

**SUMMARY PLAN DESCRIPTION**  
**OF**  
**THE ACADEMY OF NATURAL SCIENCES**  
**PENSION PLAN**

**(As Amended Effective January 1, 2015)**

**The Academy of Natural Sciences**  
**1900 Benjamin Franklin Parkway**  
**Philadelphia, PA 19103-1195**  
**(215) 299-1000**

**DATE OF ISSUE: March 2016**

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## **INTRODUCTION**

In 1957, The Academy of Natural Sciences (the “Academy”) adopted The Academy of Natural Sciences Pension Plan (the “Plan”) for the benefit of its eligible employees. The Plan has been made available by the Academy in order to provide you with pension benefits at retirement to supplement your Social Security benefits and individual savings. Benefit accruals under the Plan ceased effective December 31, 2009.

The Plan has been amended and restated to comply with recent Federal legislation affecting employee benefit plans. The amended and restated Plan is generally effective January 1, 2015, but other effective dates apply to certain of its provisions.

This booklet is a summary of the provisions of the Plan as amended effective January 1, 2015, and is designed to answer your questions about the Plan. It explains what benefits are payable from the Plan, how the Academy’s contributions will be made to the Plan, and how the Plan is structured. The booklet contains examples illustrating the provisions of the Plan. The numbers used in the examples are illustrative.

Please read this summary carefully. If it appears to you that there may be a conflict between this summary and your understanding of the Plan and Trust documents, you should contact the Plan Administrator. **PLEASE KEEP IN MIND THAT THE OFFICIAL PLAN AND TRUST DOCUMENTS ARE THE CONTROLLING LEGAL DOCUMENTS AND YOU SHOULD RELY SOLELY ON THE PROVISIONS OF THOSE DOCUMENTS.** The Plan and Trust documents are available for your inspection, upon request, during regular working hours. You may obtain a copy of the Plan and Trust documents. If you have any questions concerning the Plan and how it applies to you, you should consult the Plan Administrator.

Please note that this summary describes the provisions of the Plan as in effect on and after January 1, 2015. These provisions apply only to participants who worked for the Academy on or after January 1, 2015. If you terminated employment before January 1, 2015, different rules may apply.

## **IMPORTANT FACTS ABOUT THE PLAN**

**Name of Plan.** The official name of the Plan is The Academy of Natural Sciences Pension Plan.

**Plan Sponsor.** The Plan Sponsor/Employer is The Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia, PA 19103-1195, and its telephone number is (215) 299-1000.

**Identification Numbers.** The Federal employer identification number assigned by the Internal Revenue Service to the Academy is 23-1352000. The identification number assigned by the Academy to the Plan is 001.

**Plan Year.** The Plan Year, for purposes of maintaining the Plan’s financial records, is the period from January 1 to December 31 each year.

**Plan Administrator.** The Human Resources Department of Drexel University is the “Plan Administrator,” who has the responsibility for the operation and administration of the Plan. The Plan Administrator can be contacted at 3201 Arch Street, Suite 430, Philadelphia, PA 19104, and its telephone

number is **215-895-2850**. The Plan's agent for service of legal process is the Plan Administrator. Legal process may also be served upon the Plan Trustee.

Plan Trustee. The Trustee is PNC Bank, N.A. The Trustee's address is 1600 Market Street, 31st Floor, Philadelphia, PA 19103-3898.

Type of Plan. The Plan is a defined benefit type of employee benefit plan. The amount of your benefit at retirement is a predetermined amount based on your compensation and the number of years you participate in the Plan.

Benefits under this Plan are insured by the Pension Benefit Guaranty Corporation (PBGC), a Federal insurance agency. If the Plan terminates (ends) without enough money to pay all benefits, the PBGC will step in to pay pension benefits. Most people receive all of the pension benefits they would have received under their plan, but some people may lose certain benefits.

The PBGC guarantee generally covers: (i) normal and early retirement benefits; (ii) disability benefits if you become disabled before the Plan terminates; and (iii) certain benefits for your survivors.

The PBGC guarantee generally does not cover: (i) benefits greater than the maximum guaranteed amount set by law for the year in which the Plan terminates; (ii) some or all of the benefit increases and new benefits based on Plan provisions that have been in place for fewer than five years at the time the Plan terminates; (iii) benefits that are not vested because you have not worked long enough for the Employer; (iv) benefits for which you have not met all of the requirements at the time the Plan terminates; (v) certain early retirement payments (such as supplemental benefits that stop when you become eligible for Social Security) that result in an early retirement monthly benefit greater than your monthly benefit at the Plan's normal retirement age; and (vi) non-pension benefits, such as health insurance, life insurance, certain death benefits, vacation pay, and severance pay.

Even if certain of your benefits are not guaranteed, you still may receive some of those benefits from the PBGC depending on how much money your Plan has and on how much the PBGC collects from employers.

For more information about the PBGC and the benefits it guarantees, ask the Plan Administrator or contact the PBGC's Technical Assistance Division, 1200 K Street N.W., Suite 930, Washington, DC 20005-4026, or call (202) 326-4000 (not a toll-free number). TTY/TDD users may call the Federal relay service toll-free at (800) 877-8339 and ask to be connected to (202) 326-4000. Additional information about the PBGC's pension insurance program is available through the PBGC's website on the Internet at <http://www.pbgc.gov>.

## **SUMMARY OF IMPORTANT PLAN PROVISIONS**

### **PARTICIPATION**

Participation in the Plan was closed on January 1, 2010. If you were a member of the Plan on December 31, 2009, you continued to be a Member on January 1, 2010. However, no person may become a Member of the Plan after December 31, 2009.

## FINANCING THE PLAN

The Academy makes all of the contributions to the Trust Fund from which the Plan benefits are paid. No contributions by Members are required or permitted. The amounts of the Academy's contributions made to the Trust Fund are actuarially determined.

## RETIREMENT DATES

Normal Retirement: Your Normal Retirement Date under the Plan is the first day of the month which coincides with or follows the later of your 65th birthday or the fifth anniversary of the date you became a Member of the Plan. If you retire on your Normal Retirement Date, your pension will be paid monthly beginning on your Normal Retirement Date. The amount you receive is calculated using the formula described below based on your compensation, service with the Academy, and Social Security offset. If you are employed by the Academy on your Normal Retirement Date and you are not yet fully vested in your pension, you will become fully vested on your Normal Retirement Date.

Early Retirement: You may retire on the first day of any month after reaching age 55 and before your Normal Retirement Date, if you have completed 10 or more Years of Service for vesting purposes (see page 7). If you retire early, you may elect to have your pension begin when you retire or as of the first day of any following month which is not later than your Normal Retirement Date. If your pension begins before your Normal Retirement Date, it will be actuarially reduced to reflect the fact that it will be paid over a longer period of retirement.

Late Retirement: If you continue to work past your Normal Retirement Date, your pension will not begin until your actual retirement. Your pension will be based on your compensation, service, and Social Security offset determined as of your actual retirement date.

If you reached age 70½ before 1999, your pension payments may have begun as of April 1 following the year in which you reached age 70½, even if you were still employed by the Academy.

## NORMAL RETIREMENT BENEFIT

Your normal retirement benefit is calculated as follows, using your Final Average Annual Compensation, your Years of Credited Service with the Academy, and your Social Security offset. Each of these terms is explained in detail following the formula and example below. Your benefit is determined at the time you terminate employment or, if earlier, as of December 31, 2009; you will not earn any additional benefit after December 31, 2009.

Step 1: 2% of your Final Average Annual Compensation multiplied by your Years of Credited Service up to a maximum of 25 years,

PLUS

0.5% of your Final Average Annual Compensation multiplied by your Years of Credited Service in excess of 25.

Step 2: The amount in Step 1 is then reduced by a percentage of your Social Security benefit at age 65. This is called a Social Security offset, the computation of which is explained below.

The result is your annual normal retirement benefit, payable as a single life annuity for your life, beginning at your Normal Retirement Date.

Example: Assume Keith retires with 30 Years of Credited Service. His Final Average Annual Compensation is \$36,000 and the Social Security offset is calculated to be \$4,500. His normal retirement benefit would be calculated as follows:

<u>Step 1:</u>	.02 x \$36,000 x 25 years =	\$18,000
	.005 x \$36,000 x 5 years =	+ 900
		<u>\$18,900</u>
 <u>Step 2:</u>	Social Security offset	 <u>- 4,500</u>
		\$14,400

Keith's annual normal retirement benefit, payable at his Normal Retirement Date, is \$14,400.

### Minimum Pension

Your normal retirement benefit will not be less than \$600 per year.

### Final Average Annual Compensation

Your Final Average Annual Compensation is the highest average annual compensation for any period of five consecutive calendar years (or during all calendar years in which you received compensation, if less than five). Compensation for calendar years after 2009 is disregarded.

Your compensation generally includes all compensation you receive during a calendar year, including any salary reduction contributions you make to a tax-sheltered annuity, a cafeteria plan, or the Transit-check program. However, if you earn compensation in excess of the Social Security taxable wage base (this amount was \$106,800 for 2009), your compensation in excess of the taxable wage base, for Plan purposes, excludes bonuses, overtime, or other extra, special, or supplemental compensation. This rule is illustrated by the following examples:

	<u>2009 Base Compensation</u>	<u>Bonus</u>	<u>Plan Compensation</u>
Employee A	\$100,000	\$3,000	\$103,000
Employee B	\$105,000	\$3,000	\$106,800
Employee C	\$110,000	\$3,000	\$110,000

There is also a maximum annual limit on the amount of compensation which may be taken into account under the Plan. The limit for 2009 was \$245,000.

### Year of Credited Service

You earn a Year of Credited Service for each Plan Year (January 1 to December 31) beginning on or after January 1, 1988, but before January 1, 2010, during which you are a Plan Member and you complete at least 1,000 Hours of Service as an employee of the Academy. Hours of Service include the hours for which you are paid or entitled to be paid for working for the Academy, and certain other hours for which you are paid for reasons such as vacations, holidays, etc. If the Academy does not keep records of your hours worked, you will be credited, for purposes of the Plan, with 45 Hours of Service for each

week in which you actually have at least one Hour of Service. "Hour of Service" is a technical term which is more fully defined in the Plan.

Service before January 1, 1988, is credited in accordance with the provisions of the Plan in effect prior to January 1, 1988.

You will not earn Years of Credited Service for any period after December 31, 2009.

You will not earn Years of Credited Service for any service for which credit has been given under any other retirement plan to which the Academy contributes.

### Social Security Offset

The Social Security offset is based on your Primary Insurance Amount, which is the old-age insurance benefit you are expected to get from Social Security at age 65. For employees who became Plan Members after January 1, 1980, the Social Security offset, calculated at the Normal Retirement Date, is equal to 2% of the Social Security Primary Insurance Amount at age 65 multiplied by Years of Credited Service. The maximum Social Security offset is 50% of the Primary Insurance Amount after 25 Years of Credited Service. For example, if your expected Social Security benefit at age 65 is \$20,000 per year and you have 10 Years of Credited Service with the Academy when you reach your Normal Retirement Date, your Social Security offset is equal to  $2\% \times \$20,000 \times 10 \text{ years} = \$4,000$ .

For Members who participated in the Plan before January 1, 1980, the formula stated above for calculating the Social Security offset will apply only to Years of Credited Service after January 1, 1980. For service before that date, a prorated amount of the Plan's prior Social Security offset will be used. The prior Social Security offset was a flat amount equal to \$1,524.

The Plan contains special provisions for determining the estimated Primary Insurance Amount and calculating the Social Security offset in the case of Members who terminate employment prior to the Normal Retirement Date. In determining your Social Security offset, the Plan may use an estimate of your salary history. You have the right to supply documentation of your actual salary history, in which case your actual salary history will be used rather than an estimate.

The calculation of the Social Security offset which will be used in determining your Plan benefit is a technical and complicated procedure which is fully described in the Plan document and only summarized in this Summary Plan Description.

You should note that the Primary Insurance Amount is based on your earnings from the time you started work up to the time you reach age 65. If you terminate employment before age 65, your Primary Insurance Amount is estimated on the assumption that your earnings for the calendar year prior to your termination will continue at the same rate until you reach age 65. Your Primary Insurance Amount is estimated under the Social Security law in effect when you reach your Normal Retirement Date, or when you terminate employment with the Academy, if earlier. Your benefit under the Plan may be affected by changes in Social Security benefits which occur while you are working for the Academy, but not by any such changes which occur after you reach your Normal Retirement Date or terminate employment with the Academy, if earlier.

Your Social Security offset will be determined as of the earliest of your termination of employment, your Normal Retirement Date, or December 31, 2009.

## TERMINATION OF EMPLOYMENT BEFORE RETIREMENT

You accrue – or earn – a benefit under the Plan for each Year of Credited Service you complete through the end of 2009. Until December 31, 2009, your accrued benefit at any particular time is the amount determined under the Plan's benefit formula, set forth above, based on your Final Average Annual Compensation, Years of Credited Service, and expected Social Security offset at that time. After December 31, 2009, your accrued benefit is the amount determined under the Plan's benefit formula as of December 31, 2009, based on your Final Average Annual Compensation, Years of Credited Service, and expected Social Security offset on that date.

Your right to receive payment of your accrued benefit if you terminate employment before you are eligible to retire depends on your vesting service. Vesting means that you have a non-forfeitable right to a retirement benefit even if you leave the Academy before retiring.

A Year of Service, for vesting purposes, is each Plan Year after January 1, 1976, in which you complete at least 1,000 Hours of Service with the Academy. Hours of Service are the same as those counted for Years of Credited Service. Unlike your Years of Credited Service, your Years of Service for vesting purposes include any Years of Service you completed before becoming a Plan Member, except that any service before you reached age 18 is excluded. Years of Service after 2009 are also counted for vesting purposes.

Vesting service completed before January 1, 1976, is credited as provided under the provisions of the Plan in effect before January 1, 1976.

You are 100% vested in your retirement benefit after you have completed five Years of Service.

If you terminate your employment with the Academy after completing at least five but fewer than 10 Years of Service, you will be entitled to begin receiving the vested portion of your pension benefit on your Normal Retirement Date.

If your employment terminates after you have completed 10 Years of Service but before you reach age 55, you may choose to receive an actuarially reduced benefit as of the first day of any month after you reach age 55 and before you reach your Normal Retirement Date.

### Forfeitures

If your employment with the Academy ends, or is interrupted, before you are vested in your accrued benefit, you may forfeit (lose) the non-vested portion of your benefit. You will forfeit your benefit when you incur five consecutive One-Year Breaks in Service, as defined below.

Any forfeited amounts will be used to reduce the Academy's contribution to the Plan.

### Break in Service

Certain interruptions in your service with the Academy, called Breaks in Service, may affect your benefit accrual and vesting service credit under the Plan. A One-Year Break in Service is a calendar year beginning on or after January 1, 1976, during which you do not have more than 500 Hours of Service. For purposes of determining whether you have had a One-Year Break in Service, effective January 1, 1985, your Hours of Service will include all of the Hours credited to you for benefit accrual and vesting and, in addition, certain hours during which you are absent from work by reason of pregnancy, the birth of

a child, the adoption of a child, or child care immediately following birth or adoption. You will not receive credit for more than 501 Hours for these reasons for any single period of absence.

A Break in Service before January 1, 1976, will occur in accordance with the rules of the Plan in effect prior to January 1, 1976.

### Reemployment

If you have five consecutive One-Year Breaks in Service before you have a vested accrued benefit, and if you later return to work for the Academy, you will be treated as a new employee for all purposes under the Plan. Otherwise, all of your Years of Service and Years of Credited Service before the Break will be retroactively reinstated on the first anniversary of your reemployment.

If you have a vested accrued benefit at the time of a Break in Service, all of your Years of Service and Years of Credited Service will be reinstated immediately upon your reemployment, regardless of the length of the Break in Service; provided, however, that if you received a lump-sum distribution of \$5,000 or less upon your termination of employment, and you are later rehired, the Years of Credited Service for which you received a Plan benefit will not be included in determining your subsequent accrued benefit.

### NORMAL FORM OF BENEFIT PAYMENT

The normal form of benefit payment for a Member who is unmarried as of the date payments are to begin is a single life annuity. A single life annuity provides you with a monthly benefit for as long as you live, with no further payments after your death. If you are married on the date payments are to begin, your benefit will automatically be paid in the form of a qualified joint and survivor annuity, unless you elect otherwise and your spouse consents to your election.

Under the qualified joint and survivor annuity, you will receive monthly payments for as long as you live. After your death, your surviving spouse will receive a monthly benefit for life equal to 50%, 66-2/3%, 75%, or 100%, as you designate, of the pension you were receiving during your lifetime. If you make no designation, the survivor annuity will be equal to 50% of your pension. Under the qualified joint and survivor annuity, the pension benefits you receive will be reduced to provide your surviving spouse with a lifetime benefit. The reduction is necessary because the money to be used for the payment of your pension must provide benefits for two lives instead of one. The qualified joint and survivor annuity will be the actuarial equivalent of your vested accrued benefit in the form of a single life annuity.

You will be notified in writing of the availability of the election not to take the qualified joint and survivor annuity. An election not to have your benefit paid in the form of a qualified joint and survivor annuity must be made during the 180-day period preceding the date your benefit payments are to begin. For such an election to be effective, it must be consented to in writing by your spouse, and your spouse's consent must be witnessed by a Plan representative appointed by the Plan Administrator or must be notarized. Any election not to take a qualified joint and survivor annuity may be revoked at any time before the date your benefit payments are to begin.

### OPTIONAL FORMS OF BENEFIT PAYMENT

There are several other methods of benefit payment available to you, and your choice should be made carefully, after considering your family situation and retirement plans. Any of the payment methods other than the single life annuity will result in lower monthly payments to you, since they provide additional protection by either: (1) guaranteeing payments for a specified time; or (2) continuing payments after your death to your designated beneficiary. The value of your benefit under an optional

method of payment will be the equivalent of the amount of your benefit in the form of a single life annuity. The difference in the monthly amount is determined using tables calculated by our actuaries.

The selection of your form of benefit payment must be made in writing within the 180-day period before your benefit payments begin. You may cancel or change your selection at any time before your benefit commencement date by contacting the Plan Administrator. Once your benefit payments have begun, you cannot change your selection.

Remember that if you are married, the selection of any optional form of benefit requires that you elect out of the qualified joint and survivor annuity and that your spouse consent to your election.

The following forms of payment are available to you:

**CONTINGENT ANNUITANT OPTION** - This option differs from the qualified joint and survivor annuity in that you may elect someone other than your spouse to be your beneficiary. You may elect to have a benefit equal to 50%, 66-2/3%, 75%, or 100% of your benefit paid to that person after your death. If you select this option, you will receive a reduced benefit during your lifetime. After your death, a percentage of the benefit payable to you will be continued to another person, formally referred to as your Contingent Annuitant. This benefit will continue after your death for as long as your Contingent Annuitant lives.

You must name your Contingent Annuitant in writing. You may name anyone with an insurable interest in your life, e.g., your parent, sister, brother, or child. (However, the 66-2/3%, 75%, and 100% options may not be available if your Contingent Annuitant is more than 10 years younger than you.) Once your benefit payments have commenced, you may not change your designation of a Contingent Annuitant.

**CERTAIN CONTINUOUS OPTION** - If you select this option you will receive a reduced monthly pension that has the following two provisions:

- (1) You may elect that a pension will be paid over a guaranteed period of time. This period, however, may not extend further than the longer of 10 years or your life expectancy at retirement.
- (2) If you die within the guaranteed period, any remaining payments will be made to your designated beneficiary without a reduction in amount.

Under this option, you may change your beneficiary designation (with the consent of your spouse, if you are married when your benefit payments begin) at any time before your death. If no designated beneficiary survives you, or if your beneficiary dies before all guaranteed payments have been made, the remaining payments will be made to the estate of the last to die of you and your beneficiary.

**SINGLE LIFE ANNUITY** – If you are married, you may elect to receive your pension in the form of a single life annuity. This is the normal form of benefit for a Member who is unmarried.

## PAYMENT OF SMALL BENEFITS

If you terminate employment with the Academy and the lump-sum present value of your vested accrued benefit (as determined by the Plan's actuary) is \$5,000 or less, you will receive payment of your benefit in one lump sum within 60 days of the end of the Plan Year in which your employment terminates.

You generally may choose to receive a lump-sum payment in cash or to have all or a portion of the payment rolled over to another eligible plan which accepts rollovers or to an individual retirement account or annuity (IRA) or Roth IRA in a "direct rollover." If you receive a lump-sum payment and you do not choose to receive the payment in cash or designate an IRA or eligible employer plan to receive a direct rollover of the payment, the payment will automatically be rolled over to an IRA established in your name and will be invested in an investment product designed to preserve principal and to provide a reasonable rate of return and liquidity. Any fees and expenses attendant to the IRA will be paid from the IRA. (For more information regarding the Plan's automatic rollover rules, including information regarding the IRA providers and the fees and expenses attendant to an IRA, contact the Plan Administrator.)

## DEATH BENEFITS

As explained above, benefits may be paid to your beneficiary or Contingent Annuitant if you die while receiving a pension and you are receiving your pension in a form which provides for payment to your beneficiary or Contingent Annuitant.

In addition, upon the death of a married Plan Member who has earned a vested benefit (whether or not the Member is still employed by the Academy) but who has not begun to receive the benefit, the Plan will pay a preretirement survivor annuity to the Member's surviving spouse, provided the spouse was married to the Member throughout the 12-month period prior to the Member's death.

If the Member dies after his earliest retirement date (the earliest date on which he could have elected to begin receiving benefits under the Plan), the amount of the survivor annuity will be the same amount that would have been paid if the Member had retired with a qualified joint and 50% survivor annuity (or such other qualified joint and survivor annuity as actually elected by the Member) on the day before his death. Payment will commence on the first day of the month following the Member's death (except that payments will not begin before the Member's Normal Retirement Date without the spouse's consent) and will continue for the life of the spouse.

If the Member dies on or before his earliest retirement date, the amount of the survivor annuity will be the amount that would have been payable had the Member (i) separated from service on the date of death (or actual date of separation, if earlier), (ii) survived until his earliest retirement date, (iii) retired with an immediate qualified joint and 50% survivor annuity (or such other qualified joint and survivor annuity as actually elected by the Member) on his earliest retirement date, and (iv) died on the day after his earliest retirement date. Payment will commence as of the Member's earliest retirement date (except that payments will not begin before the Member's Normal Retirement Date without the spouse's consent) and will continue for the life of the spouse.

However, if the present lump-sum value of the preretirement survivor annuity is \$5,000 or less, the death benefit will be paid in a single lump sum.

If you die while in qualified military service, the same death benefits will be paid as if you had died while still employed by the Academy. "Qualified military service" for purposes of the Plan means military leave for which you are entitled to reemployment rights with the Academy under Federal law.

## REDUCTION OR LOSS OF BENEFITS

As discussed above, if you separate from the Academy or die prior to the time your benefits become vested, you will forfeit your accrued benefit unless you return to work for the Academy before you incur five consecutive One-Year Breaks in Service.

Your survivors will not receive any benefits if you choose a method of payment that does not continue benefits after your death.

If you should begin to receive a benefit under the Plan and are later reemployed by the Academy to work at least 83 Hours of Service per month, the payment of your benefit will be discontinued while you are reemployed.

The benefits from this Plan are subject to a maximum limit set by the federal government each year.

In the event of Plan termination, Internal Revenue Code rules may limit the amount of benefits which may be paid to individual Plan participants who are highly compensated. Also, if the Plan were to terminate without sufficient assets to pay all benefits described in the Plan, benefits which exceed the amounts guaranteed by the PBGC may be lost. (See page 2 for a description of benefits which are insured by the PBGC.)

If the Plan becomes significantly underfunded, the law may impose restrictions on certain forms of benefit and restrictions on benefit accruals under the Plan.

## TOP-HEAVY PROVISIONS

Federal law provides special rules in the event the Plan becomes what is called "Top-Heavy." A Top-Heavy plan is one where the value of the accrued benefits of certain "key employees" exceeds 60% of the value of the accrued benefits of all members in the Plan. The Plan is not presently top-heavy and is not expected to become top-heavy. If the Plan were to become top-heavy, special rules would apply which provide for, among other things, minimum benefit levels for Members who are not key employees and faster vesting of benefits.

## CLAIMS FOR BENEFITS UNDER THE PLAN

The Plan Administrator will make all determinations as to whether you have a right to a benefit under the Plan. If you believe that you are entitled to a benefit under the Plan, you should contact the Plan Administrator. A claim for benefits may also be presented to the Plan Administrator by your authorized representative or by your beneficiary. You cannot bring a court action regarding a claim for benefits under the Plan unless and until you have exhausted your rights to review under the Plan's claim procedures.

If you submit a claim, the Plan Administrator will review it and will then send you notice of his decision. The notice will be sent within 90 days after the Plan Administrator receives your claim, unless special circumstances require an extension of time for processing the claim. If an extension of time is needed, the Plan Administrator will give you notice of the need for an extension before termination of the original 90-day period. Generally, the extension will not exceed an additional 90 days beyond the end of the original 90-day period; however, if you do not respond to a request for additional information from the Plan Administrator, the period may be further extended.

If your claim is wholly or partially denied, the notice will clearly explain the reasons for the denial and will specify the sections of the Plan or other pertinent documents that the Plan Administrator used to arrive at its decision. The notice will also describe any additional material or information which may be necessary for you to perfect your claim and will describe the Plan's claims review procedures and your rights under the Employee Retirement Income Act of 1974, as amended ("ERISA").

You may appeal the Plan Administrator's decision by filing a request for a review of your claim. This request for a review must be presented to the Plan Administrator in writing (or in any other form which the Plan Administrator may permit) within 60 days after you receive the notice that your claim has been denied. In connection with your appeal, you will be provided, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to your claim for benefits. You will also be given the opportunity to submit documents, records, and other information relating to your claim to the Plan Administrator.

As promptly as possible, the Plan Administrator will give you a notice of its final decision regarding your claim. The notice will include specific reasons for the Plan Administrator's decision and references to the Plan provisions on which the decision is based, as well as a description of your rights under the Plan and ERISA. The decision will be made within 60 days after the Plan Administrator receives your request for a review, unless special circumstances require an extension of time for processing the claim. If an extension of time is needed, the Plan Administrator will give you notice of the need for an extension before termination of the original 60-day period. Generally, the extension will not exceed an additional 60 days beyond the end of the original 60-day period; however, if you do not respond to a request for additional information from the Plan Administrator, the period may be further extended.

#### FUTURE OF THE PLAN

The Academy reserves the right to terminate or amend the Plan at any time. No Plan amendment will reduce the amount of a Member's accrued benefit or vested percentage as of the date of the amendment.

If the Plan is terminated for any reason, your accrued benefit under the Plan will become fully vested to the extent funded. The Trust Fund will be used to provide for your benefits, to the extent funded, in the order of preference prescribed by Federal law. If, after all benefits have been paid to Members and beneficiaries, assets remain in the Trust Fund, such assets will be returned to the Academy.

#### ASSIGNMENT OF BENEFITS

The Plan does not allow you to transfer or assign any part of your benefits under this Plan. This requirement is to protect your benefits from the reach of creditors (except the IRS) until you are entitled to them under the terms of the Plan. However, your benefit may be reduced under certain circumstances if you have committed a breach of fiduciary duty or committed a criminal act against the Plan. In addition, the Plan Administrator has procedures to determine the status and to administer distributions under the terms of any applicable "Qualified Domestic Relations Order." A Qualified Domestic Relations Order means a domestic relations order made pursuant to a state domestic relations law which creates the existence of an alternate payee's right to receive all or a portion of the benefits payable to you for child support, alimony payments, or marital property rights. An alternate payee may be a spouse, former spouse, child, or any other dependent of yours. You will be notified if a Qualified Domestic Relations Order affects your benefits. You may obtain from the Plan Administrator, without charge, a copy of the Plan's procedure governing Qualified Domestic Relations Orders.

## STATEMENT OF YOUR RIGHTS UNDER ERISA

As a Member of the Plan, you are entitled to certain rights and protections under the Employee Retirement Income Security Act of 1974, as amended (“ERISA”). ERISA provides that, as a Member of the Plan, you are entitled to:

*Information about Your Plan and Benefits.* As a Member, you may:

- Examine, without charge, in the administrative office of the Plan Administrator and at other specified locations, all documents governing the Plan, and a copy of the latest annual report (Form 5500 Series) filed by the Plan with the U.S. Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration.
- Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the Plan, and copies of the latest annual report (Form 5500 Series) and updated summary plan description. The Plan Administrator may make a reasonable charge for the copies.
- Receive a summary of the Plan’s annual financial report. The Plan Administrator is required by law to furnish each Member with a copy of this summary annual report.
- Obtain a statement telling you whether you have a right to receive a pension at normal retirement age (the later of age 65 or the fifth anniversary of the date on which you became a Member) and, if so, what your benefits would be at normal retirement age if you stop working under the Plan now. If you do not have a right to a pension, the statement will tell you how many more years you have to work to get a right to a pension. This statement must be requested in writing and is not required to be given more than once every 12 months. The Plan must provide the statement free of charge.

*Prudent Actions by Plan Fiduciaries.*

In addition to creating rights for Members of the Plan, ERISA imposes duties upon the persons who are responsible for operating the Plan. The people who operate your Plan, called “fiduciaries” of the Plan, have a duty to do so prudently and in the interest of you and other Members and beneficiaries. No one, including your employer or any other person, may fire you or otherwise discriminate against you in any way to prevent you from obtaining a pension benefit or exercising your rights under ERISA.

*Enforcement of Your Rights.*

If your claim for a pension benefit is denied or ignored, in whole or in part, you have a right to know why this was done, to obtain copies of documents relating to the decision without charge, and to appeal any denial, all within certain time schedules.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request a copy of Plan documents or the latest annual report from the Plan and do not receive them within 30 days, you may file suit in a Federal court. In such case, the court may require the Plan Administrator to provide the materials and pay you up to \$110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the control of the Plan Administrator. If you have a claim for benefits which is denied or ignored, in whole or in part, you may file suit in a state or Federal court. In

addition, if you disagree with the Plan's decision or lack thereof concerning the qualified status of a domestic relations order, you may file suit in a Federal court.

If it should happen that Plan fiduciaries misuse the Plan's money, or if you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a Federal court. The court will decide who should pay court costs and legal fees. If you are successful, the court may order the person you have sued to pay these costs and fees. If you lose, the court may order you to pay these costs and fees, for example, if it finds your claim is frivolous.

*Assistance with Your Questions.*

If you have any questions about your Plan, you should contact the Plan Administrator. If you have any questions about this Statement or about your rights under ERISA, or if you need assistance in obtaining documents from the Plan Administrator, you should contact the nearest office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your telephone directory or the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution Avenue N.W., Washington, DC 20210. You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration. You may seek additional assistance by calling EBSA toll-free at (866) 444-EBSA or by directing electronic inquiries to EBSA's website at [www.askebsa.dol.gov](http://www.askebsa.dol.gov).

754, 66-2/78, 904, 33-1/78 AND 234 CONTINGENT AMOUNTS COMPARED TO SUCCESSIVE LOOP PATTERNS  
(TO BE USED IN CONNECTION WITH APPROXIMATE LOOP CONTINGENT AMOUNT VALUES)

Sheet 1 of 3 sheets

1004	754 66-2/78 904 33-1/78 234	1004	754 66-2/78 904 33-1/78 234	1004	754 66-2/78 904 33-1/78 234	1004	754 66-2/78 904 33-1/78 234
400	471	500	511	667	727	400	471
401	472	501	512	668	728	401	472
402	473	502	513	669	729	402	473
403	474	503	514	670	730	403	474
404	475	504	515	671	731	404	475
405	476	505	516	672	732	405	476
406	477	506	517	673	733	406	477
407	478	507	518	674	734	407	478
408	479	508	519	675	735	408	479
409	480	509	520	676	736	409	480
410	481	510	521	677	737	410	481
411	482	511	522	678	738	411	482
412	483	512	523	679	739	412	483
413	484	513	524	680	740	413	484
414	485	514	525	681	741	414	485
415	486	515	526	682	742	415	486
416	487	516	527	683	743	416	487
417	488	517	528	684	744	417	488
418	489	518	529	685	745	418	489
419	490	519	530	686	746	419	490
420	491	520	531	687	747	420	491
421	492	521	532	688	748	421	492
422	493	522	533	689	749	422	493
423	494	523	534	690	750	423	494
424	495	524	535	691	751	424	495
425	496	525	536	692	752	425	496
426	497	526	537	693	753	426	497
427	498	527	538	694	754	427	498
428	499	528	539	695	755	428	499
429	500	529	540	696	756	429	500
430	501	530	541	697	757	430	501
431	502	531	542	698	758	431	502
432	503	532	543	699	759	432	503
433	504	533	544	700	760	433	504
434	505	534	545	701	761	434	505
435	506	535	546	702	762	435	506
436	507	536	547	703	763	436	507
437	508	537	548	704	764	437	508
438	509	538	549	705	765	438	509
439	510	539	550	706	766	439	510
440	511	540	551	707	767	440	511
441	512	541	552	708	768	441	512
442	513	542	553	709	769	442	513
443	514	543	554	710	770	443	514
444	515	544	555	711	771	444	515
445	516	545	556	712	772	445	516
446	517	546	557	713	773	446	517
447	518	547	558	714	774	447	518
448	519	548	559	715	775	448	519
449	520	549	560	716	776	449	520
450	521	550	561	717	777	450	521
451	522	551	562	718	778	451	522
452	523	552	563	719	779	452	523
453	524	553	564	720	780	453	524
454	525	554	565	721	781	454	525
455	526	555	566	722	782	455	526
456	527	556	567	723	783	456	527
457	528	557	568	724	784	457	528
458	529	558	569	725	785	458	529
459	530	559	570	726	786	459	530
460	531	560	571	727	787	460	531
461	532	561	572	728	788	461	532
462	533	562	573	729	789	462	533
463	534	563	574	730	790	463	534
464	535	564	575	731	791	464	535
465	536	565	576	732	792	465	536
466	537	566	577	733	793	466	537
467	538	567	578	734	794	467	538
468	539	568	579	735	795	468	539
469	540	569	580	736	796	469	540
470	541	570	581	737	797	470	541
471	542	571	582	738	798	471	542
472	543	572	583	739	799	472	543
473	544	573	584	740	800	473	544
474	545	574	585	741	801	474	545
475	546	575	586	742	802	475	546
476	547	576	587	743	803	476	547
477	548	577	588	744	804	477	548
478	549	578	589	745	805	478	549
479	550	579	590	746	806	479	550
480	551	580	591	747	807	480	551
481	552	581	592	748	808	481	552
482	553	582	593	749	809	482	553
483	554	583	594	750	810	483	554
484	555	584	595	751	811	484	555
485	556	585	596	752	812	485	556
486	557	586	597	753	813	486	557
487	558	587	598	754	814	487	558
488	559	588	599	755	815	488	559
489	560	589	600	756	816	489	560
490	561	590	601	757	817	490	561
491	562	591	602	758	818	491	562
492	563	592	603	759	819	492	563
493	564	593	604	760	820	493	564
494	565	594	605	761	821	494	565
495	566	595	606	762	822	495	566
496	567	596	607	763	823	496	567
497	568	597	608	764	824	497	568
498	569	598	609	765	825	498	569
499	570	599	610	766	826	499	570
500	571	600	611	767	827	500	571
501	572	601	612	768	828	501	572
502	573	602	613	769	829	502	573
503	574	603	614	770	830	503	574
504	575	604	615	771	831	504	575
505	576	605	616	772	832	505	576
506	577	606	617	773	833	506	577
507	578	607	618	774	834	507	578
508	579	608	619	775	835	508	579
509	580	609	620	776	836	509	580
510	581	610	621	777	837	510	581
511	582	611	622	778	838	511	582
512	583	612	623	779	839	512	583
513	584	613	624	780	840	513	584
514	585	614	625	781	841	514	585
515	586	615	626	782	842	515	586
516	587	616	627	783	843	516	587
517	588	617	628	784	844	517	588
518	589	618	629	785	845	518	589
519	590	619	630	786	846	519	590
520	591	620	631	787	847	520	591
521	592	621	632	788	848	521	592
522	593	622	633	789	849	522	593
523	594	623	634	790	850	523	594
524	595	624	635	791	851	524	595
525	596	625	636	792	852	525	596
526	597	626	637	793	853	526	597
527	598	627	638	794	854	527	598
528	599	628	639	795	855	528	599
529	600	629	640	796	856	529	600
530	601	630	641	797	857	530	601
531	602	631	642	798	858	531	602
532	603	632	643	799	859	532	603
533	604	633	644	800	860	533	604
534	605	634	645	801	861	534	605
535	606	635	646	802	862	535	606
536	607	636	647	803	863	536	607
537	608	637	648	804	864	537	608
538	609	638	649	805	865	538	609
539	610	639	650	806	866	539	610
540	611	640	651	807	867	540	611
541	612	641	652	808	868	541	612
542	613	642	653	809	869	542	613
543	614	643	654	810	870	543	614
544	615	644	655	811	871	544	615
545	616	645	656	812	872	545	616
546	617	646	657	813	873	546	617
547	618	647	658	814	874	547	618
548	619	648	659	815	875	548	619
549	620	649	660	816	876	549	620
550	621	650	661	817	877	550	621
551	622	651	662	818	878	551	622
552	623	652	663	819	879	552	623
553	624	653	664	820	880	553	624
554	625	654	665	821	881	554	625
555	626	655	666	822	882	555	626
556	627	656	667	823	883	556	627
557	628	657	668	824	884	557	628
558	629	658	669	825	885	558	629
559	630	659	670	826	886	559	630
560	631	660	671	827	887	560	631
561	632	661	672	828	888	561	632
562	633	662	673	829	889	562	633
563	634	663	674	830	890	563	634
564	635	664	675	831	891	564	635
565	636	665	676	832	892	565	636
566	637	666	677	833	893	566	637
567	638	667	678	834	894	567	638
568	639	668	679	835	895	568	639
569	640	669	680	836	896	569	640
570	641	670	681	837	897	570	641
571	642	671	682	838	898	571	642
572	643	672	683	839	899	572	643
573	644	673	684</				



154, 66-2/75, 504, 11-1/75 AND 254 COMPARTMENT AMMUNITION FACTORS CORRESPONDING TO SUCCESSIVE LOOP FACTORS  
(TO BE USED IN CONNECTION WITH APPROXIMATE LOOP COMPARTMENT AMMUNITION TABLES)

1009	124	66-2/75	504	11-1/75	254	1009	124	66-2/75	504	11-1/75	254	1009	124	66-2/75	504	11-1/75	254	1009	124	66-2/75	504	11-1/75	254
800	802	807	809	823	841	800	803	805	819	844	858	800	803	811	847	864	873	850	862	866	874	883	891
801	804	806	830	874	842	801	804	805	830	845	858	801	804	812	848	865	873	851	861	867	875	883	891
802	805	809	830	874	842	802	805	806	830	845	858	802	805	812	848	865	873	852	864	867	875	883	891
803	806	810	834	878	846	803	806	807	831	846	859	803	806	813	849	866	874	853	864	868	876	884	892
804	807	811	835	882	848	804	807	808	832	847	860	804	807	814	850	867	875	854	865	869	877	885	893
805	808	812	836	886	850	805	808	809	833	848	861	805	808	815	851	868	876	855	866	870	878	886	894
806	809	813	837	889	851	806	809	810	834	849	862	806	809	816	852	869	877	856	867	871	879	887	895
807	810	814	838	892	853	807	810	811	835	850	863	807	810	817	853	870	878	857	868	872	880	888	896
808	811	815	839	896	855	808	811	812	836	851	864	808	811	818	854	871	879	858	869	873	881	889	897
809	812	816	840	899	856	809	812	813	837	852	865	809	812	819	855	872	880	859	870	874	882	890	898
810	813	817	841	902	858	810	813	814	838	853	866	810	813	820	856	873	881	860	871	875	883	891	899
811	814	818	842	906	860	811	814	815	839	854	867	811	814	821	857	874	882	861	872	876	884	892	900
812	815	819	843	909	861	812	815	816	840	855	868	812	815	822	858	875	883	862	873	877	885	893	901
813	816	820	844	912	862	813	816	817	841	856	869	813	816	823	859	876	884	863	874	878	886	894	902
814	817	821	845	916	864	814	817	818	842	857	870	814	817	824	860	877	885	864	875	879	887	895	903
815	818	822	846	919	865	815	818	819	843	858	871	815	818	825	861	878	886	865	876	880	888	896	904
816	819	823	847	922	866	816	819	820	844	859	872	816	819	826	862	879	887	866	877	881	889	897	905
817	820	824	848	926	868	817	820	821	845	860	873	817	820	827	863	880	888	867	878	882	890	898	906
818	821	825	849	929	869	818	821	822	846	861	874	818	821	828	864	881	889	868	879	883	891	899	907
819	822	826	850	932	870	819	822	823	847	862	875	819	822	829	865	882	890	869	880	884	892	900	908
820	823	827	851	936	871	820	823	824	848	863	876	820	823	830	866	883	891	870	881	885	893	901	909
821	824	828	852	939	872	821	824	825	849	864	877	821	824	831	867	884	892	871	882	886	894	902	910
822	825	829	853	942	873	822	825	826	850	865	878	822	825	832	868	885	893	872	883	887	895	903	911
823	826	830	854	946	874	823	826	827	851	866	879	823	826	833	869	886	894	873	884	888	896	904	912
824	827	831	855	949	875	824	827	828	852	867	880	824	827	834	870	887	895	874	885	889	897	905	913
825	828	832	856	952	876	825	828	829	853	868	881	825	828	835	871	888	896	875	886	890	898	906	914
826	829	833	857	956	877	826	829	830	854	869	882	826	829	836	872	889	897	876	887	891	899	907	915
827	830	834	858	959	878	827	830	831	855	870	883	827	830	837	873	890	898	877	888	892	900	908	916
828	831	835	859	962	879	828	831	832	856	871	884	828	831	838	874	891	899	878	889	893	901	909	917
829	832	836	860	966	880	829	832	833	857	872	885	829	832	839	875	892	900	879	890	894	902	910	918
830	833	837	861	969	881	830	833	834	858	873	886	830	833	840	876	893	901	880	891	895	903	911	919
831	834	838	862	972	882	831	834	835	859	874	887	831	834	841	877	894	902	881	892	896	904	912	920
832	835	839	863	976	883	832	835	836	860	875	888	832	835	842	878	895	903	882	893	897	905	913	921
833	836	840	864	979	884	833	836	837	861	876	889	833	836	843	879	896	904	883	894	898	906	914	922
834	837	841	865	982	885	834	837	838	862	877	890	834	837	844	880	897	905	884	895	899	907	915	923
835	838	842	866	986	886	835	838	839	863	878	891	835	838	845	881	898	906	885	896	900	908	916	924
836	839	843	867	989	887	836	839	840	864	879	892	836	839	846	882	899	907	886	897	901	909	917	925
837	840	844	868	992	888	837	840	841	865	880	893	837	840	847	883	900	908	887	898	902	910	918	926
838	841	845	869	996	889	838	841	842	866	881	894	838	841	848	884	901	909	888	899	903	911	919	927
839	842	846	870	999	890	839	842	843	867	882	895	839	842	849	885	902	910	889	900	904	912	920	928
840	843	847	871	1000	891	840	843	844	868	883	896	840	843	850	886	903	911	890	901	905	913	921	929
841	844	848	872	1000	892	841	844	845	869	884	897	841	844	851	887	904	912	891	902	906	914	922	930
842	845	849	873	1000	893	842	845	846	870	885	898	842	845	852	888	905	913	892	903	907	915	923	931
843	846	850	874	1000	894	843	846	847	871	886	900	843	846	853	889	906	914	893	904	908	916	924	932
844	847	851	875	1000	895	844	847	848	872	887	901	844	847	854	890	907	915	894	905	909	917	925	933
845	848	852	876	1000	896	845	848	849	873	888	902	845	848	855	891	908	916	895	906	910	918	926	934
846	849	853	877	1000	897	846	849	850	874	889	903	846	849	856	892	909	917	896	907	911	919	927	935
847	850	854	878	1000	898	847	850	851	875	890	904	847	850	857	893	910	918	897	908	912	920	928	936
848	851	855	879	1000	899	848	851	852	876	891	905	848	851	858	894	911	919	898	909	913	921	929	937
849	852	856	880	1000	900	849	852	853	877	892	906	849	852	859	895	912	920	899	910	914	922	930	938

TODDERS, FERRIS, FORESTER & CROCKETT, INC.  
January 11, 1961

ACADEMY OF NATU SCIENCES

FACTORS TO BE APPLIED TO EMPLOYEE'S RETIREMENT INCOME TO DETERMINE INCOME UNDER CONTINGENT ANNUITANT OPTION IF 100% OF SUCH INCOME IS CONTINUED TO CONTINGENT ANNUITANT

BENEFICIARY'S AGE AT RETIREMENT	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	BENEFICIARY'S AGE AT RETIREMENT
20	.908	.902	.895	.888	.880	.873	.864	.855	.846	.837	.827	.817	.807	.796	.785	.774	20
21	.909	.903	.896	.889	.881	.874	.865	.856	.847	.838	.828	.818	.808	.797	.786	.775	21
22	.911	.904	.898	.890	.882	.875	.866	.857	.848	.839	.829	.819	.809	.798	.787	.776	22
23	.912	.906	.899	.892	.884	.876	.868	.859	.850	.841	.831	.821	.811	.800	.789	.778	23
24	.913	.907	.900	.893	.885	.878	.869	.861	.852	.842	.833	.823	.812	.802	.791	.779	24
25	.914	.908	.902	.894	.887	.879	.871	.862	.853	.844	.834	.824	.814	.803	.792	.781	25
26	.916	.910	.903	.896	.888	.881	.872	.863	.854	.845	.835	.825	.815	.804	.793	.782	26
27	.917	.911	.904	.897	.890	.882	.873	.864	.855	.846	.836	.826	.816	.805	.794	.782	27
28	.919	.912	.906	.899	.891	.883	.874	.865	.856	.847	.837	.827	.817	.806	.795	.784	28
29	.920	.914	.908	.901	.893	.885	.876	.867	.858	.849	.839	.829	.819	.808	.797	.786	29
30	.922	.916	.909	.902	.894	.887	.878	.869	.860	.851	.841	.831	.821	.810	.799	.788	30
31	.923	.917	.910	.903	.895	.888	.879	.870	.861	.852	.842	.832	.822	.811	.800	.789	31
32	.925	.919	.913	.906	.898	.891	.882	.873	.864	.855	.845	.835	.825	.814	.803	.792	32
33	.927	.921	.914	.908	.901	.893	.884	.875	.866	.857	.847	.837	.827	.816	.805	.794	33
34	.928	.922	.916	.910	.902	.895	.886	.877	.868	.859	.849	.839	.829	.818	.807	.796	34
35	.930	.924	.918	.912	.905	.897	.889	.880	.871	.862	.852	.842	.832	.821	.810	.799	35
36	.932	.926	.920	.914	.907	.899	.891	.882	.873	.864	.854	.844	.834	.823	.812	.801	36
37	.934	.928	.922	.916	.909	.901	.892	.883	.874	.865	.855	.845	.835	.824	.813	.802	37
38	.935	.930	.924	.918	.911	.903	.894	.885	.876	.867	.857	.847	.837	.826	.815	.804	38
39	.937	.932	.926	.920	.913	.906	.897	.888	.879	.870	.860	.850	.840	.829	.818	.807	39
40	.939	.934	.928	.922	.915	.908	.900	.891	.882	.873	.863	.853	.843	.832	.821	.810	40
41	.941	.936	.930	.924	.917	.910	.901	.892	.883	.874	.864	.854	.844	.833	.822	.811	41
42	.943	.938	.932	.926	.919	.912	.903	.894	.885	.876	.866	.856	.846	.835	.824	.813	42
43	.945	.940	.934	.928	.921	.914	.905	.896	.887	.878	.868	.858	.848	.837	.826	.815	43
44	.947	.942	.936	.930	.923	.916	.907	.898	.889	.880	.870	.860	.850	.839	.828	.817	44
45	.949	.944	.938	.932	.925	.918	.909	.900	.891	.882	.872	.862	.852	.841	.830	.819	45
46	.951	.946	.940	.934	.927	.920	.911	.902	.893	.884	.874	.864	.854	.843	.832	.821	46
47	.953	.948	.942	.936	.929	.922	.913	.904	.895	.886	.876	.866	.856	.845	.834	.823	47
48	.955	.950	.944	.938	.931	.924	.915	.906	.897	.888	.878	.868	.858	.847	.836	.825	48
49	.957	.952	.946	.940	.933	.926	.917	.908	.899	.890	.880	.870	.860	.849	.838	.827	49
50	.958	.954	.948	.942	.935	.928	.919	.910	.901	.892	.882	.872	.862	.851	.840	.829	50
51	.960	.956	.950	.944	.937	.930	.921	.912	.903	.894	.884	.874	.864	.853	.842	.831	51
52	.962	.958	.952	.946	.939	.932	.923	.914	.905	.896	.886	.876	.866	.855	.844	.833	52
53	.964	.960	.954	.948	.941	.934	.925	.916	.907	.898	.888	.878	.868	.857	.846	.835	53
54	.966	.962	.956	.950	.943	.936	.927	.918	.909	.900	.890	.880	.870	.859	.848	.837	54
55	.968	.964	.958	.952	.945	.938	.929	.920	.911	.902	.892	.882	.872	.861	.850	.839	55

PENSIONER WHOSE RETIREMENT AGE IS: INTEREST - 7.0000%

PENSIONER'S MORTALITY - 1971 TPFC FORECAST MORTALITY TABLE

BENEFICIARY'S MORTALITY - 1971 TPFC FORECAST MORTALITY TABLE

TPFC TOWERS, PERRIN, FORSTER & CROSBY

ACADEMY OF NATL. SCIENCES

FACTORS TO BE APPLIED TO EMPLOYEE'S RETIREMENT INCOME TO DETERMINE INCOME UNDER CONTINGENT ANNUITANT OPTION IF 100% OF SUCH INCOME IS CONTINUED TO CONTINGENT ANNUITANT

BENEFICIARY'S AGE AT PENSIONER'S RETIREMENT	PENSIONER WHOSE RETIREMENT AGE IS:															BENEFICIARY'S PENSIONER'S RETIREMENT	
	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54		55
55	.967	.964	.960	.956	.952	.947	.942	.936	.931	.924	.917	.910	.903	.895	.886	.877	55
56	.969	.966	.962	.959	.954	.950	.945	.939	.934	.927	.921	.914	.907	.899	.890	.882	56
57	.971	.968	.964	.961	.957	.952	.947	.942	.937	.931	.924	.918	.911	.903	.895	.886	57
58	.972	.969	.965	.962	.958	.953	.948	.943	.938	.932	.925	.919	.912	.904	.896	.887	58
59	.974	.971	.968	.965	.961	.957	.952	.948	.943	.937	.931	.925	.919	.911	.904	.896	59
60	.975	.973	.970	.967	.963	.959	.955	.950	.946	.940	.935	.929	.922	.915	.908	.900	60
61	.977	.974	.972	.969	.965	.961	.957	.953	.948	.943	.938	.932	.926	.919	.912	.905	61
62	.978	.976	.973	.970	.967	.963	.959	.955	.950	.946	.941	.935	.929	.922	.915	.908	62
63	.980	.977	.975	.972	.969	.965	.961	.957	.953	.948	.943	.937	.931	.924	.917	.910	63
64	.981	.979	.977	.974	.971	.968	.964	.961	.957	.952	.948	.943	.937	.931	.924	.918	64
65	.982	.980	.978	.976	.973	.970	.967	.963	.959	.955	.951	.946	.941	.935	.929	.923	65
66	.983	.982	.981	.979	.977	.974	.972	.968	.964	.960	.956	.952	.948	.943	.937	.932	66
67	.985	.983	.982	.980	.978	.976	.974	.971	.968	.965	.961	.957	.953	.948	.943	.938	67
68	.986	.984	.982	.980	.978	.976	.974	.971	.968	.966	.962	.958	.954	.950	.945	.940	68
69	.987	.985	.984	.982	.980	.977	.975	.972	.969	.966	.962	.958	.954	.950	.945	.940	69
70	.988	.986	.985	.983	.981	.979	.977	.974	.971	.968	.965	.961	.957	.953	.949	.944	70
71	.989	.987	.986	.984	.982	.980	.978	.976	.973	.970	.967	.964	.960	.956	.952	.947	71
72	.990	.988	.987	.985	.983	.981	.979	.977	.974	.972	.969	.966	.962	.958	.954	.949	72
73	.990	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	.966	.962	.958	.954	73
74	.991	.990	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	.966	.962	.958	74
75	.992	.991	.990	.989	.987	.986	.984	.982	.980	.978	.976	.973	.970	.967	.964	.961	75
76	.993	.992	.991	.990	.988	.987	.985	.984	.982	.980	.978	.975	.972	.969	.966	.963	76
77	.993	.992	.991	.990	.988	.987	.985	.984	.982	.980	.978	.975	.972	.969	.966	.963	77
78	.994	.993	.992	.991	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	.966	78
79	.994	.993	.992	.991	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	.966	79
80	.995	.994	.993	.992	.991	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	80
81	.995	.994	.993	.992	.991	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	81
82	.995	.994	.993	.992	.991	.989	.988	.986	.985	.983	.981	.979	.977	.974	.972	.969	82
83	.996	.995	.994	.993	.992	.990	.989	.987	.986	.984	.982	.980	.978	.976	.974	.972	83
84	.996	.995	.994	.993	.992	.990	.989	.987	.986	.984	.982	.980	.978	.976	.974	.972	84
85	.997	.996	.995	.994	.993	.991	.990	.988	.987	.985	.983	.981	.979	.977	.974	.972	85
86	.997	.997	.996	.995	.994	.992	.991	.989	.988	.986	.984	.982	.980	.978	.976	.974	86
87	.997	.997	.996	.995	.994	.992	.991	.989	.988	.986	.984	.982	.980	.978	.976	.974	87
88	.998	.997	.996	.995	.994	.992	.991	.989	.988	.986	.984	.982	.980	.978	.976	.974	88
89	.998	.998	.997	.996	.995	.993	.992	.990	.989	.987	.985	.983	.981	.979	.977	.974	89

PENSIONER WHOSE RETIREMENT AGE IS:  
INTEREST - 7.0000X  
PENSIONER'S MORTALITY - 1971 TPFC FORECAST MORTALITY TABLE  
BENEFICIARY'S MORTALITY - 1971 TPFC FORECAST MORTALITY TABLE

\*\*\*\* = 1.000

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BENEFICIARY'S AGE AT PENSIONER'S RETIREMENT	PENSIONER WHOSE RETIREMENT AGE IS:										BENEFICIARY'S AGE AT PENSIONER'S RETIREMENT						
	55	56	57	58	59	60	61	62	63	64							
20	.774	.762	.750	.737	.724	.711	.697	.682	.667	.652	.636	.619	.603	.586	.569	.552	20
21	.775	.763	.751	.738	.725	.712	.698	.683	.668	.653	.637	.620	.604	.587	.570	.553	21
22	.776	.765	.752	.739	.726	.713	.699	.684	.669	.654	.638	.622	.605	.588	.571	.554	22
23	.778	.766	.753	.740	.727	.715	.700	.685	.671	.655	.639	.623	.606	.589	.572	.555	23
24	.779	.767	.755	.743	.730	.716	.702	.687	.672	.657	.641	.624	.607	.590	.573	.556	24
25	.781	.769	.757	.744	.731	.717	.703	.689	.674	.658	.642	.626	.609	.592	.574	.557	25
26	.782	.771	.758	.746	.733	.719	.705	.690	.675	.660	.644	.627	.610	.593	.575	.557	26
27	.784	.772	.760	.748	.736	.723	.708	.692	.677	.661	.645	.629	.612	.595	.577	.560	27
28	.786	.774	.762	.750	.738	.725	.710	.694	.679	.663	.647	.630	.613	.596	.578	.561	28
29	.788	.776	.764	.751	.739	.726	.711	.695	.680	.665	.649	.632	.615	.598	.581	.563	29
30	.790	.778	.766	.753	.740	.727	.712	.696	.682	.667	.651	.634	.617	.600	.582	.565	30
31	.792	.780	.768	.755	.742	.729	.714	.698	.684	.669	.653	.636	.619	.602	.584	.567	31
32	.794	.783	.770	.758	.745	.731	.716	.700	.687	.671	.655	.638	.621	.604	.586	.569	32
33	.797	.785	.773	.760	.747	.733	.718	.702	.689	.673	.657	.640	.623	.606	.588	.571	33
34	.799	.787	.775	.763	.749	.736	.722	.707	.691	.676	.659	.643	.626	.609	.591	.573	34
35	.802	.790	.778	.765	.752	.738	.724	.709	.694	.678	.662	.645	.628	.611	.593	.576	35
36	.804	.793	.781	.768	.755	.741	.727	.712	.697	.681	.665	.648	.631	.613	.595	.578	36
37	.807	.796	.783	.771	.758	.744	.730	.715	.700	.684	.668	.651	.633	.616	.598	.581	37
38	.810	.798	.786	.774	.761	.747	.733	.718	.703	.687	.671	.654	.636	.619	.601	.583	38
39	.813	.802	.790	.777	.764	.750	.736	.721	.706	.690	.674	.657	.640	.622	.604	.586	39
40	.816	.805	.793	.780	.767	.753	.739	.725	.709	.693	.677	.660	.643	.625	.607	.590	40
41	.820	.808	.796	.784	.771	.757	.743	.728	.713	.697	.681	.664	.646	.629	.611	.593	41
42	.823	.812	.800	.787	.775	.761	.747	.732	.717	.701	.685	.668	.650	.632	.614	.596	42
43	.827	.815	.804	.791	.778	.765	.751	.736	.721	.705	.689	.672	.654	.636	.618	.600	43
44	.830	.819	.807	.795	.782	.769	.755	.740	.725	.709	.692	.675	.657	.640	.622	.604	44
45	.834	.823	.811	.799	.786	.773	.759	.744	.729	.713	.697	.680	.662	.644	.626	.608	45
46	.838	.827	.815	.803	.791	.777	.763	.749	.733	.718	.701	.684	.666	.648	.630	.612	46
47	.842	.831	.820	.808	.795	.782	.768	.753	.738	.722	.706	.689	.671	.653	.635	.617	47
48	.846	.835	.824	.812	.800	.787	.773	.758	.743	.727	.711	.694	.676	.658	.640	.622	48
49	.850	.840	.829	.817	.804	.791	.778	.763	.748	.732	.716	.699	.681	.663	.645	.627	49
50	.855	.844	.833	.821	.809	.796	.783	.768	.753	.738	.721	.704	.687	.669	.651	.632	50
51	.859	.849	.838	.826	.814	.801	.788	.773	.758	.743	.727	.710	.692	.674	.656	.638	51
52	.863	.853	.843	.831	.819	.807	.793	.779	.764	.749	.733	.716	.698	.680	.662	.644	52
53	.868	.858	.847	.836	.824	.812	.799	.784	.769	.754	.738	.721	.703	.685	.667	.649	53
54	.872	.863	.852	.841	.830	.817	.804	.789	.774	.759	.744	.728	.710	.692	.674	.656	54

PENSIONER WHOSE RETIREMENT AGE IS:  
INTEREST - 7.0000%

PENSIONER'S MORTALITY - 1971 TPFFC FORECAST MORTALITY TABLE  
BENEFICIARY'S MORTALITY - 1971 TPFFC FORECAST MORTALITY TABLE

\*\*\*\* x 1.000

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BENEFICIARY'S AGE AT RETIREMENT	PENSIONER WHOSE RETIREMENT AGE IS:															BENEFICIARY'S AGE AT RETIREMENT	
	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69		70
55	.877	.867	.857	.847	.835	.823	.810	.796	.782	.766	.751	.734	.717	.699	.681	.662	55
56	.872	.862	.852	.841	.829	.816	.802	.788	.774	.757	.740	.723	.705	.687	.668	.649	56
57	.866	.856	.846	.834	.822	.808	.794	.779	.764	.747	.730	.712	.694	.675	.656	.637	57
58	.861	.851	.841	.829	.815	.801	.786	.770	.754	.737	.720	.702	.684	.665	.646	.627	58
59	.856	.846	.836	.824	.810	.796	.781	.765	.749	.732	.715	.697	.678	.659	.640	.621	59
60	.851	.841	.831	.819	.805	.791	.775	.759	.743	.726	.709	.691	.672	.653	.634	.615	60
61	.846	.836	.826	.814	.800	.786	.770	.754	.738	.721	.704	.686	.667	.648	.629	.610	61
62	.841	.831	.821	.809	.795	.781	.765	.749	.733	.716	.699	.681	.662	.643	.624	.605	62
63	.836	.826	.816	.804	.790	.776	.760	.744	.728	.711	.694	.676	.657	.638	.619	.600	63
64	.831	.821	.811	.799	.785	.771	.755	.739	.723	.706	.689	.671	.652	.633	.614	.595	64
65	.826	.816	.806	.794	.780	.766	.750	.734	.718	.701	.684	.666	.647	.628	.609	.590	65
66	.821	.811	.801	.789	.775	.761	.745	.729	.713	.696	.679	.661	.642	.623	.604	.585	66
67	.816	.806	.796	.784	.770	.756	.740	.724	.708	.691	.674	.656	.637	.618	.599	.580	67
68	.811	.801	.791	.779	.765	.751	.735	.719	.703	.686	.669	.651	.632	.613	.594	.575	68
69	.806	.796	.786	.774	.760	.746	.730	.714	.698	.681	.664	.646	.627	.608	.589	.570	69
70	.801	.791	.781	.769	.755	.741	.725	.709	.693	.676	.659	.641	.622	.603	.584	.565	70
71	.796	.786	.776	.764	.750	.736	.720	.704	.688	.671	.654	.636	.617	.598	.579	.560	71
72	.791	.781	.771	.759	.745	.731	.715	.699	.683	.666	.649	.631	.612	.593	.574	.555	72
73	.786	.776	.766	.754	.740	.726	.710	.694	.678	.661	.644	.626	.607	.588	.569	.550	73
74	.781	.771	.761	.749	.735	.721	.705	.689	.673	.656	.639	.621	.602	.583	.564	.545	74
75	.776	.766	.756	.744	.730	.716	.700	.684	.668	.651	.634	.616	.597	.578	.559	.540	75
76	.771	.761	.751	.739	.725	.711	.695	.679	.663	.646	.629	.611	.592	.573	.554	.535	76
77	.766	.756	.746	.734	.720	.706	.690	.674	.658	.641	.624	.606	.587	.568	.549	.530	77
78	.761	.751	.741	.729	.715	.701	.685	.669	.653	.636	.619	.601	.582	.563	.544	.525	78
79	.756	.746	.736	.724	.710	.696	.680	.664	.648	.631	.614	.596	.577	.558	.539	.520	79
80	.751	.741	.731	.719	.705	.691	.675	.659	.643	.626	.609	.591	.572	.553	.534	.515	80
81	.746	.736	.726	.714	.700	.686	.670	.654	.638	.621	.604	.586	.567	.548	.529	.510	81
82	.741	.731	.721	.709	.695	.681	.665	.649	.633	.616	.599	.581	.562	.543	.524	.505	82
83	.736	.726	.716	.704	.690	.676	.660	.644	.628	.611	.594	.576	.557	.538	.519	.500	83
84	.731	.721	.711	.699	.685	.671	.655	.639	.623	.606	.589	.571	.552	.533	.514	.495	84
85	.726	.716	.706	.694	.680	.666	.650	.634	.618	.601	.584	.566	.547	.528	.509	.490	85
86	.721	.711	.701	.689	.675	.661	.645	.629	.613	.596	.579	.561	.542	.523	.504	.485	86
87	.716	.706	.696	.684	.670	.656	.640	.624	.608	.591	.574	.556	.537	.518	.499	.480	87
88	.711	.701	.691	.679	.665	.651	.635	.619	.603	.586	.569	.551	.532	.513	.494	.475	88
89	.706	.696	.686	.674	.660	.646	.630	.614	.598	.581	.564	.546	.527	.508	.489	.470	89

PENSIONER WHOSE RETIREMENT AGE IS:  
 INTEREST - 7.0000%  
 PENSIONER'S MORTALITY - 1971 IPFDC FORECAST MORTALITY TABLE  
 BENEFICIARY'S MORTALITY - 1971 IPFDC FORECAST MORTALITY TABLE

\*\*\*\* \* 1.000

TIPRO TOMAEDR DEDINI FORTINO O ANNO



ACADEMY OF NATURAL SCIENCES

FACTORS TO BE APPLIED TO EMPLOYEE'S RETIREMENT INCOME TO DETERMINE INCOME UNDER CONTINGENT ANNUITY OPTION IF 100% OF SUCH INCOME IS CONTINUED TO CONTINGENT ANNUITY

BENEFICIARY'S AGE AT RETIREMENT	PENSIONER WHOSE RETIREMENT AGE IS:																									BENEFICIARY'S AGE AT RETIREMENT	
	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94		95
55	.662	.644	.625	.607	.589	.570	.552	.533	.513	.494	.475	.456	.438	.420	.403	.387	.372	.358	.345	.332	.320	.308	.297	.286	.275	.265	.255
56	.649	.631	.612	.594	.575	.556	.537	.518	.499	.480	.461	.442	.423	.404	.385	.367	.350	.334	.319	.305	.292	.280	.269	.259	.249	.240	.231
57	.636	.618	.599	.580	.561	.542	.523	.504	.485	.466	.447	.428	.409	.390	.371	.353	.336	.320	.305	.291	.278	.266	.255	.245	.236	.227	.218
58	.623	.605	.586	.567	.548	.529	.510	.491	.472	.453	.434	.415	.396	.377	.358	.340	.323	.307	.292	.278	.265	.253	.242	.232	.223	.214	.205
59	.609	.591	.572	.553	.534	.515	.496	.477	.458	.439	.420	.401	.382	.363	.344	.326	.309	.293	.278	.264	.251	.238	.226	.215	.205	.196	.187
60	.595	.577	.558	.539	.520	.501	.482	.463	.444	.425	.406	.387	.368	.349	.330	.312	.295	.279	.264	.250	.236	.223	.211	.200	.190	.181	.172
61	.581	.563	.544	.525	.506	.487	.468	.449	.430	.411	.392	.373	.354	.335	.316	.298	.281	.265	.250	.235	.221	.207	.194	.182	.171	.161	.152
62	.567	.549	.530	.511	.492	.473	.454	.435	.416	.397	.378	.359	.340	.321	.302	.284	.267	.251	.235	.220	.205	.191	.177	.165	.154	.144	.135
63	.553	.535	.516	.497	.478	.459	.440	.421	.402	.383	.364	.345	.326	.307	.288	.270	.253	.236	.220	.204	.189	.174	.161	.149	.138	.128	.119
64	.539	.521	.502	.483	.464	.445	.426	.407	.388	.369	.350	.331	.312	.293	.274	.255	.237	.220	.203	.187	.171	.156	.142	.129	.117	.107	.098
65	.525	.507	.488	.469	.450	.431	.412	.393	.374	.355	.336	.317	.298	.279	.260	.241	.222	.204	.187	.170	.154	.138	.124	.111	.099	.089	.080
66	.511	.493	.474	.455	.436	.417	.398	.379	.360	.341	.322	.303	.284	.265	.246	.227	.208	.189	.171	.154	.137	.122	.108	.095	.084	.074	.065
67	.497	.479	.460	.441	.422	.403	.384	.365	.346	.327	.308	.289	.270	.251	.232	.213	.194	.175	.156	.137	.120	.105	.091	.078	.067	.057	.048
68	.483	.465	.446	.427	.408	.389	.370	.351	.332	.313	.294	.275	.256	.237	.218	.199	.179	.159	.139	.119	.101	.085	.071	.058	.047	.037	.028
69	.469	.451	.432	.413	.394	.375	.356	.337	.318	.299	.280	.261	.242	.223	.204	.184	.164	.143	.122	.101	.081	.065	.051	.038	.027	.017	.008
70	.455	.437	.418	.399	.380	.361	.342	.323	.304	.285	.266	.247	.228	.209	.189	.168	.146	.124	.102	.079	.058	.042	.028	.015	.005	.000	.000
71	.441	.423	.404	.385	.366	.347	.328	.309	.290	.271	.252	.233	.214	.195	.175	.153	.130	.107	.083	.059	.037	.022	.009	.000	.000	.000	.000
72	.427	.409	.390	.371	.352	.333	.314	.295	.276	.257	.238	.219	.200	.181	.161	.138	.114	.089	.064	.039	.016	.001	.000	.000	.000	.000	.000
73	.413	.395	.376	.357	.338	.319	.300	.281	.262	.243	.224	.205	.186	.167	.146	.122	.096	.069	.041	.016	.000	.000	.000	.000	.000	.000	.000
74	.399	.381	.362	.343	.324	.305	.286	.267	.248	.229	.210	.191	.172	.153	.132	.107	.079	.049	.019	.000	.000	.000	.000	.000	.000	.000	.000
75	.385	.367	.348	.329	.310	.291	.272	.253	.234	.215	.196	.177	.158	.139	.118	.092	.063	.031	.000	.000	.000	.000	.000	.000	.000	.000	.000
76	.371	.353	.334	.315	.296	.277	.258	.239	.220	.201	.182	.163	.144	.125	.104	.077	.045	.012	.000	.000	.000	.000	.000	.000	.000	.000	.000
77	.357	.339	.320	.301	.282	.263	.244	.225	.206	.187	.168	.149	.130	.111	.089	.055	.021	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
78	.343	.325	.306	.287	.268	.249	.230	.211	.192	.173	.154	.135	.116	.095	.071	.035	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
79	.329	.311	.292	.273	.254	.235	.216	.197	.178	.159	.140	.121	.102	.081	.055	.018	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
80	.315	.297	.278	.259	.240	.221	.202	.183	.164	.145	.126	.107	.088	.067	.039	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
81	.301	.283	.264	.245	.226	.207	.188	.169	.150	.131	.112	.093	.074	.052	.023	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
82	.287	.269	.250	.231	.212	.193	.174	.155	.136	.117	.098	.079	.060	.037	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
83	.273	.255	.236	.217	.198	.179	.160	.141	.122	.103	.084	.065	.046	.022	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
84	.259	.241	.222	.203	.184	.165	.146	.127	.108	.089	.070	.051	.032	.007	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
85	.245	.227	.208	.189	.170	.151	.132	.113	.094	.075	.056	.037	.017	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
86	.231	.213	.194	.175	.156	.137	.118	.099	.080	.061	.042	.023	.003	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
87	.217	.199	.180	.161	.142	.123	.104	.085	.066	.047	.028	.008	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
88	.203	.185	.166	.147	.128	.109	.090	.071	.052	.033	.014	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
89	.189	.171	.152	.133	.114	.095	.076	.057	.038	.019	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
90	.175	.157	.138	.119	.100	.081	.062	.043	.024	.005	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
91	.161	.143	.124	.105	.086	.067	.048	.029	.010	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
92	.147	.129	.110	.091	.072	.053	.034	.015	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
93	.133	.115	.096	.077	.058	.039	.020	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
94	.119	.101	.082	.063	.044	.025	.006	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
95	.105	.087	.068	.049	.030	.011	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

PENSIONER WHOSE RETIREMENT AGE IS:  
INTEREST - 7.0000%

PENSIONER'S MORTALITY - 1971 IPFEC FORECAST MORTALITY TABLE  
BENEFICIARY'S MORTALITY - 1971 IPFEC FORECAST MORTALITY TABLE

\*\*\*\* = 1.000

**TPPC** TOWERS, PERRIN, FORSTER & CROSBY

ACADEMY OF NATURAL SCIENCES  
EARLY RETIREMENT FACTORS FOR NRA = 65 - LIFE

AGE	0	1	2	3	4	5	6	7	8	9	10	11
45	0.16047	0.16159	0.16270	0.16381	0.16493	0.16604	0.16715	0.16827	0.16938	0.17049	0.17160	0.17272
46	0.17353	0.17505	0.17627	0.17749	0.17870	0.17992	0.18114	0.18236	0.18358	0.18480	0.18601	0.18723
47	0.18845	0.18979	0.19112	0.19246	0.19379	0.19513	0.19647	0.19780	0.19914	0.20047	0.20181	0.20314
48	0.20448	0.20595	0.20741	0.20888	0.21035	0.21181	0.21328	0.21474	0.21621	0.21768	0.21914	0.22061
49	0.22208	0.22359	0.22530	0.22691	0.22852	0.23014	0.23175	0.23336	0.23497	0.23658	0.23820	0.23981
50	0.24142	0.24320	0.24497	0.24675	0.24852	0.25030	0.25207	0.25385	0.25562	0.25740	0.25917	0.26095
51	0.26421	0.26648	0.26864	0.27080	0.27296	0.27512	0.27728	0.27944	0.28160	0.28376	0.28592	0.28808
52	0.28421	0.28837	0.29054	0.29270	0.29486	0.29702	0.29918	0.30135	0.30351	0.30567	0.30784	0.31000
53	0.31021	0.31435	0.31655	0.31934	0.32213	0.32492	0.32771	0.33050	0.33329	0.33608	0.33887	0.34166
54	0.34088	0.34353	0.34619	0.34884	0.35149	0.35415	0.35680	0.35945	0.36211	0.36476	0.36741	0.37007
55	0.37272	0.37587	0.37882	0.38156	0.38451	0.38746	0.39041	0.39335	0.39630	0.39925	0.40220	0.40515
56	0.40806	0.41138	0.41446	0.41794	0.42122	0.42450	0.42778	0.43107	0.43435	0.43763	0.44092	0.44420
57	0.44748	0.45114	0.45340	0.45847	0.46213	0.46579	0.46945	0.47311	0.47678	0.48044	0.48410	0.48777
58	0.49143	0.49523	0.49962	0.50372	0.50782	0.51192	0.51602	0.52012	0.52421	0.52831	0.53241	0.53650
59	0.54060	0.54519	0.54979	0.55439	0.55898	0.56358	0.56817	0.57277	0.57737	0.58196	0.58656	0.59115
60	0.59575	0.60092	0.60609	0.61126	0.61644	0.62161	0.62678	0.63195	0.63712	0.64229	0.64746	0.65263
61	0.65780	0.66334	0.66898	0.67456	0.68015	0.68573	0.69132	0.69690	0.70249	0.70807	0.71366	0.71925
62	0.72784	0.73444	0.74108	0.74766	0.75427	0.76088	0.76749	0.77409	0.78070	0.78731	0.79392	0.80053
63	0.80713	0.81464	0.82215	0.82966	0.83717	0.84468	0.85219	0.85969	0.86720	0.87471	0.88222	0.88973
64	0.89724	0.90580	0.91436	0.92293	0.93149	0.94006	0.94862	0.95718	0.96575	0.97431	0.98287	0.99144
65	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

INTEREST - 7.0000%  
MORTALITY - 1971 TPFC FORECAST MORTALITY TABLE  
12/20/83

TPFC TOWERS PERRIN FORESTD & COMPANY

ACADEMY OF NATURAL SCIENCES  
CONVERSION FACTORS: LIFE TO 100CC

AGE	0	1	2	3	4	5	6	7	8	9	10	11
40	0.905598	0.905553	0.905508	0.905463	0.905418	0.905373	0.905328	0.905283	0.905238	0.905193	0.905148	0.905103
41	0.905058	0.904991	0.904924	0.904857	0.904790	0.904723	0.904656	0.904589	0.904522	0.904455	0.904388	0.904321
42	0.904416	0.904333	0.904249	0.904162	0.904075	0.903988	0.903901	0.903814	0.903727	0.903640	0.903553	0.903466
43	0.903062	0.902957	0.902852	0.902747	0.902642	0.902537	0.902432	0.902327	0.902222	0.902117	0.902012	0.901907
44	0.902756	0.902670	0.902585	0.902500	0.902414	0.902329	0.902244	0.902159	0.902073	0.901988	0.901903	0.901817
45	0.901732	0.901636	0.901540	0.901444	0.901348	0.901251	0.901155	0.901061	0.900965	0.900869	0.900773	0.900677
46	0.900581	0.900475	0.900369	0.900263	0.900157	0.900051	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
47	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
48	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
49	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
50	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
51	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
52	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
53	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
54	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
55	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
56	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
57	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
58	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
59	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
60	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
61	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
62	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
63	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
64	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
65	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
66	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
67	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
68	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
69	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000
70	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000	0.900000

INTEREST - 7.0000X MORTALITY - 1971 TPFLC FORECAST MORTALITY TABLE 12/20/83

TRO TOWERS FERRIN FORSTER & COMPANY

# The Academy of Natural Sciences Pension Plan

## Appendix I - Table of Early Retirement Factors

Yrs.	Months											
	0	1	2	3	4	5	6	7	8	9	10	11
45	0.160475	0.161547	0.162626	0.163712	0.164806	0.165908	0.167017	0.168133	0.169257	0.170389	0.171528	0.172675
46	0.173830	0.175003	0.176184	0.177374	0.178571	0.179777	0.180991	0.182213	0.183444	0.184683	0.185930	0.187187
47	0.188452	0.189737	0.191031	0.192335	0.193647	0.194968	0.196299	0.197639	0.198988	0.200347	0.201715	0.203093
48	0.204480	0.205891	0.207311	0.208741	0.210182	0.211632	0.213093	0.214564	0.216045	0.217537	0.219040	0.220553
49	0.222076	0.223626	0.225187	0.226759	0.228342	0.229936	0.231542	0.233159	0.234788	0.236429	0.238081	0.239745
50	0.241421	0.243126	0.244844	0.246574	0.248317	0.250072	0.251840	0.253621	0.255415	0.257222	0.259041	0.260875
51	0.262721	0.264601	0.266494	0.268401	0.270323	0.272258	0.274208	0.276172	0.278150	0.280144	0.282151	0.284174
52	0.286211	0.288286	0.290377	0.292483	0.294605	0.296743	0.298896	0.301066	0.303252	0.305455	0.307673	0.309909
53	0.312161	0.314456	0.316768	0.319098	0.321445	0.323811	0.326194	0.328595	0.331015	0.333453	0.335909	0.338384
54	0.340878	0.343421	0.345983	0.348565	0.351167	0.353789	0.356432	0.359094	0.361778	0.364481	0.367206	0.369952
55	0.372719	0.375542	0.378387	0.381254	0.384144	0.387056	0.389991	0.392950	0.395931	0.398936	0.401965	0.405018
56	0.408094	0.411234	0.414399	0.417590	0.420806	0.424048	0.427316	0.430609	0.433930	0.437277	0.440650	0.444051
57	0.447479	0.450980	0.454510	0.458068	0.461655	0.465272	0.468918	0.472594	0.476300	0.480036	0.483803	0.487601
58	0.491430	0.495343	0.499288	0.503266	0.507277	0.511322	0.515401	0.519513	0.523660	0.527842	0.532058	0.536310
59	0.540597	0.544982	0.549404	0.553863	0.558361	0.562896	0.567471	0.572085	0.576738	0.581430	0.586163	0.590937
60	0.595751	0.600678	0.605648	0.610662	0.615719	0.620821	0.625967	0.631158	0.636394	0.641677	0.647005	0.652381
61	0.657803	0.663357	0.668961	0.674615	0.680319	0.686075	0.691882	0.697741	0.703653	0.709618	0.715636	0.721709
62	0.727836	0.734116	0.740455	0.746851	0.753306	0.759821	0.766395	0.773030	0.779726	0.786484	0.793304	0.800188
63	0.807135	0.814261	0.821454	0.828715	0.836045	0.843444	0.850913	0.858452	0.866064	0.873747	0.881503	0.889333
64	0.897238	0.905352	0.913545	0.921818	0.930172	0.938606	0.947123	0.955723	0.964407	0.973176	0.982030	0.990971
65	1.000000											