UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Experience Study and
Actuarial Valuation
as of June 30, 1979

December 10, 1979

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SUPPLEMENTAL BENEFITS PLAN

Experience Study and Actuarial Valuation as of June 30, 1979

INTRODUCTION

Chapter 356 of the Minnesota Statutes, as in effect on June 30, 1979, requires that an actuarial valuation be carried out annually and that an experience study be carried out every fourth year. This report contains the results of the actuarial valuation and experience study of the University of Minnesota Supplemental Benefits Plan that was carried out as of June 30, 1979 in compliance with this requirement. The report is divided into two principal parts as follows:

A. Part I - Experience Study

This part consists of an analysis of experience under the Supplemental Plan during the period since the last investigation (June 30, 1975) with respect to investment earnings, increases in salary, increases in offsetting Social Security Benefits, and rates of separation for active participants as well as mortality rates among annuitants. This analysis permits the actuary to develop appropriate assumptions with respect to each of these contingencies for use in the actuarial valuation. The last such experience study was carried out by Minnesota Mutual Life Insurance Company as of June 30, 1975.

B. Part II - Actuarial Valuation

This part consists of computing the actuarial assets and liabilities of the plan on the basis of the actuarial assumptions developed during the course of the experience study together with the 5% interest rate and 3½% salary scale assumptions specified in Chapter 356 of the Statutes.

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We certify that the experience study and actuarial valuation of the University of Minnesota Supplemental Benefits Plan performed as of June 30, 1979 was carried out on the basis of generally accepted actuarial principles and in accordance with the provisions of Chapter 356 of the Minnesota Statutes.

If in connection with this report, any further investigations are indicated, we will be happy to proceed as directed.

Respectfully submitted,

THE WYATT COMPANY

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Minneapolis/St. Paul
December 10, 1979
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PART I

PART I

EXPERIENCE STUDY OF
THE UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN
AS OF JUNE 30, 1979

PURPOSE

An actuarial valuation is basically a method for prescribing consistent annual contributions in order to fund future benefits payable under a retirement program. In order to determine applicable annual contribution amounts several assumptions affecting the level of projected benefits which will become payable under the plan are made. The extent to which any valuation method can accurately prescribe annual contribution requirements depends heavily on whether or not the actuarial assumptions, in the aggregate, reflect actual experience under the plan.

The purpose of an experience study is to compare "expected experience" predicted by the actuarial assumptions, with "actual experience" over a number of years, with an eye toward revising assumptions which prove inconsistent with actual experience and in the aggregate would produce material cost deviations. This study consists of such a comparison and analysis with regard to the following:

1. Investment earnings
2. Salary increases
3. Increases in Social Security Benefits
4. Post-retirement mortality
5. Separation from service on account of:
   - Withdrawal
   - Death
   - Retirement

EXPERIENCE DATA

We have examined the experience of the participants of the plan during the three year period ending June 30, 1979. The data utilized was collected and maintained on an annual basis for purposes of performing the required annual June 30, actuarial valuations. All data was submitted by the Director of Insurance and Retirement at the University and by Minnesota Mutual Life Insurance Company.

Chapter 356 of the Minnesota Statutes requires that experience for the four year period ending June 30, 1979 be analyzed. However, having been initially appointed as actuary for the 1976 valuations, The Wyatt Company has maintained data for the three year period from June 30, 1976 through June 30, 1979. Noting that experience over the past three years has been fairly consistent, and also noting that a compilation of June 30, 1975 data would be very difficult at this time, we feel that an experience analysis covering the period of June 30, 1976 through June 30, 1979 is appropriate. This approach has been discussed in detail with the Director of Insurance and Retirement at the University, and with Franklin Smith, the reviewing actuary for the Legislative Commission on Pensions and Retirement.

In the following sections we analyze the appropriateness of the actuarial assumptions with respect to effects on the overall cost of the plan. Recommendations for any changes are deferred to the end of the experience study.

SUMMARY OF RESULTS - INTEREST RATE, SALARY SCALE, SOCIAL SECURITY BENEFITS

Interest Rate

Chapter 356 of the Minnesota Statutes requires that the actuarial valuation be performed on the basis of an assumed interest rate of 5%. Interest earned in excess of that assumed reduces the overall cash outlay to fund the plan two-fold. First, interest in excess of that assumed will provide extra investment dollars to fund benefits. Second, to the extent that interest credited to a participant's Faculty Retirement Plan (FRP) accounts is in excess of 5%, benefits from the supplemental plan will decrease. (As discussed in valuation report, benefits payable from the supplemental plan are directly offset by FRP benefits).

Funding of supplemental benefits (in addition to meeting current plan disbursements out of general funds) commenced during the 1976/1977 plan year. During the past three years, the fund has earned approximately 9% per annum. In addition individual FRP account balances (with variable annuities valued as fixed) have earned between 7% and 8% per year.

Salary Scale

Chapter 356 requires that the actuarial valuation be performed on the basis of assumed future salary increases of 3½% per year. Over the past three years, average salaries have increased as follows:

AVERAGE ANNUAL SALARY INCREASES

Valuation Date	Average Salary	% Increase Over Prior Year
June 30, 1976	$27,143	--
June 30, 1977	28,713	5.8%
June 30, 1978	30,488	6.2%
June 30, 1979	32,768	7.5%

In fact, these increases should be analyzed for individuals appearing in each of the four respective valuations. However, since we have displayed these increases on the basis of total payroll covered on each valuation date these increases are slightly on the low side due to the impact of turnover.

Increases in salary in excess of those assumed tend to increase projected benefits and overall costs, thus balancing, to some extent, the cost effect of excess earnings discussed previously. Since the supplemental plan has a maximum on earnings which is considered in determining benefits for all active participants, this balancing effect is somewhat reduced. In addition, higher salary increases also result in increased projections of the offsetting Faculty Retirement

Plan and Social Security benefits. Consequently, we expect that, in the long run, the excess earnings on accumulating funds and FRP account balances, and future increases in offsetting Social Security benefits will more than offset increases in salary which are in excess of those assumed.

Social Security Benefits

Offsetting Social Security benefits are projected assuming no increases due to wage base (beyond those already legislated - $29,700 in 1981) or cost of living increases. To the extent that future Social Security does undergo increases due to changes in the wage base (in excess of $29,700) and the cost of living index, benefits and corresponding costs of the post June 30, 1977 Supplemental Plan formula will be reduced. It should also be noted that actuarial gains due to increases in Social Security benefits have occurred in each of the past three actuarial valuations.

Summary

Assumptions regarding interest rate, future salary increases and increases in Social Security benefits are directly related in that they reflect the basic assumption or approach regarding ensuing economic conditions. It could be reasonably expected that over the long run, actual experience concerning interest, salary increases and Social Security increases will parallel each other increasing and decreasing in tandem during extended economic cycles. Generally, because of the offsetting effects of these assumptions, it is reasonable to expect that Chapter 356 requirements would remain fairly stable, ignoring for the moment the decreasing nature of the "closed group" in question.

However, because the effects of salary increases on costs are reduced due to the aforementioned maximum on recognized earnings and due to associated increases in offsetting FRP and Social Security benefits, we feel that the prescribed assumptions concerning salary scale, Social Security and investment earnings remain on the conservative side.

SUMMARY OF RESULTS - ANNUITANT MORTALITY

The following schedule shows a comparison of the deaths which actually occurred among participants retired for age or service and the number expected by the mortality table currently in use which is referred to as the Progressive Annuity Mortality Table with ages set back 0.6 years for males and 4.6 years for females. The experience is based on approximately 370 annuitants each year and includes retirees, people receiving widows and spouses benefits, and early retirees with deferred payments.

ANNUITANT MORTALITY

	Actual Deaths	Deaths Expected by Progressive Annuity Mortality Table (-.6, - 4.6)
Male	41	42
Female	13	20
Total	54	62

Even though we have experienced fewer deaths than expected, in that the Progressive Annuity Mortality Table (PAMT) is a conservative annuitant mortality basis, we feel that the PAMT remains appropriate.

SUMMARY OF RESULTS - RATES OF SEPARATION FROM ACTIVE SERVICE

The paragraphs below summarize the expected experience versus actual experience pertaining to rates of separation from active service. All comparisons are based on the valuation data reflecting between 713 active participants (on June 30, 1976) and 641 active participants (on June 30, 1979).

Withdrawal (other than death or retirement)

Reflecting the fact that participants in the supplemental plan are a closed group of long term faculty members employed at the University since prior to 1963, no withdrawal (other than for death or retirement) is assumed. Comparison of actual to expected experience over the past three years is illustrated by the following schedule:

WITHDRAWAL PRIOR TO RETIREMENT (OTHER THAN DEATH OR RETIREMENT)

	Expected Terminations	Actual Terminations
Male	0	15
Female	0	5
Total	0	20

To the extent that actual withdrawal from service prior to retirement occurs, overall costs will be slightly lower than those set forth in the actuarial valuations.

Mortality

The following schedule shows a comparison of deaths which actually occurred among active participants and the number expected by the Progressive Annuity Mortality Table with ages set back 0.6 years for males and 4.6 years for females.

MORTALITY PRIOR TO RETIREMENT

	Expected Deaths	Actual Deaths
Male	15	10
Female	1	1
Total	16	11

Noting again that the Progressive Annuity Mortality Table is a conservative annuitant mortality basis, we feel that the PAMT remains appropriate.

Retirement

Commencing with the June 30, 1977 actuarial valuation, the assumed retirement age was reduced from the June 30th following the 68th birthday to the June 30th following the 66th birthday. The following schedule compares actual retirements at all ages to those expected according to our age 66 assumption during the three year period ending June 30, 1979.

RETIREMENTS

	Expected Retirements	Actual Retirements
Male	147	78
Female	7	9
Total	154	87

To the extent that participants retire later than that assumed in the valuation, costs will reduce. The reductions are attributable to (1) increases in offsetting FRP benefits which outweigh any additional accruals in the supplemental benefit formula and (2) the decrease in the number of retirement payments made if participants terminate subsequent to age 66 (no actuarial increase is applied).

As explained in depth in the actuarial valuation, if a participant retires prior to age 65 he receives an early retirement subsidy. Therefore, to the extent that participants retire early, actuarial losses will occur. However, it is our understanding that the plan will be remunerated annually for the elements of the additional subsidy. Such remuneration shall be made by the University Department from which the participant retired and will represent the amount of the subsidy paid each year. Therefore, over the long run, the early retirement subsidy will have little or no cost consequences to the plan.

Summary

As set forth above, the withdrawal and retirement age assumptions have proven to be conservative over the years. Although actual deaths have been less than those expected, the Progressive Annuity Mortality Table is an extremely conservative annuitant mortality table and we feel that it is appropriate.

SUMMARY AND RECOMMENDATIONS - ALL ASSUMPTIONS

A review of the preceeding analysis will indicate that, for the most part, the assumptions have a fairly large degree of conservatism built into them.

As a somewhat independent check of the conservatism of the assumptions, the following schedule sets forth a progression of unfunded accrued liabilities under the plan in the past three years (as presented in the June 30, 1976 through June 30, 1979 actuarial valuations).

PROGRESSION OF THE UNFUNDED ACCRUED LIABILITY OVER THE PAST THREE YEARS

Valuation Date	Accrued Liability	Assets	Unfunded Accrued Liability
June 30, 1976	$ 8,869,000	$ 0	$ 8,869,000
June 30, 1977	11,115,500	270,400	10,845,100
June 30, 1978	10,357,600	638,500	9,719,100
June 30, 1979	9,761,200	1,041,500	8,719,700

Excepting for the increase in the unfunded accrued liability from 1976 to 1977, which was due to the change in the retirement age assumption from the June 30 following age 68 to the June 30 following age 66, the unfunded accrued liability has decreased markedly each year. These decreases have been due primarily to the following:

1. Benefit payments have been made from general funds. Thus, total effective contributions (i.e. including current disbursements) to this plan have substantially exceeded those that would be required to maintain the unfunded accrued liability unchanged from year to year.

2. Increases in offsetting Social Security benefits have consistently served to reduce the unfunded accrued liability.

Based on the preceeding evidence concerning the conservative nature of the actuarial assumptions, we would ordinarily recommend some liberalizations with regard to the assumptions, thereby reducing contribution requirements. However, as explained in the actuarial valuation, because this is a "closed group" of pre-1963 Faculty Retirement Plan participants, actual disbursements (being made from general funds) under the plan actually exceed annual Chapter 356 contribution requirements. Thus, since the University is contributing well in excess of this requirement, any revisions reducing annual costs would not be meaningful.

In our opinion, the current funding arrangement, whereby benefits are being paid out of general funds (in addition to contributions to plan assets in the area of $250,000 - $350,000 per year) has been very successful. We feel that this, plus monitoring the liability for future benefits on a conservative basis indicates that costs for this plan are well under control.

PART II

ACTUARIAL VALUATION OF
THE UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN
AS OF JUNE 30, 1979

PURPOSE AND SUMMARY

The purpose of this report is to set forth the results of our actuarial valuation of the University of Minnesota Supplemental Benefits Plan as of June 30, 1979 in accordance with Chapter 356 of the Minnesota Statutes. The valuation has been based on the plan as in effect on June 30, 1979, and takes into account revisions in both the plan and in Chapter 356 requirements during the past year. Descriptions of these revisions are discussed later in the report. In summary, our valuation reveals a Chapter 356 requirement of $561,600 well short of the annualized benefits payable to retirees as of the valuation date.

The plan is essentially one for a "closed group" of participants; namely, existing retirees and a diminishing group of active participants soon to retire. Since appropriate projections would substantiate the diminishing nature of benefits payable under this program, any attempt to fund it strictly in accordance with the Statutes would prove to be meaningless. That is, a funding approach in strict accordance with Chapter 356 would result in a negative cash flow since current disbursements exceed resulting Chapter 356 contribution requirements.

In last year's report we again pointed out that absent further modification to the plan, normal anticipated attrition of the covered group would indirectly fund the unfunded accrued liability at a rate more rapid than that prescribed under the Statutes. As set forth later in the detail of the report, the indirect method of funding through payment of current benefits, in conjunction with additional contributions to the plan (total amounts are substantially in excess of Chapter 356 requirements), combined with other actuarial gains during

PART II

the plan year, have resulted in a reduction of the unfunded accrued liability under the plan from $9,719,100 as of June 30, 1978 to $8,719,700 as of June 30, 1979.

EMPLOYEE AND FINANCIAL DATA

We received complete data covering 641 active pre-1963 participants under the Faculty Retirement Plan. Based on current account balances and the actuarial assumptions set forth below, it is projected that 119 members of this group would receive benefits from the supplemental plan. In addition, we were furnished a listing for the 382 retirees, survivors and widows presently receiving or eligible to receive benefits under the plan. The data utilized for purposes of this valuation is summarized in Table 2 of this report.

Assets of $1,041,500 as of June 30, 1979 were reported to us by the University, including a 1979 plan year contribution, in excess of current disbursements made from general funds, of $314,000.

PLAN VALUED

Since in fact benefits under this program are directly dependent on the level of benefits payable under the University's Faculty Retirement Plan, in addition to summarizing the pertinent provisions of the Supplemental Benefits Plan (pre-June 30, 1977 and post-June 30, 1977 in Tables 3(a) and 3(b) respectively) we have set forth a complete description of the principal provisions of the FRP plan in Table 3(c).

In brief, effective for retirement on or after June 30, 1977, the University adopted the revised "50%" formula as the target for supplemental benefits (as outlined in Table 3(b)) while at the same time retaining the prior formula as a "minimum" measure of benefits payable. In addition, provisions concerning early retirement benefits, and benefits to widows of pre-1956 retirees have been revised during the past year.

Effective July 1, 1978 a revision to the early retirement provision was made for those retiring on or after July 1, 1978, reflecting the fact that FRP benefits are to be payable immediately upon early retirement between ages 62 and 65 (the University will no longer continue to fund the FRP plan until an early retiree reaches age 65). Thus, on early retirement, benefits are payable immediately from this plan and are determined as follows:

(i) the 1 2/3% "target benefit" is projected to age 65

(ii) the FRP annuity equivalent and Social Security are both determined as payable immediately

(iii) the benefit payable immediately is the difference between (i) and (ii).

This approach introduces an additional subsidy over what had been recognized in the past; equal to the sum of the following:

(i) the entire benefit payable from this plan up to age 65 (previously these were charged back to the member's department outside the plan), and

(ii) the portion of the benefit equal to the difference between the FRP annuity equivalents payable at age 65 and at actual retirement (under the old approach, an FRP age 65 annuity equivalent was offset at age 65 whereas now the FRP actual retirement age annuity equivalent is being offset immediately).

Recognizing the assignment of subsidy to this plan (as opposed to making early retirement payments directly from the member's department under the prior arrangement), we understand that the plan fund will be reimbursed for the elements of the additional subsidy set forth above. Consequently, actuarial losses which result due to the early retirement subsidy (which have occurred this year in the amount of $140,300) will be amortized in the future by the portion of total current dispursements representing these early retirement payments.

ACTUARIAL ASSUMPTIONS AND METHODS

The actuarial assumptions and methods employed in this valuation are outlined in Table 4 of this report. These assumptions and methods conform to those provisions of Chapter 356 of the Minnesota Statutes.

The actuarial method utilized is the entry-age-normal cost method as prescribed by Statutes. Under this method, the normal cost is determined as the level percentage of future covered payroll which would be required to be paid from each member's date of employment to retirement in order to provide the benefits under the plan. The accrued liability under this method is equal to the present value of all benefits payable under the plan less the present value of future normal costs calculated in accordance with the actuarial cost method. The unfunded accrued liability is then determined by subtracting the assets on the valuation date from the accrued liability. Minnesota Statutes have been revised during the past year and call for annual normal costs to be provided in addition to the amortization of unfunded accrued liabilities by the end of the fiscal year occurring in 2009. In addition, the revised Statutes require that any additional accrued liabilities due to future amendments be amortized over the 30 year period beginning on the last day of the plan year during which the amendments are made. Previously Chapter 356 required that the unfunded accrued liability be amortized by June 30, 1997. This change has resulted in a decrease in Chapter 356 required contributions of $170,200.

Actuarial assumptions were identical to those used in the prior year and reflect the current Social Security Law. As indicated, the amount of benefits provided under the supplemental plan are directly dependent on those benefits provided under the FRP plan. Thus, in order to appropriately determine projected benefits payable, advance assumptions were also made in regard to future projections under the FRP itself; namely, that contribution levels would continue in accordance with the salary scale assumption set forth in item 5 of Table 4. For this purpose, fund balances were projected assuming a return of 5% per annum with accumulated values converted to annuity benefits on the basis of a continuation of purchase rates utilized in 1975. This maintains a degree of conservatism in the valuation, since current annuity purchase rates (which are based on an assumed interest rate of $7\frac{1}{4}\%$) applied to determine offsetting FRP benefits are more favorable than those used in 1975 (which are based on an assumed interest rate of $6\frac{1}{4}\%$). Utilization of this more conservative basis for valuation purposes is consistent with the salary/investment return described below.

It should be noted that the combined salary/investment return assumptions of $3\frac{1}{2}\%/5\%$ are prescribed by Statute and do not anticipate future increases of an inflationary nature. In fact, to the extent that salaries increase more than $3\frac{1}{2}\%$ and basic FRP accumulations take place at a rate in excess of 5%, the increased level of FRP benefits would serve to diminish supplemental benefits payable from the plan. Any future increases in offsetting Social Security benefits will also serve to reduce supplemental benefits payable from the plan under the post June 30, 1977 formula.

VALUATION RESULTS

The results of our valuation are set forth in Table 1. Section A of the table sets forth basic data items relative to active and retired (including survivors and widows) participants.

Section B sets forth the determination of accrued liability, unfunded accrued liability, annual normal cost, and annual cost provision all in accordance with Chapter 356, with the provision amounting to $561,600.

In Section C of the table, we have again set forth the determination of a funding requirement on two alternative bases corresponding to suggested alternatives offered in the past. These requirements have been set forth for illustrative purposes only.

GAIN AND LOSS ANALYSIS

In Table 5 we set forth a gain and loss analysis and reconcile the unfunded accrued liability over the past year. This analysis denotes a decrease of some $115,500 in the June 30, 1979 unfunded accrued liability (when compared to that expected) which is attributable primarily to an actuarial gain resulting from changes in projected Social Security benefits. The decrease in the unfunded accrued liability is attributable to the following:

(a)	Decrease due to increases in Social Security	286,100
(b)	Decrease due to asset earnings in excess of 5%	41,400
(c)	Increase due to early retirement subsidy for retirement prior to 65	140,300
(d)	Increase due to other actuarial losses	18,600
(e)	Increase due to benefit improvements to widows of pre-1956 retirees	53,100
(f)	Total Decrease [(a) + (b) - (c) - (d) - (e)]	115,500

COMPARISON OF 1978 AND 1979 VALUATION RESULTS

In Table 6, we set forth a comparison of the principal values underlying the 1978 and 1979 valuations. Items 7 and 8 are of particular interest in that they denote the decrease in required contributions due primarily to the revisions in Chapter 356.

Table 1

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Actuarial Valuation as of June 30, 1979
(Valuation determinations rounded to nearest $100)

A.	BASIC DATA			
	1.	Active Participants		
		(a)	Total active pre-1963 participants under Faculty Retirement Plan (FRP)	641
		(b)	Total projected to receive supplemental benefits	
			(i) Number	119
			(ii) Average annual projected supplement 1/	1,233
	2.	Retirees, Survivors and Widows		
		(a)	Number receiving or entitled to receive benefits	382
		(b)	Average annual benefit being paid or to be payable	2,772
B.	DETERMINATION OF ANNUAL REQUIREMENT IN ACCORDANCE WITH CHAPTER 356 (MINNESOTA STATUTES)			
	1.	Accrued Liability as of June 30, 1979		
		(a)	Active Participants	1,311,400
		(b)	Retirees	7,301,400
		(c)	Widows	573,300
		(d)	Survivors	460,700
		(e)	Deferred annuitants	114,400
		(f)	Total	9,761,200
	2.	Assets as of June 30, 1979		1,041,500
	3.	Unfunded Accrued Liability as of June 30, 1979 [1(f) less 2]		8,719,700
	4.	Annual Normal Cost		21,400
	5.	Annual Requirement to Fund Normal Cost and Amortize the Unfunded Accrued Liability by June 30, 2009		561,600
C.	DETERMINATION OF ALTERNATE PROVISIONS			
	1.	Current Disbursement Requirement		1,049,000
	2.	Normal Cost Plus Amortization to the Year in Which Youngest Active Participant Projected to Receive Benefits Will Retire (June 30, 1988)		1,189,800

1/ Per investment earnings, salary scale, and Social Security assumptions summarized in Table 4.

Table 2

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Distribution of Participants as of June 30, 1979

A. ACTIVE PARTICIPANTS (Pre-1963 FRP Participants)

Age Group Last Birthday	Males	Females	Total
40 - 44	2	1	3
45 - 49	53	2	55
50 - 54	129	6	135
55 - 59	197	16	213
60 - 64	155	16	171
65 & Over	59	5	64
Total	595	46	641

B. WIDOWS OF PRE-1956 RETIREES

Age Group Last Birthday	Number (All Females)	Annual Benefit Being Paid
70 - 74	5	$ 14,735
75 - 79	4	11,788
80 - 84	4	11,788
85 - 89	12	35,364
90 - 94	9	26,523
95 - 99	1	2,947
Total	35	$103,145

C. SURVIVORS

Age Group Last Birthday	Number (All Females)	Annual Benefit Being Paid
50 - 54	2	$ 4,638
55 - 59	1	2,448
60 - 64	1	2,464
65 - 69	6	9,820
70 - 74	5	8,682
75 - 79	6	12,866
80 - 84	1	4,217
Total	22	$45,135

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D. RETIREES

Age Group Last Birthday	Males	Females	Total	Annual Benefit Being Paid
60 - 64	6	2	8	$ 25,982
65 - 69	48	22	70	161,434
70 - 74	80	12	92	199,438
75 - 79	56	9	65	177,650
80 - 84	29	12	41	137,971
85 - 89	23	9	32	142,461
90 - 94	4	3	7	39,290
95 - 99	3	-	3	16,493
Total	249	69	318	$900,719

E. RETIREES WITH DEFERRED BENEFITS (RETIRED PRIOR TO 7/1/78)

Age Group Last Birthday	Males	Females	Total	Annual Benefit Payable at 65
60 - 64	6	1	7	$9,856
65 - 69	-	-	-	-
Total	6	1	7	$9,856 *

* In addition, these participants are receiving temporary early retirement benefits (until age 65) at an annual rate of $54,710 in total. Payments are made from general funds outside the plan.

F. RECONCILIATION OF RETIREES/WIDOWS/SURVIVORS

		Number
1.	Number receiving benefits last year	381
2.	Deaths during year with no continuing benefits payable	16
3.	New retirees this year	17
4.	Number receiving or entitled to receive benefits this year [1 - 2 + 3]	382 *

* as follows:

Widows	35
Survivors	22
Retirees	318
Deferred	7
Total	382

Table 3(a)

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN (PRE-JUNE 30, 1977)

Summary of Principal Provisions of the Supplemental Plan
(provisions in effect for pre-June 30, 1977 retirees)

1. Eligibility:

Generally applicable to employees who first began participation in the Faculty Retirement Plan prior to 1963, and who retire on or after the June 30, next following the 65th birthday. Special early retirement provisions are available (see below).

2. Amount of Supplement:

Supplement (annual) is computed as follows:

(a) Determine 2% of final five year average salary for each year of actual service (maximum 30), but not to exceed the following:

(i)	Professor	$8,500
(ii)	Associate Professor	$8,000
(iii)	Assistant Professor or Instructor	$7,500

(b) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities using fixed annuity factors under FRP. Note that variable accumulations are converted on fixed basis for this purpose. Prior endowment accumulations are treated as annuity in this computation.

(c) Deduct $1,524 (estimate of 1963 Social Security level) from (a).

(d) Determine supplement as equal to (a) less (b) after adjustment for (c).

(Note: Dividends payable for coverage prior to 1963 are not included in (b) above. 1963 and later coverage dividends are included by direct reflection in interest credited on accumulations).

3. <u>Early Retirement</u>:
(Note: Any reference to age 65 in this description means the June 30 following the 65th birthday.)

A member may retire as early as age 62 in which case his FRP accounts are used to purchase an annuity commencing immediately. Supplemental benefits payable are determined as follows:

(a) Determine 2% of final five year average salary for each year of service (projected to age 65 but subject to a maximum of 30) not to exceed the following:

(i)	Professor	$8,500
(ii)	Associate Professor	$8,000
(iii)	Assistant Professor or Instructor	$7,500

(b) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities payable at early retirement using annuity factors under FRP. Note that variable accumulations are converted on a fixed basis for this purpose.

(c) Deduct 1,524 (estimate of 1963 Social Security level) from (a).

(d) Determine supplemental benefit as equal to (a) less (b) after adjustment for (c).

Table 3(b)

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN (JUNE 30, 1977)

Summary of Principal Provisions of the Supplemental Plan
(provisions in effect for June 30, 1977 and later retirees)

1. Eligibility: Generally applicable to employees who first began participation in the Faculty Retirement Plan prior to 1963, and who retire on or after the June 30, next following the 65th birthday. Special early retirement provisions are available (see below).

2. Amount of Supplement: Supplement (annual) is computed as follows:

(a) Determine final five year average salary subject to following maximums for indicated retirement years:

Year	Amount	Year	Amount
1976-77	$37,200	1981-82	$45,300
1977-78	38,700	1982-83	47,100
1978-79	40,300	1983-84	49,000
1979-80	41,900	1984-85	51,000
1980-81	43,600	1985-86	53,000

(b) Determine 1-2/3% of final five year average salary for each year of actual service (maximum 30).

(c) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities using fixed annuity factors under FRP. Note that variable accumulations are converted on fixed basis for this purpose.

(d) Determine 100% of estimated primary Social Security benefit payable based on continuous coverage from date of University hire (or January 1, 1955, if later), to the date of retirement.

(e) Determine supplement equal to the excess of (b) over the sum of (c) plus (d).

3. Early Retirement:
(Note: Any reference to age 65 in this description means the June 30 next following the 65th birthday)

A member may retire as early as age 62 in which case his FRP accounts are used to purchase an annuity commencing immediately. Supplemental benefits payable are determined as follows:

(a) Determine final five year average salary subject to the following maximums based on the year of early retirement:

Year	Amount	Year	Amount
1978-79	$40,300	1982-83	$47,100
1979-80	41,900	1983-84	49,000
1980-81	43,600	1984-85	51,000
1981-82	45,300	1985-86	53,000

(b) Determine 1-2/3% of final five year average salary for each year of actual service, including projected service to age 65.

(c) Convert Faculty Retirement Plan net accumulation to fixed dollar annuities using fixed annuity factors under FRP and reflecting early retirement. Note that variable accumulations are converted to the fixed basis for this purpose.

(d) Determine 100% of estimated primary Social Security benefit payable at early retirement based on continuous coverage from date of University hire (or January 1, 1955 if later) to the date of retirement.

(e) Determine supplement equal to the excess of (b) over the sum of (c) plus (d).

Table 3(c)

UNIVERSITY OF MINNESOTA
FACULTY RETIREMENT PLAN

Summary of Principal Provisions of the Faculty Retirement Plan

1. Eligibility: All full time academic staff members (including certain civil service staff members) participating in $20,000 Group Life program, eligible to participate as follows:

Classification	Date of Participation
(a) Associate professor or higher	(i) If hired between October 1 and April 2, on date of hire. (ii) If hired between April 2 and September 30, on October 1 next following date of hire.
(b) Assistant professor or research associate	On October 1 following two years of service. If hired between October 2 and March 1, service is credited back to prior October 1.
(c) Instructor or research fellow	On October 1 following three years of service. If hired between October 2 and March 1, service is credited back to prior October 1.
(d) Eligible civil service member	(i) If salary less than $22,443, same as (c).* (ii) If salary greater or equal to $22,443 but less than $27,130, same as (b). (iii) If salary greater than or equal to $27,130, same as (a). * Salary ranges are as of July 1, 1979.

2. Financing: Staff member contributes 2½% of gross annual salary, with University making contributions of 2½% of the first $5,000 of gross annual salary, plus 13% of such gross annual salary in excess of $5,000. Effective in 1973, summer research and training grants have been included for nine-month appointees for the purposes of determining compensation for contributions.

3. Mandatory Retirement Age: June 30 following 70th birthday.

4. Date to Which University Contributions are Made

For staff member beginning participation on October 2, 1974 and later, contributions are continued until the June 30 next following the 65th birthday; otherwise continued during eligible employment until June 30 next following 68th birthday.

5. Investment Medium (Pre-Retirement):

Net contributions (gross less front end load) are accumulated through the medium of insured funding contracts as follows:

(i) Fixed dollar: accumulate at rate of interest declared by insurers, but never less than minimum stipulated. Only future accumulations transferable to variable in pre-retirement period.

(ii) Variable Income: Net contributions are immediately converted to accumulation units which are valued each month. Unit values reflect earnings of separate account less the fixed investment charge stipulated (subject to guaranteed maximum charges). Past and future accumulations are transferable to fixed in pre-retirement period.

(NOTE: Variable contributions cannot exceed 50%, or alternatively 75% of total contributions, including employees' contributions).

6. Types of Annuities Available at Retirement (Post-Retirement)

Either guaranteed fixed retirement annuities or non-guaranteed variable annuities are provided (see (7) for conversion). Fixed funds cannot be converted to variable annuity basis at retirement although variable fund conversion to fixed annuity is allowed in which case, accumulation units would be cancelled and transferred to the general assets of the insurer to be applied to provide guaranteed retirement annuity coverage.

7. Amount of Benefits:

At retirement, cash value (representing accumulation of contributions under insured funding contracts, net of front end load - presently 2%), or value of accumulation units under variable, is applied to provide retirement income on "life only" basis in accordance with stipulated income conversion factors as follows:

6/30/78 Conversion Basis	Monthly Income for Each $1,000 of Proceeds			
	Fixed Income		Variable Annuity	
	(7¼% interest net)		(4% interest net)	
	Age 65	Age 68	Age 65	Age 68
Male	9.03	9.78	7.18	7.95
Female	8.10	8.62	6.37	6.95

(NOTE: In the past when fixed income conversion factors proved to be too conservative, excess interest credits were being accorded to benefits in payment status via year-end dividends. Certain prior retirees are still being credited with excess interest dividend increases).

8. Early Retirement: Participants may retire early, with annuity equivalents payable immediately.

9. Vesting (termination value): Immediate 100% vested right in accumulations to date of termination. Disposition is as follows:

(i) If initial participation is December 15, 1972 or earlier, or after December 15, 1972 and has less than five years of participation, entitled to receive total net accumulation to date of termination.

(ii) If initial participation is after December 15, 1972 and has more than five years participation, entitled to sum of:
- (a) His own contributions plus interest, and
- (b) Paid-up annuity for remainder of total net accumulation, providing for death benefits prior to income commencement of remaining paid-up values.

(NOTE: Variable portion of net accumulation, if $2,000 or more, may be applied to provide variable retirement annuity, or alternatively placed in paid-up status to provide variable retirement annuity at later date. In addition, terminating member can continue retirement annuity accumulations by paying total premiums directly to the insurer).

10. Death Benefits:
(a) Pre-retirement: Named beneficiary would receive total termination value of retirement annuity as in (9). Optional forms of payment as may be elected by beneficiary must be approved by the University.

(b) Post-retirement:

In accordance with optional form of payment elected, as follows:

(i) life annuity with no post-retirement death benefit.

(ii) life annuity with 60, 120, 180, or 240 monthly payments guaranteed in any event.

(iii) joint and survivor annuity payable until the death of the last survivor of the annuitant and his designated beneficiary, with 120 monthly payments guaranteed payable in any event.

11. Disability:

In the event of total and continuous disability for a period of at least four months, all contributions are waived with future credits being accorded on the basis of a continuation of contribution levels in effect at time of disability.

Table 4

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Summary of Actuarial Assumptions and Methods

1.	Mortality:	Progressive Annuity Mortality Table set back 0.6 years for males and 4.6 years for females.
2.	Turnover:	None assumed.
3.	Expenses:	None assumed. To be met directly. 2% front-end load utilized for purposes of converting FRP accumulations.
4.	Interest Rate:	5% per annum.
5.	Salary Scale:	3½% per annum.
6.	Assumed Retirement Age:	June 30th following 66th birthday.
7.	Actuarial Cost Method:	Individual entry-age-normal cost method, with normal cost determined as a level percentage of future covered payroll.
8.	Amortization of Unfunded accrued liability:	As a level dollar amount by June 30, 2009.
9.	Faculty Retirement Plan Accumulations:	Accumulated at 5% per annum assuming a continuation of present contribution percentages on increasing covered payroll (per salary scale assumption). Net accumulations converted to fixed dollar life annuities using following 6¼% factors (monthly income for each $1,000 of proceeds) after 2% front-end load adjustment. Male 8.65 Female 7.64
10.	Social Security:	Based on present law (2nd phase 1979) and 3½% salary scale applicable to current salaries. No wage base increases beyond those specifically prescribed in the Social Security Act of 1977 are projected. No cost of living increases are projected.

Table 5

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Gain and Loss Analysis (Plan Year Ending June 30, 1979)

1.	Unfunded Accrued Liability as of June 30, 1978	$9,719,100
2.	Normal Cost	33,400
3.	Interest at Valuation Rate (5%) on (1) and (2)	487,600
4.	Contributions During Year	
	(a) Approximate "pay-as-you-go" payments to retirees	1,049,000
	(b) Supplemental contribution	314,000
	(c) Total effective contributions [(a) + (b)]	1,363,000
5.	Interest at Valuation Rate (5%) on 4(a) and 4(b)	41,900
6.	Expected Unfunded Accrued Liability as of June 30, 1978 [1 + 2 + 3 - 4 - 5]	8,835,200
7.	Actual Unfunded Accrued Liability as of June 30, 1978	8,719,700
8.	Decrease During Year [6 - 7]	115,500
9.	Analysis of Decrease	
	(a) Decrease from actuarial gains 1/	168,600
	(b) Increase resulting from benefit improvements to widows of pre-1956 retirees.	53,100
	(c) Net Decrease [(a) - (b)]	115,500

1/ Actuarial gains during the year are allocated as follows:

(a)	Gain due to increase to offsetting Social Security benefits	286,100
(b)	Gain due to asset earnings in excess of 5%	41,400
(c)	Loss due to early retirement subsidy for retirement prior to 65 *	140,300 *
(d)	Other actuarial losses	18,600
(e)	Net gain [(a) + (b) - (c) - (d)]	168,600

* It is our understanding that this loss will be offset by annual reimbursements by individual departments, representing the early retirement subsidy paid to each early retiree.

Table 6

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN

Comparison of 1978 and 1979 Valuation Results

		1978	1979 1/
1.	Active Participants		
	(a) Total active pre-1963 participants under FRP	673	644
	(b) Total projected to receive supplemental benefits		
	(i) Number	163	119
	(ii) Average annual supplemental benefit 2/	1,241	1,233
2.	Retirees, Survivors and Widows		
	(a) Number - Retirees (including deferred)	324	325
	- Survivors	17	22
	- Widows	40	35
	- Total	381	382
	(b) Average annual benefit being paid or payable	2,856	2,772
3.	Accrued Liability on Valuation Date		
	(a) Active participants	1,747,400	1,311,400
	(b) Retirees, survivors and widows	8,610,200	8,449,800
	(c) Total	10,357,600	9,761,200
4.	Assets on Valuation Date	638,500	1,041,500
5.	Unfunded Accrued Liability	9,719,100	8,719,700
6.	Annual Normal Cost	33,400	21,400
7.	Revised Chapter 356 Minimum Provisions (Normal Cost Plus Amortization by 2009) 3/	N/A	561,600
8.	Prior Chapter 356 Minimum Provision (Normal Cost Plus Amortization by 1997) 3/	799,300	731,800
9.	Alternate Provisions		
	(a) Current Disbursement	1,066,800	1,049,000
	(b) Normal cost plus amortization to year in which youngest active participant presently eligible will retire (1990 in the 1978 valuation, 1988 in current valuation).	1,077,700	1,187,800

Page 1 of 2

1/ Reflects increase in benefits (from $2,674 to $2,947) to widows of pre- 1956 retirees.

2/ Per actuarial assumptions regarding earnings on FRP account balances, salary increases and increases in Social Security. See Table 4 for a summary of actuarial assumptions.

3/ See text for a description of the recent revisions to Chapter 356 of the Minnesota Statutes.

FCS Minnesota Memorandum No. 79-6
October 15, 1980

THE UNIVERSITY OF MINNESOTA FACULTY SUPPLEMENTAL PLAN

VALUATION AS OF JUNE 30, 1979

The purpose of this memorandum is to discuss the valuation report of the University of Minnesota Faculty Supplemental Plan as of June 30, 1979. The valuation was prepared by Allan J. Grosh and Alan J. Schutz of The Wyatt Company.

This memorandum contains the following:

1. Statistical and Valuation Data
2. Discussion of Valuation Results
3. Experience Study
4. Conclusion

1. Statistical and Valuation Data

	As of June 30, 1978	As of June 30, 1979
Active Participants Eligible for Supplement	163	119
Retired Participants	309	318
Widows	40	35
Survivors	17	22
Annual Benefits	$ 1,066,800	$ 1,049,000
Reserve for Annuitants	$ 8,226,300	$ 8,335,400
Reserve for Deferreds	383,900	114,400
Accrued Liability for Actives	1,747,400	1,311,400
Total Accrued Liability	$10,357,600	$ 9,761,200
Assets	638,500	1,041,500
Unfunded Accrued Liability	$ 9,719,100	$ 8,719,700
Normal Cost	$ 33,400	$ 21,400
Amortization by 2009	593,600	540,200
Total	$ 627,000	$ 561,600

2. Discussion of Valuation Results

This plan guarantees a stated level of total retirement income (Basic Plan + Social Security + Supplemental Plan) for a closed group of faculty members. The level of the guarantee depends upon the academic rank of the faculty member.

Whenever Social Security benefits are increased and as projections indicate larger benefits from the Basic Plan, the projected amount of benefits required from this Supplemental Plan declines. This fact accounts for the large decrease in the Accrued Liability for Actives during the year.

Prior to the 1976-77 plan year, this plan was financed on a pay-as-you-go basis, and there was no advance funding. During each of the two most recent plan years, the University has contributed about $323,100 and $314,000 respectively, in excess of the amount of the benefit payments, and assets of $1,041,500 have been accumulated.

It is obvious from the above valuation data that the normal funding method of paying normal cost plus the amount needed to amortize the unfunded liability by 2009 is inappropriate for this plan. Although no policy has been stated, it appears that the University is attempting to achieve a fully funded status for this plan by the time the last retirement under the plan occurs. During the current year, this would require about $1,189,800 which is about $140,800 in excess of the projected benefit payments for the year. The level of support during each of the past two years has exceeded this amount.

The unfunded liability decreased by $999,400 during the year. The Actuary gave the following analysis of this decrease.

Decreases:			
	Amortization Contribution	$883,900	
	Increases in Social Security Benefits	286,100	
	Excess Interest	41,400	
	Total Decreases		$1,211,400
Increases:			
	Early Retirements	$ 140,300	
	Improvement in Benefits to Widows	53,100	
	Other Actuarial Losses	18,600	
	Total Increases		$ 212,000
	Net Decrease		$ 999,400

3. Experience Study

As required by law, this report contained a review of experience during recent years. However, there was a slight deviation from the letter of the law in that the review covered three years rather than four. The actuaries who are valuing the plan at the present time have been on the scene for only three years and would have found it very difficult to obtain data for the time before they took over.

During the three-year period, the fund has earned about 9% per year compared with the assumed 5%. In addition, interest has been credited to account balances in the Basic Plan at rates between 7% and 8% which each year reduces the size of the projected benefits from this Supplemental Plan.

During the three-year period, the average salary increased about 20.72%. An annual rate of about 6.5%, compounded annually, comes close to matching 20.72% in three years. This average increase of 6.5% per year compares with an assumed annual increase of 3.5%. In this type of plan, the full weight of this difference is not felt since the additional guaranteed total benefit is partly offset by an additional amount from the Basic Plan.

The following table compares actual deaths among active lives with the number expected and makes the same comparison relative to withdrawals.

	Actual	Expected
Deaths	11	16
Withdrawals	20	0

Since the plan covers a closed group of long-service employees, the actuaries assume that no withdrawals will occur. Most withdrawals occur not from termination of employment but from an employee's situation changing from one in which a supplemental benefit is needed to bring his benefit up to the guaranteed total level to one in which the other benefits added up to this level.

Starting with the 1977 valuation, age 66 has been the assumed retirement age. During the three-year period, there has been 87 retirements compared with an expected 154. This means that participants are retiring later than assumed.

During the three-year period, 54 annuitants died compared with an expected 62. This is a ratio of about 87.1% which suggests that this item be monitored closely during the next few years.

4. Conclusion

The 1979 report on the University Faculty Supplemental plan complies with the requirements of Chapter 356 insofar as they apply to the plan of this type.

Franklin C. Smith
Associate, Society of Actuaries
Commission Actuary

UNIVERSITY OF MINNESOTA
SUPPLEMENTAL BENEFITS PLAN (JUNE 30, 1977)

Summary or Principal Provisions of Plan
(provisions in effect for June 30, 1977 and later retirees)

1. Eligibility: Generally applicable to employees who first began participation in the Faculty Retirement Plan prior to 1963, and who retire on or after the June 30, next following the 65th birthday. Special early retirement provisions are available (see below).

2. Amount of Supplement: Supplement (annual) is computed as follows:

(a) Determine final five year average salary subject to following maximums for indicated retirement years:

Year	Amount	Year	Amount
1976-77	$37,200	1981-82	$45,300
1977-78	38,700	1982-83	47,100
1978-79	40,300	1983-84	49,000
1979-80	41,900	1984-85	51,000
1980-81	43,600	1985-86	53,000

(b) Determine 1-2/3% of final five year average salary for each year of actual service (maximum 30).

(c) Convert Faculty Retirement Plan net accumulations to fixed dollar life annuities using fixed annuity factors under FRP. Note that variable accumulations are converted on fixed basis for this purpose.

(d) Deduct from (c) 100% of estimated primary Social Security benefit payable based on continuous coverage from date of University hire (or January 1, 1955, if later), to the date of retirement.

(e) Determine supplement as equal to (b) less (c) after adjustment for (d).

3. Early Retirement Provision: (NOTE: that any reference to age 65 in this description implies the June 30 next following the 65th birthday, including references to Social Security benefits payable at age 65).

As early as age 62, although total funding is continued by the University to age 65 (i.e., University funds member contributions as well), member would receive a benefit payable at age 65 determined as follows (benefits prior to age 65 would be paid from general funds):

(a) Determine 1-2/3% benefit based on continued funding to age 65 (item 2(b)).

(b) Determine primary Social Security benefit payable at actual retirement date.

(c) Convert FRP net accumulations on basis of continued funding to age 65 to fixed dollar life annuities at age 65.

(d) Determine supplement at age 65 as (a) less (b) less (c).

4. Minimum Benefit:

In no event shall any retiring employee receive less than would have been payable under the plan provisions in effect for retirements prior to June 30, 1977.

UNIVERSITY OF MINNESOTA
FACULTY RETIREMENT PLAN

Summary of Principal Provisions of Plan
(based on plan in effect in December 1975)

1. Eligibility:

All full time academic staff members (including certain civil service staff members) participating in $20,000 Group Life program, eligible to participate as follows:

Classification	Date of Participation
(a) Associate professor or higher	(i) If hired between October 1 and April 2, on date of hire. (ii) If hired between April 2 and September 30, on October 1 next following date of hire.
(b) Assistant professor or research associate	On October 1 following two years of service. If hired between October 2 and March 1, service is credited back to prior October 1.
(c) Instructor or research fellow	On October 1 following three years of service. If hired between October 2 and March 1, service is credited back to prior October 1.
(d) Eligible civil service member	(i) If salary less than $20,300, same as (c). (ii) If salary greater or equal to $20,300 but less than $24,500, same as (b). (iii) If salary greater than or equal to $24,500, same as (a).

2. Financing:

Staff member contributes 2½% of gross annual salary, with University making indirect contributions of 2½% of the first $5,000 of gross annual salary, plus 13% of such gross annual salary in excess of $5,000. Effective in 1973, summer research and training grants have been included for nine-month appointees for purposes of determining compensation for contributions.

3. Mandatory Retirement Age:

June 30 following 68th birthday.

4.	Date to Which University Contributions are Made	For staff member beginning participation on October 2, 1974 and later, contributions are continued until the June 30 next following the 65th birthday; otherwise continued during eligible employment until June 30 next following 68th birthday.
5.	Investment Medium (Pre-Retirement):	Net contributions (gross less front end load) are accumulated through the medium of insured funding contracts as follows: (i) Fixed dollar: accumulate at rate of interest declared by insurers, but never less than minimum stipulated. Only future accumulations transferable to variable in pre-retirement period. (ii) Variable Income: Net contributions are immediately converted to accumulation units which are valued each month. Unit values reflect earnings of separate account less the fixed investment charge stipulated (subject to guaranteed maximum charges). Past and future accumulations are transferable to fixed in pre-retirement period. (NOTE: Variable contributions cannot exceed 50%, or alternatively 75% of total contributions, including employees' contributions).
6.	Types of Annuities Available at Retirement (Post-Retirement)	Either guaranteed fixed retirement annuities or non-guaranteed variable annuities are provided (see (7) for conversion). Fixed funds cannot be converted to variable annuity basis at retirement although variable fund conversion to fixed annuity is allowed in which case, accumulation units would be cancelled and transferred to the general assets of the insurer to be applied to provide guaranteed retirement annuity coverage.
7.	Amount of Benefits:	At retirement, cash value (representing accumulation of contributions under insured funding contracts, net of front end load - presently 2%), or value of accumulation units under variable, is applied to provide retirement income on "life only" basis in accordance with stipulated income conversion factors as follows:

6/30/77 Conversion Basis	Monthly Income for Each $1,000 of Proceeds			
	Fixed Income (7¼% interest net)		Variable Annuity (4% interest net)	
	Age 65	Age 68	Age 65	Age 68
Male	9.03	9.78	7.18	7.95
Female	8.10	8.62	6.37	6.95

(NOTE: In the past when fixed income conversion factors proved to be too conservative, excess interest credits were being accorded to benefits in payment status via year-end dividends. Certain prior retirees are still being credited with excess interest dividend increases).

8. Vesting (termination value):

Immediate 100% vested right in accumulations to date of termination. Disposition is as follows:

(i) If initial participation is December 15, 1972 or earlier, or after December 15, 1972 and has less than five years of participation, entitled to receive total net accumulation to date of termination.

(ii) If initial participation is after December 15, 1972 and has more than five years participation, entitled to sum of:

- (a) His own contributions plus interest, and
- (b) Paid-up annuity for remainder of total net accumulation, providing for death benefits prior to income commencement of remaining paid-up values.

(NOTE: Variable portion of net accumulation, if $2,000 or more, may be applied to provide variable retirement annuity, or alternatively placed in paid-up status to provide variable retirement annuity at later date. In addition, terminating member can continue retirement annuity accumulations by paying total premiums directly to the insurer).

9. Death Benefits:

(a) Pre-retirement:

Named beneficiary would receive total termination value of retirement annuity is in (8). Optional forms of payment as may be elected by beneficiary must be approved by the University.

(b) Post-retirement: In accordance with optional form of payment elected, as follows:

(i) life annuity with no post-retirement death benefit.

(ii) life annuity with 60, 120, 180, or 240 monthly payments guaranteed in any event.

(iii) joint and survivor annuity payable until the death of the last survivor of the annuitant and his designated beneficiary, with 120 monthly payments guaranteed payable in any event.

10. Disability: In the event of total and continuous disability for a period of at least four months, all contributions are waived with future credits being accorded on the basis of a continuation of contribution levels in effect at time of disability.