

**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**

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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>
		<u>\$14,400</u>

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).







154, 66-2/75, 504, 11-1/75 AND 254 COMPARTMENT AMMUNITION FACTORS CORRESPONDING TO SUCCESSIVE LOOP FACTORS  
(TO BE USED IN CONNECTION WITH APPROPRIATE LOOP APPROPRIATE 100% COMPARTMENT AMMUNITION TABLES)

100% 124	66-2/75 504	11-1/75 254	100% 124	66-2/75 504	11-1/75 254	100% 124	66-2/75 504	11-1/75 254	100% 124	66-2/75 504	11-1/75 254	100% 124	66-2/75 504	11-1/75 254
.800	.801	.802	.803	.804	.805	.806	.807	.808	.809	.810	.811	.812	.813	.814
.815	.816	.817	.818	.819	.820	.821	.822	.823	.824	.825	.826	.827	.828	.829
.830	.831	.832	.833	.834	.835	.836	.837	.838	.839	.840	.841	.842	.843	.844
.845	.846	.847	.848	.849	.850	.851	.852	.853	.854	.855	.856	.857	.858	.859
.860	.861	.862	.863	.864	.865	.866	.867	.868	.869	.870	.871	.872	.873	.874
.875	.876	.877	.878	.879	.880	.881	.882	.883	.884	.885	.886	.887	.888	.889
.890	.891	.892	.893	.894	.895	.896	.897	.898	.899	.900	.901	.902	.903	.904
.905	.906	.907	.908	.909	.910	.911	.912	.913	.914	.915	.916	.917	.918	.919
.920	.921	.922	.923	.924	.925	.926	.927	.928	.929	.930	.931	.932	.933	.934
.935	.936	.937	.938	.939	.940	.941	.942	.943	.944	.945	.946	.947	.948	.949
.950	.951	.952	.953	.954	.955	.956	.957	.958	.959	.960	.961	.962	.963	.964
.965	.966	.967	.968	.969	.970	.971	.972	.973	.974	.975	.976	.977	.978	.979
.980	.981	.982	.983	.984	.985	.986	.987	.988	.989	.990	.991	.992	.993	.994
.995	.996	.997	.998	.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

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

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	.874	.865	.856	.847	.837	.827	.817	.806	.795	.784	27
28	.919	.912	.906	.899	.891	.883	.875	.866	.857	.848	.838	.828	.818	.807	.796	.785	28
29	.920	.914	.908	.901	.893	.885	.877	.868	.859	.850	.841	.831	.821	.810	.799	.788	29
30	.922	.916	.909	.902	.894	.887	.879	.871	.862	.853	.843	.833	.823	.812	.801	.790	30
31	.923	.917	.910	.903	.895	.888	.880	.872	.863	.854	.844	.834	.824	.813	.802	.791	31
32	.925	.919	.913	.906	.898	.891	.883	.875	.866	.857	.847	.837	.827	.816	.805	.794	32
33	.927	.921	.914	.908	.901	.893	.885	.877	.868	.859	.849	.839	.829	.818	.807	.796	33
34	.928	.922	.916	.910	.902	.895	.887	.879	.870	.861	.852	.842	.832	.821	.810	.799	34
35	.930	.924	.918	.912	.905	.897	.889	.881	.872	.863	.854	.844	.834	.824	.813	.802	35
36	.932	.926	.920	.914	.907	.899	.892	.884	.875	.866	.857	.847	.837	.827	.816	.805	36
37	.934	.928	.922	.916	.909	.901	.894	.886	.877	.868	.859	.849	.839	.829	.818	.807	37
38	.935	.930	.924	.918	.911	.904	.896	.888	.879	.870	.861	.851	.841	.831	.820	.809	38
39	.937	.932	.926	.920	.913	.906	.899	.891	.882	.873	.864	.854	.844	.834	.823	.812	39
40	.939	.934	.928	.922	.915	.908	.901	.893	.884	.875	.866	.856	.846	.835	.824	.813	40
41	.941	.936	.930	.924	.917	.910	.903	.895	.886	.877	.868	.858	.848	.837	.826	.815	41
42	.943	.938	.932	.926	.919	.912	.905	.897	.888	.879	.870	.860	.850	.839	.828	.817	42
43	.945	.940	.934	.928	.921	.914	.907	.899	.890	.881	.872	.862	.852	.841	.830	.819	43
44	.947	.942	.936	.930	.923	.916	.909	.901	.892	.883	.874	.864	.854	.843	.832	.821	44
45	.949	.944	.938	.932	.925	.918	.911	.904	.896	.887	.878	.868	.858	.847	.836	.825	45
46	.951	.946	.940	.934	.927	.920	.913	.906	.898	.889	.880	.870	.860	.849	.838	.827	46
47	.953	.948	.942	.936	.929	.922	.915	.908	.900	.891	.882	.872	.862	.851	.840	.829	47
48	.955	.950	.944	.938	.931	.924	.917	.910	.902	.893	.884	.874	.864	.853	.842	.831	48
49	.957	.952	.946	.940	.933	.926	.919	.912	.904	.895	.886	.876	.866	.855	.844	.833	49
50	.958	.954	.948	.942	.935	.928	.921	.914	.907	.899	.890	.880	.870	.859	.848	.837	50
51	.960	.956	.950	.944	.937	.930	.923	.916	.908	.899	.890	.880	.870	.859	.848	.837	51
52	.962	.958	.952	.946	.939	.932	.925	.918	.911	.903	.894	.884	.874	.863	.852	.841	52
53	.964	.960	.954	.948	.941	.934	.927	.920	.912	.903	.894	.884	.874	.863	.852	.841	53
54	.966	.962	.956	.950	.943	.936	.929	.922	.914	.905	.896	.886	.876	.865	.854	.843	54

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

\*\*\*\* = 1.000

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	.960	.956	.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	.981	.979	.977	.974	.971	.968	.964	.960	.956	.952	.948	.943	.937	.931	.925	66
67	.985	.983	.981	.979	.976	.973	.970	.967	.963	.959	.955	.951	.946	.941	.935	.929	67
68	.986	.984	.982	.980	.978	.975	.972	.969	.965	.961	.957	.953	.948	.943	.937	.931	68
69	.987	.985	.983	.981	.979	.976	.973	.970	.967	.963	.959	.955	.951	.946	.941	.935	69
70	.988	.986	.984	.982	.980	.977	.974	.971	.968	.965	.961	.957	.953	.948	.943	.937	70
71	.989	.987	.985	.983	.981	.978	.975	.972	.969	.965	.961	.957	.953	.948	.943	.937	71
72	.990	.988	.986	.984	.982	.979	.976	.973	.970	.967	.963	.959	.955	.951	.946	.941	72
73	.990	.989	.987	.985	.983	.981	.978	.975	.972	.969	.965	.961	.957	.953	.948	.943	73
74	.991	.990	.988	.986	.984	.981	.978	.975	.972	.969	.965	.961	.957	.953	.948	.943	74
75	.992	.991	.989	.987	.985	.982	.979	.976	.973	.970	.967	.963	.959	.955	.951	.946	75
76	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	.953	.948	76
77	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	.953	.948	77
78	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	.953	78
79	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	.953	79
80	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	80
81	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	81
82	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	.957	82
83	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	83
84	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	.961	84
85	.997	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	85
86	.997	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	86
87	.997	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	.965	87
88	.998	.997	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	88
89	.998	.997	.996	.995	.994	.993	.992	.991	.989	.987	.984	.981	.978	.975	.972	.969	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

TPFC TOWERS, FERRIN, FOSTER & CROSBY



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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 AGE AT PENSIONER'S 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	.679	.660	.641	.622	59
60	.851	.841	.831	.819	.805	.791	.775	.759	.743	.726	.709	.691	.673	.654	.635	.616	60
61	.846	.836	.826	.814	.800	.786	.770	.754	.738	.721	.704	.686	.668	.649	.630	.611	61
62	.841	.831	.821	.809	.795	.781	.765	.749	.733	.716	.699	.681	.663	.644	.625	.606	62
63	.836	.826	.816	.804	.790	.776	.760	.744	.728	.711	.694	.676	.658	.639	.620	.601	63
64	.831	.821	.811	.799	.785	.771	.755	.739	.723	.706	.689	.671	.653	.634	.615	.596	64
65	.826	.816	.806	.794	.780	.766	.750	.734	.718	.701	.684	.666	.648	.629	.610	.591	65
66	.821	.811	.801	.789	.775	.761	.745	.729	.713	.696	.679	.661	.643	.624	.605	.586	66
67	.816	.806	.796	.784	.770	.756	.740	.724	.708	.691	.674	.656	.638	.619	.600	.581	67
68	.811	.801	.791	.779	.765	.751	.735	.719	.703	.686	.669	.651	.633	.614	.595	.576	68
69	.806	.796	.786	.774	.760	.746	.730	.714	.698	.681	.664	.646	.628	.609	.590	.571	69
70	.801	.791	.781	.769	.755	.741	.725	.709	.693	.676	.659	.641	.623	.604	.585	.566	70
71	.796	.786	.776	.764	.750	.736	.720	.704	.688	.671	.654	.636	.618	.599	.580	.561	71
72	.791	.781	.771	.759	.745	.731	.715	.699	.683	.666	.649	.631	.613	.594	.575	.556	72
73	.786	.776	.766	.754	.740	.726	.710	.694	.678	.661	.644	.626	.608	.589	.570	.551	73
74	.781	.771	.761	.749	.735	.721	.705	.689	.673	.656	.639	.621	.603	.584	.565	.546	74
75	.776	.766	.756	.744	.730	.716	.700	.684	.668	.651	.634	.616	.598	.579	.560	.541	75
76	.771	.761	.751	.739	.725	.711	.695	.679	.663	.646	.629	.611	.593	.574	.555	.536	76
77	.766	.756	.746	.734	.720	.706	.690	.674	.658	.641	.624	.606	.588	.569	.550	.531	77
78	.761	.751	.741	.729	.715	.701	.685	.669	.653	.636	.619	.601	.583	.564	.545	.526	78
79	.756	.746	.736	.724	.710	.696	.680	.664	.648	.631	.614	.596	.578	.559	.540	.521	79
80	.751	.741	.731	.719	.705	.691	.675	.659	.643	.626	.609	.591	.573	.554	.535	.516	80
81	.746	.736	.726	.714	.700	.686	.670	.654	.638	.621	.604	.586	.568	.549	.530	.511	81
82	.741	.731	.721	.709	.695	.681	.665	.649	.633	.616	.599	.581	.563	.544	.525	.506	82
83	.736	.726	.716	.704	.690	.676	.660	.644	.628	.611	.594	.576	.558	.539	.520	.501	83
84	.731	.721	.711	.699	.685	.671	.655	.639	.623	.606	.589	.571	.553	.534	.515	.496	84
85	.726	.716	.706	.694	.680	.666	.650	.634	.618	.601	.584	.566	.548	.529	.510	.491	85
86	.721	.711	.701	.689	.675	.661	.645	.629	.613	.596	.579	.561	.543	.524	.505	.486	86
87	.716	.706	.696	.684	.670	.656	.640	.624	.608	.591	.574	.556	.538	.519	.500	.481	87
88	.711	.701	.691	.679	.665	.651	.635	.619	.603	.586	.569	.551	.533	.514	.495	.476	88
89	.706	.696	.686	.674	.660	.646	.630	.614	.598	.581	.564	.546	.528	.509	.490	.471	89

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

\*\*\*\* n 1.000

TIPRO TOMASDA BENDINI FORTINO & COMPANY

BENEFICIARY'S AGE AT PENSIONER'S RETIREMENT

BENEFICIARY'S AGE AT PENSIONER'S RETIREMENT

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	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	BENEFICIARY'S AGE AT PENSIONER'S RETIREMENT
20	.552	.535	.518	.501	.485	.469	.453	.436	.420	.403	.387	.371	.355	.341	.327	.313	20
21	.553	.536	.519	.502	.486	.470	.454	.437	.421	.404	.388	.372	.356	.341	.327	.313	21
22	.554	.537	.520	.503	.487	.471	.455	.438	.422	.405	.389	.373	.357	.342	.328	.314	22
23	.555	.538	.521	.504	.488	.472	.456	.439	.423	.406	.390	.374	.358	.343	.329	.315	23
24	.556	.539	.522	.505	.489	.473	.457	.440	.423	.406	.390	.374	.358	.344	.329	.316	24
25	.557	.540	.523	.506	.490	.474	.457	.441	.424	.407	.391	.375	.359	.344	.330	.317	25
26	.559	.542	.525	.508	.492	.475	.458	.442	.425	.408	.392	.376	.360	.345	.331	.317	26
27	.560	.543	.526	.509	.493	.476	.460	.443	.426	.409	.393	.377	.361	.346	.332	.318	27
28	.562	.544	.527	.511	.494	.477	.461	.444	.427	.410	.394	.378	.362	.347	.333	.319	28
29	.563	.546	.529	.512	.495	.478	.462	.445	.428	.412	.395	.379	.363	.348	.334	.320	29
30	.565	.548	.531	.514	.497	.480	.464	.447	.430	.413	.396	.380	.364	.349	.335	.321	30
31	.567	.550	.532	.515	.498	.482	.465	.448	.431	.414	.398	.381	.365	.350	.336	.322	31
32	.569	.552	.534	.517	.500	.484	.467	.450	.433	.416	.399	.383	.367	.352	.337	.323	32
33	.571	.554	.536	.519	.502	.486	.469	.452	.435	.418	.401	.384	.368	.353	.338	.324	33
34	.573	.556	.538	.521	.504	.488	.471	.454	.437	.419	.402	.386	.370	.355	.340	.326	34
35	.576	.558	.541	.523	.507	.490	.473	.456	.438	.421	.404	.388	.372	.356	.342	.328	35
36	.578	.560	.543	.526	.509	.492	.475	.458	.440	.423	.406	.390	.374	.358	.344	.329	36
37	.581	.563	.546	.528	.511	.494	.477	.460	.443	.425	.408	.391	.375	.359	.345	.331	37
38	.583	.566	.548	.531	.514	.497	.480	.462	.445	.427	.410	.393	.377	.361	.347	.333	38
39	.586	.569	.551	.534	.517	.499	.482	.465	.447	.430	.412	.395	.379	.362	.347	.334	39
40	.590	.572	.554	.537	.519	.502	.485	.468	.450	.432	.415	.398	.382	.366	.351	.336	40
41	.593	.575	.557	.540	.522	.505	.488	.470	.453	.435	.417	.400	.384	.368	.353	.338	41
42	.596	.578	.560	.543	.526	.509	.491	.473	.456	.438	.420	.403	.386	.371	.355	.341	42
43	.600	.582	.564	.547	.529	.512	.494	.476	.459	.441	.423	.405	.389	.373	.358	.343	43
44	.604	.586	.568	.550	.533	.515	.498	.480	.462	.444	.426	.409	.392	.376	.361	.346	44
45	.608	.590	.572	.554	.537	.519	.502	.485	.466	.448	.430	.412	.395	.379	.364	.349	45
46	.612	.594	.576	.558	.540	.522	.505	.488	.469	.451	.433	.415	.398	.382	.367	.352	46
47	.617	.599	.581	.563	.545	.527	.510	.492	.473	.455	.437	.419	.401	.385	.370	.355	47
48	.622	.604	.586	.568	.550	.532	.514	.496	.477	.459	.441	.423	.405	.389	.373	.358	48
49	.627	.609	.591	.573	.555	.537	.519	.500	.482	.463	.445	.427	.408	.391	.375	.360	49
50	.632	.614	.596	.578	.560	.542	.524	.505	.486	.468	.449	.431	.414	.397	.381	.365	50
51	.636	.618	.601	.583	.565	.547	.529	.510	.491	.472	.454	.436	.419	.401	.385	.369	51
52	.644	.625	.607	.589	.570	.552	.534	.515	.496	.477	.459	.440	.422	.405	.389	.373	52
53	.650	.631	.613	.594	.576	.558	.540	.521	.502	.483	.464	.445	.427	.409	.394	.378	53
54	.656	.637	.619	.600	.582	.564	.545	.527	.507	.488	.469	.450	.432	.415	.398	.382	54

PENSIONER WHOSE RETIREMENT AGE IS: INTEREST - 7.0000X \*\*\*\*\* 1.0000

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

TRCO TOWERS, PERRIN FORSTER & CROSBY

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

PENSIONER WHOSE RETIREMENT AGE IS:

BENEFICIARY'S AGE AT RETIREMENT

BENEFICIARY'S AGE AT RETIREMENT	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	BENEFICIARY'S AGE AT RETIREMENT
55	.662	.644	.625	.607	.589	.570	.552	.533	.513	.494	.475	.456	.438	.420	.403	.387	55
56	.649	.631	.612	.594	.575	.556	.537	.517	.497	.478	.459	.440	.421	.402	.383	.367	56
57	.636	.618	.600	.582	.563	.544	.525	.505	.485	.466	.446	.427	.407	.388	.369	.354	57
58	.623	.605	.587	.569	.550	.531	.512	.492	.472	.453	.433	.414	.394	.375	.356	.342	58
59	.609	.592	.574	.556	.537	.518	.498	.478	.458	.438	.418	.398	.378	.358	.339	.326	59
60	.595	.578	.560	.542	.523	.504	.484	.464	.444	.424	.404	.384	.364	.344	.325	.312	60
61	.581	.564	.546	.528	.509	.490	.470	.450	.430	.410	.390	.370	.350	.330	.311	.298	61
62	.567	.550	.532	.514	.495	.476	.456	.436	.416	.396	.376	.356	.336	.316	.297	.284	62
63	.553	.536	.518	.500	.481	.462	.442	.422	.402	.382	.362	.342	.322	.302	.283	.270	63
64	.539	.522	.504	.486	.467	.448	.428	.408	.388	.368	.348	.328	.308	.288	.269	.256	64
65	.525	.508	.490	.472	.453	.434	.414	.394	.374	.354	.334	.314	.294	.274	.255	.242	65
66	.511	.494	.476	.458	.439	.420	.400	.380	.360	.340	.320	.300	.280	.260	.241	.228	66
67	.497	.480	.462	.444	.425	.406	.386	.366	.346	.326	.306	.286	.266	.246	.227	.214	67
68	.483	.466	.448	.430	.411	.392	.372	.352	.332	.312	.292	.272	.252	.232	.213	.200	68
69	.469	.452	.434	.416	.397	.378	.358	.338	.318	.298	.278	.258	.238	.218	.199	.186	69
70	.455	.438	.420	.402	.383	.364	.344	.324	.304	.284	.264	.244	.224	.204	.185	.172	70
71	.441	.424	.406	.388	.369	.350	.330	.310	.290	.270	.250	.230	.210	.190	.171	.158	71
72	.427	.410	.392	.374	.355	.336	.316	.296	.276	.256	.236	.216	.196	.176	.157	.144	72
73	.413	.396	.378	.360	.341	.322	.302	.282	.262	.242	.222	.202	.182	.162	.143	.130	73
74	.399	.382	.364	.346	.327	.308	.288	.268	.248	.228	.208	.188	.168	.148	.129	.116	74
75	.385	.368	.350	.332	.313	.294	.274	.254	.234	.214	.194	.174	.154	.134	.115	.102	75
76	.371	.354	.336	.318	.299	.280	.260	.240	.220	.200	.180	.160	.140	.120	.101	.088	76
77	.357	.340	.322	.304	.285	.266	.246	.226	.206	.186	.166	.146	.126	.106	.087	.074	77
78	.343	.326	.308	.290	.271	.252	.232	.212	.192	.172	.152	.132	.112	.092	.073	.060	78
79	.329	.312	.294	.276	.257	.238	.218	.198	.178	.158	.138	.118	.098	.078	.059	.046	79
80	.315	.298	.280	.262	.243	.224	.204	.184	.164	.144	.124	.104	.084	.064	.045	.032	80
81	.301	.284	.266	.248	.229	.210	.190	.170	.150	.130	.110	.090	.070	.050	.031	.018	81
82	.287	.270	.252	.234	.215	.196	.176	.156	.136	.116	.096	.076	.056	.036	.017	.004	82
83	.273	.256	.238	.220	.201	.182	.162	.142	.122	.102	.082	.062	.042	.022	.003	.000	83
84	.259	.242	.224	.206	.187	.168	.148	.128	.108	.088	.068	.048	.028	.008	.000	.000	84
85	.245	.228	.210	.192	.173	.154	.134	.114	.094	.074	.054	.034	.014	.000	.000	.000	85
86	.231	.214	.196	.178	.159	.140	.120	.100	.080	.060	.040	.020	.000	.000	.000	.000	86
87	.217	.200	.182	.164	.145	.126	.106	.086	.066	.046	.026	.006	.000	.000	.000	.000	87
88	.203	.186	.168	.150	.131	.112	.092	.072	.052	.032	.012	.000	.000	.000	.000	.000	88
89	.189	.172	.154	.136	.117	.098	.078	.058	.038	.018	.000	.000	.000	.000	.000	.000	89

PENSIONER WHOSE RETIREMENT AGE IS:  
INTEREST - 7.0000%

TPPC TOWERS, FERRIN, 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	0.55543	0.55898	0.56358	0.56817	0.57277	0.57737	0.58196	0.58656	0.59115
60	0.59575	0.60092	0.60608	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	0.67351	0.67815	0.68268	0.68729	0.69195	0.69656	0.70117	0.70578	0.71039
62	0.72784	0.73444	0.74098	0.74756	0.75417	0.76068	0.76719	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	0.904250	0.904167	0.904084	0.904001	0.903918	0.903835	0.903752	0.903669	0.903586	0.903503
43	0.903762	0.903657	0.903552	0.903447	0.903342	0.903237	0.903132	0.903027	0.902922	0.902817	0.902712	0.902607
44	0.902926	0.902790	0.902654	0.902518	0.902382	0.902246	0.902110	0.901974	0.901838	0.901702	0.901566	0.901430
45	0.901732	0.901536	0.901340	0.901144	0.900948	0.900752	0.900556	0.900360	0.900164	0.900000	0.900000	0.900000
46	0.900381	0.900175	0.900000	0.900000	0.900000	0.900000	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 - 7.0000%      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											