standard Ordinary Mortality Table. The column headed "TABLE K(M)" shows this mortality rate for age 25 as 1.77. Next, we use "Table A" to find the proper selection factor. For this insured whose issue age is 23, we use the column for the third policy year, and the row for a male insured in the issue age bracket 20 to 39. This selection factor is shown as 85%. The multiplication .85 times 1.77 gives us 1.504, which rounds to 1.50.

[\*841] Thus, the mortality rate per 1,000 for a male, issue age 23, third policy year, under the Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors is 1.50.

2. Find the mortality rate per 1,000 "1,000q[x]" using the Ten-year Select Mortality factors for a female insured under a policy issued at age 59 for the ninth policy year.

First, we note that the attained age of the insured at the beginning of the policy year is 67, (59 + 9 - 1). Then we use the pages headed "NEW MORTALITY TABLES" to find the mortality rate per 1,000 under the Commissioners 1980 Standard Ordinary Mortality Table. The column headed "TABLE K(F)" shows this mortality rate for age 67 as 17.43. Next, we use "Table A" to find the proper selection factor. For this insured whose issue age is 59, we use the column for the ninth policy year and the row for a female insured in the issue age bracket 55 to 59. (Note that the issue age rather than the attained age is used here.) This selection factor is shown as 80%. The multiplication .80 times 17.43 gives us 13.944, which rounds to 13.94.

Thus, the mortality rate per 1,000 for a female, issue age 59, ninth policy year, under the Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors is 13.94.

3. Find the mortality rate per 1,000 "1000q[x]" using the Ten-year Select Mortality Factors for a male insured under a policy issued at age 80 for the thirteenth policy year.

In this case, the select period has "expired" since the policy is now in its 13th policy year. Thus, the selection factor will be 100%; and the mortality rate will depend only on the current attained age of the insured at the beginning of the policy year. This current attained age is 92, (80 + 13 - 1). We use the two pages headed "NEW MORTALITY RATES" to find the mortality rate per 1,000 under the Commissioners 1980 Standard Ordinary Mortality Table. The column headed "TABLE K(M)" shows this mortality rate for age 92 as 253.45.

Thus, the mortality rate per 1,000 for a male, issue age 80, thirteenth policy year, under the Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors is 253.45.

In any case where the selection factor is 100%, the mortality rate per 1,000 will be the same under the Commissioners 1980 Standard Ordinary Mortality Table and under the Commissioners 1980 Standard Ordinary Mortality Table with Ten-year Select Mortality Factors. [\*842]

#### NEW MORTALITY TABLES

| AGE | TABLE K(M) | TABLE K(F) | TABLE KET(M) | TABLE KET(F) |
|-----|------------|------------|--------------|--------------|
| 0   | 4.18       | 2.89       | 5.43         | 3.76         |
| 1   | 1.07       | .87        | 1.82         | 1.62         |
| 2   | .99        | .81        | 1.74         | 1.56         |
| 3   | .98        | .79        | 1.73         | 1.54         |
| 4   | .95        | .77        | 1.70         | 1.52         |
| 5   | .90        | .76        | 1.65         | 1.51         |
| 6   | .86        | .73        | 1.61         | 1.48         |
| 7   | .80        | .72        | 1.55         | 1.47         |
| 8   | .76        | .70        | 1.51         | 1.45         |
| 9   | .74        | .69        | 1.49         | 1.44         |
| 10  | .73        | .68        | 1.48         | 1.43         |
| 11  | .77        | .69        | 1.52         | 1.44         |
| 12  | .85        | .72        | 1.60         | 1.47         |
| 13  | .99        | .75        | 1.74         | 1.50         |
| 14  | 1.15       | .80        | 1.90         | 1.55         |
| 15  | 1.33       | .85        | 2.08         | 1.60         |

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## NEW MORTALITY TABLES

| AGE | TABLE K(M) | TABLE K(F) | TABLE KET(M) | TABLE KET(F) |
|-----|------------|------------|--------------|--------------|
| 16  | 1.51       | .90        | 2.26         | 1.65         |
| 17  | 1.67       | .95        | 2.42         | 1.70         |
| 18  | 1.78       | .98        | 2.53         | 1.73         |
| 19  | 1.86       | 1.02       | 2.61         | 1.77         |
| 20  | 1.90       | 1.05       | 2.65         | 1.80         |
| 21  | 1.91       | 1.07       | 2.66         | 1.82         |
| 22  | 1.89       | 1.09       | 2.64         | 1.84         |
| 23  | 1.86       | 1.11       | 2.61         | 1.86         |
| 24  | 1.82       | 1.14       | 2.57         | 1.89         |
| 25  | 1.77       | 1.16       | 2.52         | 1.91         |
| 26  | 1.73       | 1.19       | 2.48         | 1.94         |
| 27  | 1.71       | 1.22       | 2.46         | 1.97         |
| 28  | 1.70       | 1.26       | 2.45         | 2.01         |
| 29  | 1.71       | 1.30       | 2.46         | 2.05         |
| 30  | 1.73       | 1.35       | 2.48         | 2.10         |
| 31  | 1.78       | 1.40       | 2.53         | 2.15         |
| 32  | 1.83       | 1.45       | 2.58         | 2.20         |
| 33  | 1.91       | 1.50       | 2.66         | 2.25         |
| 34  | 2.00       | 1.58       | 2.75         | 2.33         |
| 35  | 2.11       | 1.65       | 2.86         | 2.40         |
| 36  | 2.24       | 1.76       | 2.99         | 2.51         |
| 37  | 2.40       | 1.89       | 3.15         | 2.64         |
| 38  | 2.58       | 2.04       | 3.35         | 2.79         |
| 39  | 2.79       | 2.22       | 3.63         | 2.97         |
| 40  | 3.02       | 2.42       | 3.93         | 3.17         |
| 41  | 3.29       | 2.64       | 4.28         | 3.43         |
| 42  | 3.56       | 2.87       | 4.63         | 3.73         |
| 43  | 3.87       | 3.09       | 5.03         | 4.02         |
| 44  | 4.19       | 3.32       | 5.45         | 4.32         |
| 45  | 4.55       | 3.56       | 5.92         | 4.63         |
| 46  | 4.92       | 3.80       | 6.40         | 4.94         |
| 47  | 5.32       | 4.05       | 6.92         | 5.27         |
| 48  | 5.74       | 4.33       | 7.46         | 5.63         |
| 49  | 6.21       | 4.63       | 8.07         | 6.02         |
| 50  | 6.71       | 4.96       | 8.72         | 6.45         |
| 51  | 7.30       | 5.31       | 9.49         | 6.90         |
| 52  | 7.96       | 5.70       | 10.35        | 7.41         |
| 53  | 8.71       | 6.15       | 11.32        | 8.00         |
| 54  | 9.56       | 6.61       | 12.43        | 8.59         |
| 55  | 10.47      | 7.09       | 13.61        | 9.22         |
| 56  | 11.46      | 7.57       | 14.90        | 9.84         |
| 57  | 12.49      | 8.03       | 16.24        | 10.44        |
| 58  | 13.59      | .,47       | 17.67        | 11.01        |
| 59  | 14.77      | 8.94       | 19.20        | 11.62        |
| 60  | 16.08      | 9.47       | 20.90        | 12.31        |
| 61  | 17.54      | 10.10      | 22.80        | 13.17        |
| 62  | 19.19      | 10.96      | 24.95        | 14.25        |
| 63  | 21.06      | 12.02      | 27.38        | 15.63        |
| 64  | 23.14      | 13.25      | 30.08        | 17.23        |
| 65  | 25.42      | 14.59      | 33.05        | 18.97        |
| 66  | 27.85      | 16.00      | 36.21        | 20.80        |
| 67  | 30.44      | 17.43      | 39.57        | 22.66        |

## NEW MORTALITY TABLES

| AGE | TABLE K(M) | TABLE K(F) | TABLE KET(M) | TABLE KET(F) |
|-----|------------|------------|--------------|--------------|
| 68  | 33.19      | 18.84      | 43.15        | 24.49        |
| 69  | 36.17      | 20.36      | 47.02        | 26.47        |
| 70  | 39.51      | 22.11      | 51.36        | 28.74        |
| 71  | 43.30      | 24.23      | 56.29        | 31.50        |
| 72  | 47.65      | 26.87      | 61.95        | 34.93        |
| 73  | 52.64      | 30.11      | 68.43        | 39.14        |
| 74  | 58.19      | 33.93      | 75.65        | 44.11        |
| 75  | 64.19      | 38.24      | 83.45        | 49.71        |
| 76  | 70.53      | 42.97      | 91.69        | 55.86        |
| 77  | 77.12      | 48.04      | 100.26       | 62.45        |
| 78  | 83.90      | 53.45      | 109.07       | 69.49        |
| 79  | 91.05      | 59.35      | 118.37       | 77.16        |
| 80  | 98.84      | 65.99      | 128.49       | 85.79        |
| 81  | 107.48     | 73.60      | 139.72       | 95.68        |
| 82  | 117.25     | 82.40      | 152.43       | 107.12       |
| 83  | 128.26     | 92.53      | 166.74       | 120.29       |
| 84  | 140.25     | 103.81     | 182.33       | 134.95       |
| 85  | 152.95     | 116.10     | 198.84       | 150.93       |
| 86  | 166.09     | 129.29     | 215.92       | 168.08       |
| 87  | 179.55     | 143.32     | 233.42       | 186.32       |
| 88  | 193.27     | 158.18     | 251.25       | 205.63       |
| 89  | 207.29     | 173.94     | 269.48       | 226.12       |
| 90  | 221.77     | 190.75     | 288.30       | 247.98       |
| 91  | 236.98     | 208.87     | 308.07       | 271.53       |
| 92  | 253.45     | 228.81     | 329.49       | 297.45       |
| 93  | 272.11     | 251.51     | 353.74       | 326.96       |
| 94  | 295.90     | 279.31     | 384.67       | 363.10       |
| 95  | 329.96     | 317.32     | 428.95       | 412.52       |
| 96  | 384.55     | 375.74     | 499.92       | 488.46       |
| 97  | 480.20     | 474.97     | 624.26       | 617.46       |
| 98  | 657.98     | 655.85     | 855.37       | 852.61       |
| 99  | 1000.00    | 1000.00    | 1000.00      | 1000.00      |

[\*844]

TABLE A  
Selection Factors for Alternate Method of Determining  
Life Insurance Reserves and Deficiency Reserve Requirements

## Males

| Issue Ages | Policy Year |      |      |      |      |      |      |      |      |      |
|------------|-------------|------|------|------|------|------|------|------|------|------|
|            | 1           | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
| Under 20   | 100%        | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| 20 - 39    | 75          | 80   | 85   | 90   | 90   | 95   | 95   | 95   | 95   | 95   |
| 40 - 44    | 70          | 75   | 80   | 85   | 85   | 90   | 95   | 95   | 95   | 95   |
| 45 - 49    | 65          | 70   | 75   | 80   | 80   | 85   | 90   | 90   | 90   | 90   |
| 50 - 54    | 61          | 65   | 70   | 75   | 75   | 80   | 85   | 85   | 85   | 85   |
| 55 - 59    | 56          | 60   | 65   | 70   | 70   | 75   | 80   | 80   | 80   | 80   |
| 60 - 64    | 52          | 56   | 60   | 65   | 65   | 70   | 75   | 75   | 75   | 75   |
| 65 & over  | 48          | 52   | 55   | 60   | 60   | 65   | 70   | 70   | 70   | 70   |

## Females

| Issue Ages | Policy Year |   |   |   |   |   |   |   |   |    |
|------------|-------------|---|---|---|---|---|---|---|---|----|
|            | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

## Females

| Issue Ages | Policy Year |      |      |      |      |      |      |      |      |      |
|------------|-------------|------|------|------|------|------|------|------|------|------|
|            | 1           | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
| Under 20   | 100%        | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| 20 - 29    | 96          | 96   | 96   | 100  | 100  | 100  | 100  | 100  | 100  | 100  |
| 30 - 34    | 92          | 92   | 96   | 96   | 96   | 100  | 100  | 100  | 100  | 100  |
| 35 - 39    | 88          | 88   | 92   | 96   | 96   | 96   | 96   | 100  | 100  | 100  |
| 40 - 44    | 84          | 84   | 88   | 92   | 92   | 92   | 92   | 95   | 95   | 95   |
| 45 - 49    | 80          | 80   | 84   | 88   | 88   | 88   | 88   | 90   | 90   | 90   |
| 50 - 54    | 76          | 76   | 80   | 84   | 84   | 84   | 84   | 85   | 85   | 85   |
| 55 - 59    | 72          | 72   | 76   | 80   | 80   | 80   | 80   | 80   | 80   | 80   |
| 60 - 64    | 68          | 68   | 72   | 76   | 76   | 76   | 80   | 80   | 80   | 80   |
| 65 - 69    | 64          | 64   | 68   | 72   | 72   | 72   | 75   | 75   | 80   | 80   |
| 70 & over  | 60          | 60   | 64   | 68   | 68   | 72   | 75   | 75   | 80   | 80   |

Note: Selection factor equals 100% for policy years 11 and over.

## [\*845] APPENDIX B

REPORT OF THE TECHNICAL ADVISORY COMMITTEE ON DYNAMIC INTEREST AND RELATED MATTERS TO THE LIFE, ACCIDENT, AND HEALTH (C4) SUBCOMMITTEE, August 7, 1980

## INTRODUCTION

The technical advisory committee has examined the proposed revisions to the standard valuation and nonforfeiture laws, which include revisions of the sections defining maximum reserve and nonforfeiture value interest rates. Our review was conducted from the standpoint of professional actuaries rendering a professional opinion as to the merit of the proposed changes in law.

The review necessarily was subdivided into those matters on which we could render an opinion in a timely fashion in relation to the August, 1980 deadline for completing the recommended 1980 law changes, and those matters which should form part of a long-range study of the issues raised by this review.

Our study recognized that the ACLI proposal relating to "dynamic" interest rates is intended to conform with current valuation philosophy. It is not intended as a major reform of valuation practice; rather it is intended to make somewhat more routine those changes in reserve and nonforfeiture bases which would come about anyway due to the rapidly changing circumstances which seem likely to characterize this period.

Although the valuation and nonforfeiture laws now in effect have stood the test of time, the reviews made by the advisory committee, as well as by the other groups which have been and are studying reserve and nonforfeiture matters, suggest that a further long-range and intensive study should be conducted, possibly leading to a more fundamental and thorough-going revision. In view of this, the advisory committee is rendering a report on the immediate issues now, but we fully intend to take up the matters of long-range concern as soon as the current proposals have been satisfactorily disposed of.

Our charge includes the consideration of a dynamic interest rate approach to the establishment of maximum policy loan interest rates, a matter also being considered by the ACLI. A separate preliminary report is being submitted at this time, and we intend to provide a more comprehensive report on that subject within two months.

General review of the matter of reserves and nonforfeiture values should begin by examination of the considerations affecting the choice of bases and method, as these considerations may be viewed from the standpoints of policyholders, regulators, and the insurance companies.

The most important factor to consider in regard to the requirements for minimum reserves in the statutory annual statement is that of the solvency of the company. The reason for the states to require that life insurance companies hold reserves computed in accordance with minimum legal standards is that experience has shown that when companies accumulate and maintain assets that exceed the reserve and other liabilities, they are able to meet the obligations called for on both a current and a long term basis under their contracts. Policyholders acquire insurance policies with the expectation that the insurer will be able to meet its contractual obligations under them without question, whether such obligations must be met the next day or several decades in the future.

Regulators have the responsibility to see that the reserve standards are at an adequate level, in order to avoid failure and liquidation of insurance companies. As far as the companies are concerned, no company wants to conduct its affairs in a manner that exposes it to forced liquidation or insolvency. Also, solvent companies do not want to be subjected to possible assessments, under the guaranty laws of many states, to protect policyholders of a failing company.

In addition to the matter of solvency from the individual company point of view, regulators are interested in the matter of solvency from the standpoint of the insurance industry as a whole. Reserve standards should be determined at a level of adequacy sufficiently strong that the choice of standards would not be unduly liberal, in the event of general economic distress. In such a situation, the proposed actions should still be defensible.

The major consideration in regard to nonforfeiture is equity--that is, the fair treatment of the individual policyholder in relation to the general body of policyholders. The basis of the nonforfeiture law is that the terminating policyholder should receive a fair share of the accumulated assets of the company that may appropriately be attributed to the policyholder, and which are no longer needed to assure the fulfillment by the company of its obligations.

[\*846] Considerations of equity, therefore, historically have dictated the establishment of nonforfeiture values and benefits determined in accordance with a formula, based on appropriate mortality tables and interest rates, that specifies the minimum values to which the terminating policyholder is to be entitled. The general body of policyholders has an interest in seeing that these benefits meet reasonable standards of adequacy, but that unreasonably high benefits to terminating policyholders are not required.

Regulators are interested in assuring that both terminating and continuing policyholders are treated fairly on a basis which reasonably meets public expectations, but without jeopardizing company solvency.

Life insurance companies are also interested in providing benefits adequate to produce the greatest possible degree of satisfaction among continuing and terminating policyholders. On the other hand, any losses caused by terminating policyholders must be borne by continuing policyholders or stockholders.

While addressing the issues of solvency and equity, the valuation and nonforfeiture laws also have two important indirect effects. First of all, these laws have an indirect impact on the prices at which companies may offer various types of life insurance and annuity contracts. This is mostly an indirect effect, since the law does not per se regulate premium rates and dividend levels with respect to most kinds of contracts. Similarly, these laws have an effect on the growth of life insurance companies. It is generally recognized that growth is important for the success of a life insurance company if such growth is not excessive or erratic.

#### The Main Issue--Dynamic Interest Rates or Fixed Interest Rates

Historically, minimum valuation and nonforfeiture standards in the United States have been established by legislation, not by regulation or professional judgment. This is in sharp contrast to the situation in Great Britain, and, more recently, Canada. So long as the economic and social environment remained close to that contemplated during construction of the law, no great hardship was visited on either the life insurance industry or its clients. However, the pace of change in both our economic and social environments appears to have accelerated and a consensus that the valuation and nonforfeiture laws were out of step with reality generated two overhauls in those laws during the 70's. As we enter the 80's another round of change seems imperative now, with a strong likelihood of further changes in the 80's. Since under the existing process five or more years appear to be required to complete enactment in all the jurisdictions of any given set of changes, regulators, legislators and the industry are seeking a better process for responding to economic or social change.

As a further incentive to finding another means within the existing framework of keeping insurance laws compatible with the economic environment, there is the danger that the direction of change might reverse and leave the valuation standard too liberal. It is generally easier to defeat a proposed law than to enact a new one or repeal an existing one. With the general spread of guaranty laws, companies have a direct financial concern over the solvency of other companies. Thus, there exists a common motivation for industry and regulators to avoid excessively liberal valuation standards. In the absence of an acceptable automatic tightening device, liberalizations in the existing law carry additional risks.

Response to change could be introduced into valuation and nonforfeiture laws in at least three ways. One way might be to empower the valuation actuary to use whatever assumptions he deems prudent. A second route would be to vest judgmental power in the various insurance commissioners. While the required actuarial statement of opinion of the Association blank and the New York/California/NAIC Examiners Handbook definition of minimum reserves for guar-

anteed investment contracts are modest examples of these two approaches, neither or these routes is currently being considered as the principal method of setting valuation or nonforfeiture standards. The third alternative is the one under specific discussion: to construct a law which is internally responsive to changing economic and demographic conditions.

The ACLI's proposed dynamic law would not change the basic existing legal structure and tradition. As a result of accepting this practical constraint, the proposal neither coordinates valuation of assets with the valuation of liabilities nor expands the professional responsibility of the actuary signing the actuarial statement of opinion.

In limiting its scope the ACLI proposal continues the general past practice that the valuation standard in effect at issue of the contract governs throughout the duration of the contract. Thus, although the proposal might, under certain future assumptions, call for a change to stronger reserves for new business issued subsequently (i.e., a reduced valuation interest rate), this stronger basis would not generally apply to previously issued business. Moreover, only the interest rate would change automatically, although provision is made to allow changes in mortality standards if the individual insurance commissioner concurs with an NAIC recommendation. The ACLI proposal gives reasonable assurance of the solvency of the insurer, not absolute assurance that each and every generation of issues will be self-supporting.

[\*847] The pernicious effect on pricing of overly restrictive valuation laws is easily recognized with respect to contracts with a heavy investment element such as immediate annuities or many deferred annuities. Moreover, the emergency of Pension Benefit Guaranty Corporation "buy-outs" places capacity demands upon the industry which cannot be met without either unacceptable surplus strain or self-insurance by PBGC. Thus, there is growing industry need for a valuation law which is quickly responsive to changes in the investment climate.

It is the opinion of the advisory committee that any proposal should neither restrict nor inhibit pursuit of more fundamental solutions of the valuation-nonforfeiture questions and that such eventual solutions may well incorporate requirements for consideration of asset valuation, reliance on professional or regulatory judgment, and recommendations for revised surplus standards.

The advisory committee endorses the ACLI proposal with modifications described below. If enacted, it would be expected to be adequate enough to allow construction of a more comprehensive valuation system for both assets and liabilities. Should events occur which the proposal cannot cope with, it is expected that regulators and industry would move quickly, particularly in the vent of solvency threats, to amend the laws to respond to the new conditions, as would be done under present law. Thus, we will be better off with the dynamic law in place than with a series of ad hoc interest rate changes.

As a related recommendation, the advisory committee recommends against any static alternative. The committee believes that such an alternative would not be prudent and would not solve existing problems adequately.

#### Detailed Issues Considered and Recommended Changes to ACLI Exposure Draft

##### 1. Reference Rate Index

Having decided in favor of the dynamic interest concept, the advisory committee then turned to the choice of a reference rate index to serve as the basis for minimum valuation standard interest rates. We first considered whether the reference rate should be based on an external interest rate index or on actual rates of return on insurance company investments. The problem of the time needed to measure industry average yields on insurance company investments and, more importantly, the heavy weighting of industry average yields by the investment experience of large insurance companies, which might make them inappropriate for smaller companies, caused us to reject this alternative. We therefore concluded in favor of the ACLI proposal to base the reference rate on an external index.

When then turned to the choice of an external reference rate index. We noted that Moody's Seasoned Public Utility Bond Index, proposed for this purpose in the ACLI's exposure draft, is a widely published and historically stable interest rate index that has up to now displayed a high degree of linear correlation with yields on insurance company investments. However, we questioned the advisability of placing so much emphasis on one class of investment, and recognized that the historical relationship of public utility bond yields to over-all yields on investments held by insurance companies could change in the future, because of the cost impact on utility operations of a number of environmental factors. We therefore propose to replace the public utility bond index by the Composite Yield on Seasoned Corporate Bonds as published by Moody's Investors Services, Inc., which has all of the advantages of the Public Utility Bond Index, and which is more broadly based and therefore preferable.

## 2. Derivation of Interest Rates for Minimum Valuation Standards

### a. Life Insurance

We next turned to the formula and weighting factors used to derive minimum valuation standard interest rates for life insurance and other products from the values of the reference rate index. We were particularly concerned with the "downslide" investment risk--that of a future decline in interest rate--for life insurance because of the generally long durations that characterize this product. The possibility of reducing the investment risk through the immunization of assets and liabilities is fairly limited here.

We first considered the possible use of a split interest rate in the minimum valuation standard for life insurance. This arrangement would call for a higher interest rate assumption for early policy years, followed by a lower ultimate rate. It had been considered by the ACLI in its deliberations leading to the present exposure draft, and then rejected, primarily for practical reasons. With a downside interest scenario, use of a split interest rate affords a better matching in time of expected yields on investments with the interest needed to support the reserves. However, split interest rates could generate artificially high nonforfeiture values and reserves, including deficiency or additional minimum reserves, at certain durations. Also, the administrative feasibility of valuing liabilities on a split interest basis is a concern to many. On balance, we concluded in favor of the ACLI proposal not to use split interest rates in minimum valuation standards. However, more satisfactory techniques for such an approach may be developed in the future and will be considered as part of our long-range questions.

[\*848] We considered the present model laws' 1% differential in valuation and nonforfeiture interest rates as between single premium and annual premium life insurance. We concluded that the investment risks are sufficiently similar so that the present differential is too large to be justified and the complications of a smaller one could not be justified either.

We then considered whether there should be a "cap" on the dynamic valuation standard interest rate for life insurance--e.g., a maximum valuation interest rate of 5% (or no recognition, under the ACLI formula, of reference rates in excess of 9%). Concern was expressed by several members of the committee that very high current yields may be a less reliable indicator of long term future interest rates than more moderate levels of current yields. Some members of the committee favored a cap to provide additional conservatism for the downside interest rate risk. The committee decided to recommend a change in the ACLI formula for life insurance (and similar long-duration products) that would halve the weighting factor for that portion of the reference interest rate in excess of 9%.

With this change, we recommend the following formula for the valuation standard interest rate,  $I$ , for life insurance and similar long duration products:

where  $R[1]$  = lesser of  $R$  and  $.09$ ,

$R[2]$  = larger of  $R$  and  $.09$ .

In this formula,  $R$  is defined as the lesser of the 12-month average and the 36-month average of values of the reference rate index, both ending June 30, as in the ACLI exposure draft. For annual and single premium life insurance, we concur with the ACLI proposed weighting factor,  $W$ , of  $.35x$ , except that for greater consistency with other types of guarantees, we would not object to somewhat higher factors for shorter duration endowment and term insurance, as proposed by the (C4) Technical Subcommittee--i.e.,  $.45$  for durations 11-20 years and  $.50$  for 10 years or less.

### b. Immediate Annuities

Immediate annuities are characterized by much shorter average durations than life insurance, predictable incidence of contributions and payments and, in general, an absence of cash values. The nature of the guarantee permits a high degree of immunization of assets and liabilities.

We first reviewed the formula for deriving the valuation standard interest rate for immediate annuities and other shorter duration products, and concluded in favor of the ACLI proposed formula:

where  $R$  is defined as the 12-month average of values of the reference rate index ending June 30.

We then turned to the weighting factor,  $W$ , for immediate annuities. We agreed that the ACLI proposed weighting factor of  $.85$  may be appropriate for many types of immediate annuities, particularly where true immunization is really feasible. However, we recognize that there are product configurations included under the heading of immediate annuities (e.g., contracts where commutability is permitted) for which true immunization is less attainable and for which  $.85$

may be too high. Consequently, we recommend that the ACLI proposed factor of .85 for immediate annuities be replaced by a weighting factor of .80.

c. Deferred Annuities and Guaranteed Interest Contracts

The advisory committee agrees strongly with the ACLI position that minimum valuation standards for guaranteed interest contracts should be incorporated in the Standard Valuation Law. We also agree that there should be no distinction as to valuation standard interest rates between group products and individual products. However, we disagree in several respects with the ACLI classification of deferred annuities and guaranteed interest contracts for determining valuation interest rate standards.

First, the ACLI proposal would differentiate between deferred annuities and guaranteed interest contracts according to the presence or absence of permanent annuity purchase rate guarantees. We believe that this distinction does not reflect the underlying risks, and that inclusion of this distinction in the Standard Valuation Law could even encourage some companies to include or exclude rate guarantees for inappropriate reasons. We recommend that this basis for differentiation be eliminated.

[\*849] Second, the ACLI proposal would vary valuation standard interest rates for deferred annuities by age at issue. For some products that would fall under the heading of deferred annuities in the ACLI proposal, the risk are essentially unrelated to age at issue. Use of age at issue as a basis for different valuation standards for such products is, in our opinion, both inappropriate and unnecessary.

Third, the ACLI proposal specifies different valuation standards for guaranteed interest contracts according to whether payment at maturity is at book value or market value, but does not address the risk of voluntary surrender before maturity. We would change the ACLI proposal to differentiate between guaranteed interest contracts under which book value recapture by the policyholder is permitted at any time, and those under which book value recapture is permitted only at maturity or not at all.

Fourth, for guaranteed interest contracts under which the interest guarantee applies to future contributions, the ACLI proposal specifies the same valuation standard interest rate as for contracts where the guarantee applies only to current funds. We believe that there should be a difference here in the valuation standards.

To address these concerns, we would change the ACLI exposure draft to eliminate any distinction as to valuation standard interest rates between deferred annuities and guaranteed interest contracts as such. We would permit the insurance company to elect to value any deferred annuity with cash settlement option for guaranteed interest contract with cash settlement option on either an "issue year" basis (valuation standard interest rate for year applies to policies issued in year, or to interest guarantee made in year, or to annuities under which monthly benefits commenced in year--ACLI proposal would use this basis for all deferred annuities) or an "increase in fund" basis (valuation standard interest rate for year applies to aggregate change in fund from considerations in year, plus interest, less withdrawals in year--ACLI proposal would use this basis for all guaranteed interest contracts). The election would initially be made for each policy (or class of policies) at time of issue.

We would propose that deferred annuities with no cash settlement option or guaranteed interest contracts with no cash settlement option, frequently issued on single sum block purchases for terminating pension plans, be valued only on an "issue year" basis.

We would vary the valuation standard interest rate by duration, defined for deferred annuities with cash settlement option and guaranteed interest contracts with cash settlement option as the maximum period of the guarantee of an interest rate in excess of the valuation standard interest rate for longest duration life insurance.

For example, the reserve interest rate standard for longest duration life insurance for a given year of issue might be 4 1/2%. A deferred annuity might provide a guaranteed interest accumulation rate of 7 1/2% for the first 5 contract years, 5% for the next 5, and 4% thereafter. The "duration" for such a contract is 10, the number of years the contract guarantee exceeds the 4 1/2% longest duration life rate. If the 5% rate for the second 5 years is replaced by a rate of 4 1/2% or less, then the "duration" is defined as 5 years.

We would also propose different valuation standard interest rates for each of three guarantee bases, as follows:

Basis A: At any time policyholder may withdraw funds only (1) at market value or (2) in book value installments over five years or more or (3) as an immediate life annuity, or (4) no withdrawal permitted.



Basis B: At end of interest rate guarantee, book value may be paid in single sum or installments over less than five years. Before expiration of interest rate guarantee, policyholder may withdraw funds only at market value or in book value installments over five years or more (or no withdrawal permitted before expiration of the guarantee).

Basis C: Policyholder may withdraw funds before expiration of interest rate guarantee at book value in a single sum or installments over less than five years (including withdrawal of book value less a fixed surrender charge stipulation in the contract of x% of fund).

[\*850] Having settled on the classification of deferred annuities and guaranteed interest contracts for valuation standard interest rate purposes, the advisory committee next turned to the formulas and weighting factors to be used for these products. First we noted that a high degree of immunization of assets and liabilities is feasible for these products, particularly the shorter duration guarantees under guarantee basis A or B. There is very little downside risk for the shorter duration guarantees, increasing for longer durations. Under guarantee basis A, there is little upside risk. There is more upside risk under guarantee basis B, particularly at shorter durations, warranting lower valuation standard interest rates for shorter term basis B guarantees. The upside risk is greater under guarantee basis C, warranting still lower valuation interest rates. For the longest duration basis C guarantees, the investment risk is similar in degree to that for life insurance if the guarantee is valued on an issue year basis, so the life insurance formula and weighting factor should apply to those guarantees.

The process for deriving the valuation standard interest rate from values of the reference rate index for deferred annuities and guaranteed interest contracts involved two separate choices:

- a. whether to use the 12-month average or the lesser of the 36-month and 12-month average index rates
- b. whether or not to apply the 50% damping to the weighting factor as described above in 2a - Life Insurance

We recommend use of the process proposed for immediate annuities for all deferred annuities with cash settlement option and guaranteed interest contracts with cash settlement option valued on an increase in fund basis, for all such contracts with guarantee durations of 10 years or less valued on an issue year basis, and for all deferred annuities with no cash settlement option and guaranteed interest contracts with no cash settlement option. That process calls for the use of the 12-month average index and no damping of the weighting factor.

We also recommend use of the formula proposed for life insurance (with the damping of the weighting factor when the index is above 9% and use of the lesser of the 36-month and 12-month averages) for deferred annuities with cash settlement option and guaranteed interest contracts with cash settlement option with durations in excess of 10 years valued on an issue year basis.

As to the weighting factors for deferred annuities with cash settlement option and guaranteed interest contracts with cash settlement option, we propose the following set of factors which we believe to be consistent with the ACLI proposed weighting factors for the shortest duration products, but slightly more conservative than the ACLI proposal for longer duration products:

#### INTEREST GUARANTEE ON CONTRIBUTIONS MADE AFTER FIRST YEAR

| Duration *             | Issue Year Basis | Guarantee Basis |     |     |
|------------------------|------------------|-----------------|-----|-----|
|                        |                  | A               | B   | C   |
| 5 or less              |                  | .80             | .60 | .50 |
| 6-10                   |                  | .75             | .60 | .50 |
| 11-20                  |                  | .65             | .50 | .45 |
| more than 20           |                  | .45             | .35 | .35 |
| Increase in Fund Basis |                  |                 |     |     |
| Add to above:          |                  | .15             | .25 | .05 |

#### NO GUARANTEE ON FUTURE CONTRIBUTIONS

Interest guarantee on contributions  
made in first year only

## INTEREST GUARANTEE ON CONTRIBUTIONS MADE AFTER FIRST YEAR

| Duration *<br>(years)<br>(or not beyond next year for increase<br>in fund basis) - Add to above: | Issue Year Basis | Guarantee<br>Basis |     |     |
|--|------------------|--------------------|-----|-----|
|  |                  | A                  | B   | C   |
|  |                  | .05                | .05 | .05 |

\* Duration is defined for deferred annuities with cash settlement option and guarantee interest contracts with cash settlement option as the maximum period of the guarantee of an interest rate in excess of the valuation standard interest rate for longest duration life insurance.

[\*851] For example, for a guaranteed interest contract with a rate guarantee in excess of the life insurance rate for exactly 5 years, and with essentially book value guarantees at or before maturity, valued on the increase in fund basis with no guarantee on contributions after the end of the next calendar year, the weighting factor would be

- .50 (the first entry in column C)
- + .05 (the column C factor for increase in fund basis)
- + .05 (for a one-year limit to the guarantee on new funds)
- .60

It may be observed that, typically, individual deferred annuity contracts would fall under column C (issue year basis) and receive a .35 to .50 weighting factor.

We propose that the weighting factors shown under guarantee basis A for issue year basis, without the .05 addition for no guarantee on future contributions, apply to all deferred annuities without cash settlement option and all guaranteed interest contracts without cash settlement option, with duration measured from issue to normal retirement.

We propose that the immediate annuity weighting factor, .80, apply to any deferred with cash settlement option or guaranteed interest contract with cash settlement option after the payout of monthly benefits commences, with issue year (for determining the applicable reference interest rate value) deemed to be the year in which payment commences. This change in applicable reference rate would not apply to deferred annuities without cash settlement option or guaranteed interest contracts without cash settlement option.

We considered whether it would be appropriate to extend the immediate annuity rate to the valuation of life income settlements under life insurance policies. While that would be reasonably in accord with the current stage of the interest cycle, we concluded it would be appropriate at some other stages. We, therefore, recommend no specific provision in the law for valuing optional settlements until we have had a chance to examine the matter in detail.

We emphasize that, of the weighting factors proposed above, the larger ones assume conservatively designed interest guarantee products and a high degree of immunization of assets and liabilities. This is in addition to the fundamental assumption applicable to all weighting factors that the individual company's investment yield is sufficient to support the guarantees. The company's valuation actuary should ascertain whether these assumptions are met; if they are not met, the actuary should establish reserves on a more conservative basis or to comment appropriately in the actuarial opinion furnished in connection with the company's annual statement.

We also suggest that the (C4) Subcommittee ask the American Academy of Actuaries to consider principles of actuarial practice with regard to this part of the valuation actuary's opinion.

### 3. Testing of Proposed Valuation Standard Interest Rates

The advisory committee has reviewed extensively the procedures and models used by the ACLI in testing its proposed valuation interest rate standards, as outlined in the exposure draft, including the product assumptions and investment assumptions as well as the range of future interest paths used in the tests. We are satisfied generally with the procedures and assumptions used. In certain instances, we did not agree totally with the conclusions drawn from the tests that were implied in the ACLI proposed weighting factors, and for some products this led us to recommend lower weighting factors--i.e., for immediate annuities and for longer-duration guaranteed interest contracts. In other instances, we requested that additional models be run to test alternative scenarios. We have also requested that additional tests be made as part of our long-range assignment regarding minimum surplus requirements.

#### 4. Nonforfeiture Interest Rates

We agree in general with the ACLI proposal for a life insurance nonforfeiture interest rate standard that moves with the related dynamic valuation interest rate. However, we believe that the difference between the valuation interest rate and nonforfeiture interest rate standards should avoid the difficulties created under the ACLI rounding rules. We recommend that the nonforfeiture interest rate standard be calculated as 125% of the rounded maximum life insurance valuation interest rate and then itself be rounded (subject to the rules and lag options in the ACLI exposure draft).

#### [\*852] 5. Expense Loadings

We support the expense loading proposals in the ACLI exposure draft. In particular, we strongly agree with the ACLI position that nonforfeiture standards should not be different for mass merchandized products than for products sold through other distribution systems, since the decrease in excess initial expenses will tend to be offset by increased early duration mortality costs.

#### 6. Mortality

We support the recommendation for a new ordinary life valuation mortality basis in the ACLI exposure draft, recognizing that the proposed basis may not be appropriate for all products and that additional tables may be needed for those products. We also recognize the present need for new annuity valuation mortality tables, even if based on projections of the present (1971) valuation mortality tables. We particularly support the provision in the ACLI exposure draft that would permit future changes in valuation standard mortality tables without need for additional legislation.

#### 7. Other Nonforfeiture Changes

We also endorse the Unruh Committee recommendations reflected in the ACLI proposal, which provide for much needed updating of the Standard Nonforfeiture Law that is now over thirty years old.

#### 8. Dynamic Segmentation

Finally, the advisory committee has discussed the proposal for the extension of the Commissioners Annuity Reserve Valuation Method to the valuation of life insurance, which is now under consideration within the ACLI and by the (C4) Technical Subcommittee. We have not made a detailed study of these matters because to do so within the current time frame would have interfered with our other studies. Therefore, we are not prepared to make any recommendation at this time. This will be one of our early long-range assignments.

#### Long-Term Studies to be Undertaken by the Committee.

The committee proposes to conduct long-range research into the following areas as part of a broad reexamination of the regulation of valuation and nonforfeiture benefits:

1. the appropriate matching of assets and liabilities
2. The appropriate level of surplus and its relation to liabilities
3. related questions in the areas of mortality, morbidity and expenses

In doing this work, we expect to coordinate our studies with the Society of Actuaries and the American Academy of Actuaries Committees with interest in these matters.

The future may bring interest rates closer to the average of the past hundred years; also it may bring a long period in which very high rates call into question the entire product design of the life insurance industry. Study of such a scenario or scenarios is an important part of the long term program.

The technical advisory committee will approach the valuation problem broadly, from the standpoint of what is required to assure industry viability, given current and future products and economic and political circumstances.

#### CONCLUSION

On the basis of the current study which we have concluded, we are recommending a number of detailed changes to the exposure draft for the Standard Valuation and Nonforfeiture Laws that we have been considering. We believe that our proposal contains sufficient conservatism in the weightings used for the different products, in the use of a 3-year average rate where appropriate, and in several other ways as described in this report. On balance, it is more conserva-

tive than the ACLI proposal. If your subcommittee agrees, the detailed changes will be incorporated into a new draft of the laws.

We further propose to undertake the long range studies along the lines indicated above. In doing this, we intend to keep the subcommittee informed of our progress, and expect to consult with you from time to time as questions arise.

**[\*853]** We thank the subcommittee for its interest in our opinions, and appreciate the opportunity that you have afforded us to review the proposed laws and comment upon them.

We shall be ahppy to have representatives meet with with you to discuss the matters covered in this report, when it is next discussed at the Milwaukee (C4) Subcommittee meeting, or on other occasions at the convenience of the subcommittee.

The advisory committee wishes to thank William A. White, FSA, MAAA, who acted in the role of liaison with the (C4) Technical Subcommittee as well as the following individuals who, while not members of the committee, have attended some or all of our meetings and made helpful contributions.

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