

**1989 VALUATION ACTUARY
SYMPOSIUM PROCEEDINGS**

REGULATOR PANEL - CANADIAN

The following is meant as a summary of the presentations and discussions occurring at the "Regulator Panel" held on September 14, 1989, at the Valuation Actuary Symposium in Philadelphia.

The session started by Mr. Muirhead-Gould's preliminary comments and introduction of the panelists.

Then Mr. Andre L'Esperance, Chief of the Actuarial Section, Life Division of the Office of the Superintendent of Financial Institutions (OSFI), summarized the highlights of the first report produced by OSFI regarding the reporting and valuation practices used by the companies for the provision for AIDS. Such a report is available upon request at OSFI's offices. Slides 1 through 7 are copies of the overheads used by Mr. L'Esperance for that presentation.

Mr. L'Esperance then summarized the preliminary findings from the analysis of the special reports filed by companies regarding the impact of the proposed Policy Premium Method

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(PPM) as the new valuation standard. Slides 8 through 15 are copies of the overheads used by Mr. L'Esperance for his presentation.

Mr. L'Esperance's presentation of the preliminary statistical results about the Policy Premium Method was followed by observations and comments from Mr. Donald McIsaac, Director General of the Life Division of OSFI.

General Background

Mr. McIsaac mentioned that OSFI relied in the past on the quinquennial exams supplemented by the review of the annual valuation actuary reports. OSFI has found that such "quins" have become less relevant because of increased complexity in the valuation process, the wide discretion in the choice of the assumptions and the existing backlog where a stale-dated "quin" is of little help. OSFI's reliance on a desk review of valuation actuary reports is not effective and only serves to identify the problems "flagged" by the actuary; therefore the valuation actuary reports need more intense study since reliance on monitoring has been done in comparison to the peer group. Auditors and company management depend upon OSFI's scrutiny. Therefore OSFI had to revise its approach and apply its resources to a real-time monitoring using the valuation actuary reports as a tool while establishing face-to-face contact with the valuation actuaries. OSFI should have a look at the actuary's working papers and the examination should be completed in a more

timely fashion than has been the case for quinquennial examinations: such conclusions would develop a need for more actuaries in OSFI. Accordingly OSFI retained the services of Mr. Bill Wilson as a consultant, whose mandate was to focus on the aforementioned activities. Mr. Wilson's recommendations have been given to OSFI, one of which is the creation of new positions.

At this point, Mr. McIsaac introduced the new "Director of the Actuarial Section," Mr. Narinda Handa, who will be located in the Toronto Office. Valuation actuaries can expect to see him and his colleagues in the not so distant future although it is likely to take some time to put the reorganization fully into place.

Comments Regarding the Special Report

Reports have been scrutinized (which means that the work related to quinquennial exams has been set aside). Databases have been created, and the reports have been analyzed through a written review. A fair number of them have gone through a second reading stage where all reports have been scrutinized by at least one qualified Fellow. The review of the reports is not yet completed since a few more reports are expected to come; submissions so far have not really set aside all our fears, and therefore, OSFI is not comfortable at this point to make a final recommendation. OSFI feels that it needs help in dealing with the findings, more specifically for the sensitivity issue where a particular problem appears

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to exist. The results of OSFI's survey indicate no great reserve change when expressed as a percentage of liabilities, but the large increase in appropriated surplus is cause for concern in light of the direction of the discussions relating to capital adequacy, or the Minimum Continuing Capital Surplus Requirement (MCCSR).

OSFI is somewhat disturbed by the disregard for CIA valuation standards as seems to be reflected in the statistics on compliance. The front-ending of profits issue is probably not going to be a concern although it is unclear how OSFI should interpret the selection of assumptions since it appears that some actuaries were able to choose assumptions in such a manner as to predict whether or not products will show front-ending of profits.

Participating insurance is a domain which requires work; there appears to be some confusion about the appropriate valuation standard; sharp reductions in reserves were observed for a number of companies submitting participating insurance data in their special reports. OSFI does not see how GAAP can be successfully implemented without standards or controls in this area. It may well be OSFI should retain a limit on deferred acquisition expenses for participating insurance business.

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The results of the sensitivity study are alarming: some testing showed PPM reserves to be 300% more sensitive to changes in assumptions than the current method; a look at the constraints regarding the selection of assumptions is required.

Looking to the future it seems evident that OSFI will authorize the new method and make it work for all lines. However, there are a number of remaining issues to be resolved if the implementation of GAAP is to be successful for all the business lines. There is a clear need for valuation standards for participating insurance. At the same time a formal approval process has to be established to ensure that OSFI accepts valuation technique papers as standards for use by all actuaries. OSFI may have to be prepared to set down criteria for some important issues: one example is the provision for future expenses. The changes in assumptions will need more disclosure in future valuation actuary reports, and the Superintendent and his staff may question actuaries more aggressively on their choice of assumptions. Perhaps OSFI will need increased consultation with the Institute's Review Committee.

SLIDE 1

AIDS - A REPORT ON COMPANY VALUATION PRACTICES
FOR 1988 YEAR-END

INTRODUCTION

SCOPE OF ANALYSIS

REPORTING FOR AIDS:

- GENERAL
- EXPLICIT
- IMPLICIT

1988 AIDS EXPLICIT PROVISIONS:

- PER AMOUNT IN FORCE
- AS A PERCENTAGE OF CAPITAL AND
UNAPPROPRIATED SURPLUS
- AS A PERCENTAGE OF LIABILITIES

SUPPLEMENTAL BREAKDOWNS

APPENDICES

SLIDE 2

1988 AIDS PROVISION

SCOPE OF ANALYSIS

FEDERALLY REGISTERED LIFE INSURANCE COMPANIES

NUMBER OF VALUATION ACTUARY'S REPORTS REVIEWED: 150

REPORTED ON THE PROVISIONING FOR AIDS:

CANADIAN COMPANIES: 56

BRITISH COMPANIES: 10

FOREIGN COMPANIES: 74

TOTAL: 140

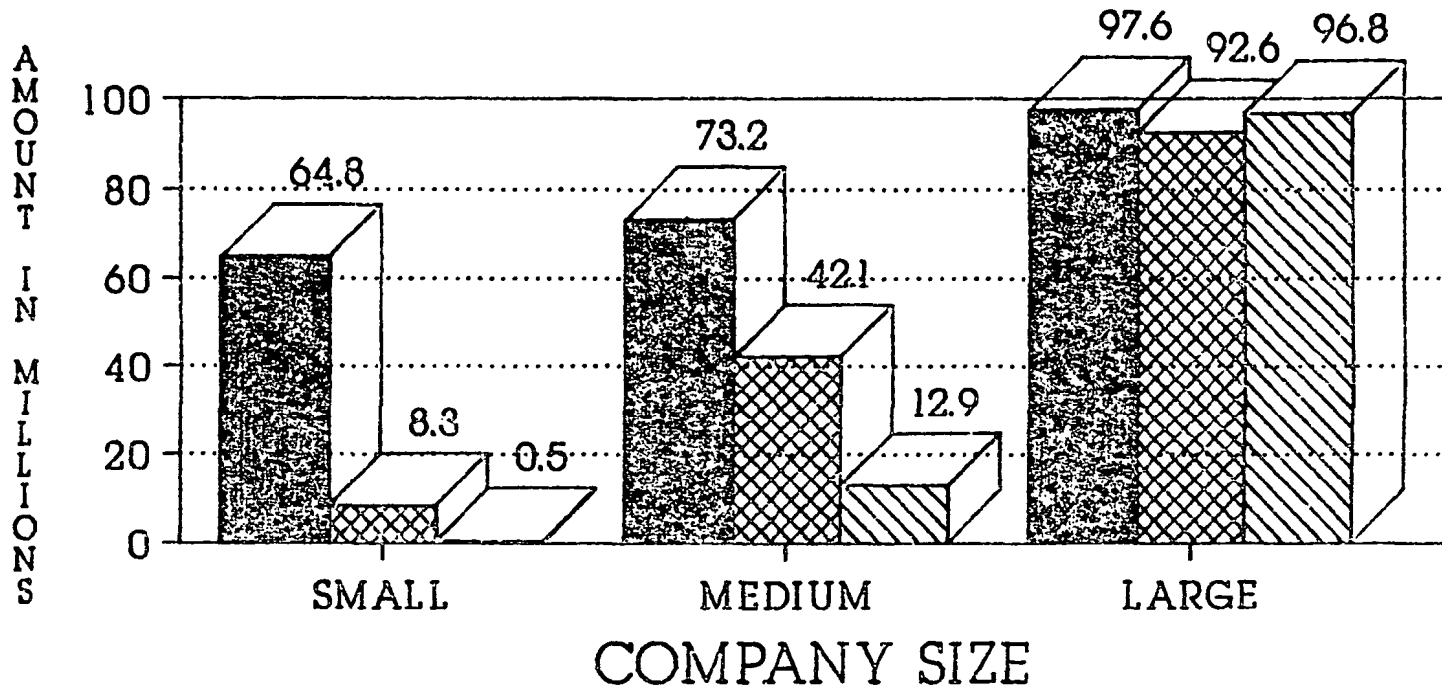
SLIDE 3

ESTIMATED PROVISION FOR AIDS
SET FOR 1988 YEAR-END PURPOSES
BY ALL FEDERALLY REGISTERED COMPANIES

| <u>TYPE OF PROVISION</u> | <u>AMOUNT (\$MILLION)</u> |
|--------------------------|---------------------------|
| EXPLICIT | \$379 |
| IDENTIFIED IMPLICIT | \$110 |
| OTHER | <u>\$ 61</u> |
| TOTAL | \$550 |

1988 PROVISION AMOUNTS FOR AIDS FEDERALLY REGISTERED LIFE INSURANCE CO.

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PROVISION REPORTING

- RESERVE
- MARGIN OFFSETS
- APPROPRIATED SURPLUS

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CLASSIFICATION OF COMPANIES
FOR PURPOSES OF THE REPORT

CANADIAN COMPANIES = ACCORDING TO TOTAL ASSETS

BRITISH AND FOREIGN COMPANIES = ACCORDING TO CANADIAN
LIABILITIES

"SMALL" = < \$200 MILLION

"MEDIUM" = \geq \$200 MILLION AND \leq \$4 BILLION

"LARGE" = > \$ 4 BILLION

SLIDE 6

1988 AIDS EXPLICIT PROVISIONS

FEDERALLY REGISTERED LIFE INSURANCE COMPANIES

PROVISION PER \$1,000 INDIVIDUAL
LIFE INSURANCE IN FORCE

AMOUNT RANGE (\$)

| | |
|--------------------|-------------|
| CANADIAN COMPANIES | 0 - 14.34 |
| BRITISH COMPANIES | 0 - 1.22 |
| FOREIGN COMPANIES | 0.08 - 7.97 |

PROVISION AS % OF CAPITAL
AND UNAPPROPRIATED SURPLUS

% RANGE

| | |
|--------------------|--------------|
| CANADIAN COMPANIES | 0.16 - 335.0 |
| BRITISH COMPANIES | 0.13 - 19.8 |
| FOREIGN COMPANIES | 0.06 - 78.0 |

PROVISION AS % OF LIABILITIES

% RANGE

| | |
|--------------------|----------|
| CANADIAN COMPANIES | 0 - 21.0 |
| BRITISH COMPANIES | 0 - 44.0 |
| FOREIGN COMPANIES | 0 - 35.0 |

SLIDE 7

AIDS PROVISIONS

SUPPLEMENTAL BREAKDOWNS

| | <u>NUMBER REPORTING</u> | <u>PRODUCT</u> | <u>PAR/ NON-PAR</u> | <u>LIFE/A&S</u> |
|--------------------|-----------------------------|----------------|-------------------------|---------------------|
| CANADIAN COMPANIES | 56 | 17 | 20 | 8 |
| BRITISH COMPANIES | 83 | 4 | 3 | 2 |
| FOREIGN COMPANIES | <u>11</u> | <u>11</u> | <u>1</u> | <u>0</u> |
| TOTAL | 150 | 32 | 24 | 10 |

SLIDE 8

METHODOLOGY

- Release of a memorandum (including specifications) requesting a special report on PPM by June 30, 1989
- Acknowledgement of receipt to each company filing a special report
- Build-up of several databases to gather and treat the information contained in the special reports
- Verification and validation of the keyed-in information
- Analysis of the reports:
 - a) Reading and analysis (review) of each report by the Actuarial Section, Life Division
 - b) Independent reading and analysis by a Fellow
 - c) Reading and review of (a) and (b) by a Fellow
 - d) Addressing unanswered questions on some special reports
- Preparation of a final report containing the OSFI conclusions and recommendations to the Minister based on:
 - a) Special reports
 - b) Sensitivity project

SLIDE 9

POLICY PREMIUM METHOD
JUNE 30 SPECIAL REPORTS
COMPLIANCE WITH CIA VALUATION STANDARDS

NUMBER OF VALUATION ACTUARY REPORTS: 58

| <u>VALUATION TECHNIQUE PAPER (CIA)</u> | <u>DID COMPLY</u> | <u>DID NOT COMPLY</u> | <u>NOT APPLICABLE</u> | <u>NOT DISCUSSED</u> |
|---|-----------------------|---------------------------|---------------------------|--------------------------|
| 1. LAPSE-SUPPORTED PRODUCTS | 31 (70%) | 5 | 14 | 8 |
| 2. INDIVIDUAL RENEWABLE TERM INSURANCE | 41 (79%) | 4 | 6 | 7 |
| 3. FUTURE CASH FLOW INVESTMENT ASSUMPTION FOR ORDINARY LIFE | 34 (63%) | 12 | 4 | 8 |
| 4. REINSURED POLICIES | 21 (43%) | 16 | 9 | 12 |
| 5. ADJUSTABLE PRODUCTS | 17 (40%) | 14 | 15 | 12 |
| 6. EXPECTED MORTALITY EXPERIENCE FOR INDIVIDUAL INSURANCE | 45 (85%) | 4 | 5 | 4 |

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POLICY PREMIUM METHOD
 JUNE 30 SPECIAL REPORTS
 PROVISION FOR ADVERSE DEVIATION (PAD)

| <u>TREATMENT OF PAD</u> | <u>ACTUARIAL ASSUMPTIONS</u> | | | |
|--------------------------------|------------------------------|------------------|--------------|-----------------|
| | <u>INTEREST</u> | <u>MORTALITY</u> | <u>LAPSE</u> | <u>EXPENSES</u> |
| EXPLICIT PAD WITH DETAILS | 24 | 40 | 24 | 27 |
| IMPLICIT MARGINS HELD | 3 | 4 | 7 | 3 |
| GENERAL STATEMENT ABOUT PAD | 9 | 3 | 7 | 6 |
| NOT APPLICABLE | 4 | 4 | 4 | 4 |
| NO DISCUSSION | 18 (13) | 7 (2) | 19 (14) | 18 (13) |
| TOTALS | 58 | 58 | 58 | 58 |

NOTE: 5 COMPANIES OMITTED TO DISCUSS ANY PROVISION FOR ADVERSE DEVIATIONS.

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POLICY PREMIUM METHOD
JUNE 30 SPECIAL REPORTS

STATUS REPORT

| <u>COMPANIES</u> | <u>TOTAL NUMBER</u> | <u>NUMBER OF REPORTS RECEIVED</u> | <u>NUMBER STATING NO REPORT WILL BE FILED</u> |
|------------------|-------------------------|---|---|
| CANADIAN | 57 | 43 | 3 |
| BRITISH | 11* | 4 | 1 |
| FOREIGN | 82* | 11 | 12 |
| TOTALS | 150 | 58 | 16 |

- * Of the 19 British and foreign companies for which we requested the special reports, 13 have been received and 3 companies indicated that they would not submit a report.

POLICY PREMIUM METHOD
 JUNE 30 SPECIAL REPORTS
 FRONT-ENDING OF PROFITS

| NO. OF COMPANIES SPECIAL REPORTS | TREATMENT OF FRONT ENDING | | |
|---|--|--|---|
| | DISCUSSED | NOT DISCUSSED | |
| | | JUSTIFIED | NO MENTION |
| 58 | 39 | 13 | 6 |
| NO. OF COMPANIES WHERE DISCUSSION OF FRONT-ENDING OF PROFITS | NO. OF COMPANIES SHOWING SOME FRONT-ENDING OF PROFITS | NO. OF PRODUCTS DISCUSSED FOR FRONT-ENDING OF PROFITS | NO. OF PRODUCTS SHOWING SOME FRONT-ENDING OF PROFITS |
| 39 | 16 | 122 | 29 |
| TYPE OF PRODUCTS | NUMBER OF PRODUCTS | | |
| | DISCUSSED | SHOWING SOME FRONT-ENDING OF PROFITS | NOT SHOWING FRONT-ENDING OF PROFITS |
| PERMANENT | 43 | 12 | 31 |
| TERM | 67 | 16 | 51 |
| LAPSE-SUPPPORTED | 12 | 1 | 11 |
| TOTAL | 122 | 29 | 93 |

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**POLICY PREMIUM METHOD
JUNE 30 SPECIAL REPORTS
TOTAL IMPACT ON INDIVIDUAL LIFE INSURANCE**

PARTICIPATING INSURANCE

| COMPANY SIZE | # | <u>RESERVE LIABILITIES</u> | | | <u>SURPLUS APPROPRIATIONS</u> | | | <u>TOTAL</u> | | |
|-----------------|----|-------------------------------|----------------------------|---------|-------------------------------|----------------------------|---------|-------------------------------|----------------------------|---------|
| | | CURRENT STANDARD AMOUNT | <u>REDUCTION</u> AMOUNT | PERCENT | CURRENT STANDARD AMOUNT | <u>REDUCTION</u> AMOUNT | PERCENT | CURRENT STANDARD AMOUNT | <u>REDUCTION</u> AMOUNT | PERCENT |
| SMALL | 10 | 679,363 | 52,255 | 7.7 | 18,811 | (34,389) | (182.8) | 698,174 | 17,866 | 2.6 |
| MEDIUM | 16 | 2,827,607 | 318,093 | 11.2 | 68,238 | (197,118) | (288.9) | 2,895,845 | 120,975 | 4.2 |
| LARGE | 9 | 17,942,761 | 961,203 | 5.4 | 275,969 | (652,114) | (236.3) | 18,218,730 | 309,089 | 1.7 |
| TOTAL | 35 | 21,449,731 | 1,331,551 | 6.2 | 363,018 | (883,621) | (243.4) | 21,812,749 | 447,930 | 2.1 |

POLICY PREMIUM METHOD
 JUNE 30 SPECIAL REPORTS
 TOTAL IMPACT ON INDIVIDUAL LIFE INSURANCE

NON-PARTICIPATING INSURANCE

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| COMPANY SIZE | # | <u>RESERVE LIABILITIES</u> | | | <u>SURPLUS APPROPRIATIONS</u> | | | <u>TOTAL</u> | | |
|-----------------------------|----|-------------------------------|---------------------|---------|-------------------------------|---------------------|---------|-------------------------------|---------------------|---------|
| | | CURRENT STANDARD AMOUNT | REDUCTION AMOUNT | PERCENT | CURRENT STANDARD AMOUNT | REDUCTION AMOUNT | PERCENT | CURRENT STANDARD AMOUNT | REDUCTION AMOUNT | PERCENT |
| SMALL | 20 | 388,387 | 142,481 | 36.7 | 83,135 | (70,585) | (84.9) | 471,522 | 71,896 | 15.3 |
| MEDIUM | 11 | 802,387 | 88,795 | 11.1 | 65,171 | (45,134) | (69.3) | 867,558 | 43,661 | 5.0 |
| LARGE | 11 | 3,233,685 | 118,858 | 3.7 | 430,294 | (129,171) | (30.0) | 3,663,979 | (10,313) | (0.3) |
| TOTALS | 42 | 4,424,459 | 350,134 | 7.9 | 578,600 | (244,890) | (42.3) | 5,003,059 | 105,244 | 2.1 |
| TOTAL PAR AND NON-PAR | | 25,874,190 | 1,681,685 | 6.5 | 941,618 | (1,128,511) | (119.8) | 26,815,808 | 533,174 | 2.1 |

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POLICY PREMIUM METHOD
 JUNE 30 SPECIAL REPORTS
 IMPACT ON EACH LINE OF BUSINESS

| LINE OF BUSINESS | # | RESERVE LIABILITIES | | | SURPLUS APPROPRIATIONS | | | TOTAL | | |
|-----------------------|----|-------------------------|------------------|---------|-------------------------|------------------|---------|-------------------------|------------------|---------|
| | | CURRENT STANDARD AMOUNT | REDUCTION AMOUNT | PERCENT | CURRENT STANDARD AMOUNT | REDUCTION AMOUNT | PERCENT | CURRENT STANDARD AMOUNT | REDUCTION AMOUNT | PERCENT |
| ORDINARY LIFE-PAR | 35 | 21,449,731 | 1,331,551 | 6.2 | 363,018 | (883,621) | (243.4) | 21,812,749 | 447,930 | 2.1 |
| ORDINARY LIFE NON-PAR | 42 | 4,424,459 | 350,134 | 7.9 | 578,600 | (244,890) | (42.3) | 5,003,059 | 105,244 | 2.1 |
| GROUP LIFE PAR | 4 | 477,087 | 11,348 | 2.4 | 1,775 | (5,242) | (295.4) | 478,862 | 6,106 | 1.3 |
| GROUP LIFE NON-PAR | 3 | 77,444 | 6,719 | 8.7 | 1,673 | (1,065) | (63.7) | 69,117 | 5,654 | 7.1 |
| INDIV. A & S | 6 | 104,699 | 23,806 | 22.8 | 16,127 | (18,561) | (115.1) | 120,826 | 5,245 | 4.3 |
| GROUP A & S | 4 | 432,760 | 11,924 | 2.8 | 3,972 | (8,166) | (205.6) | 436,732 | 3,758 | 0.9 |
| TOTALS | | 26,966,180 | 1,735,482 | 6.4 | 965,165 | (1,161,545) | (120.3) | 27,931,345 | 573,937 | 2.1 |