COLLEGE RETIREMENT EQUITIES FUND
RULES OF THE FUND

Effective as of May 1, 2024

Attached to and made part of the CREF Contract or Certificate at its Date of Issue

Note to participants: CREF's rules of the fund (also referred to as the rules for determining benefits) include general descriptions as well as the necessarily technical matters and formulas used in the calculation of your CREF benefits. The Board of Trustees of CREF has established these rules and procedures, and may amend and add to them from time to time, to carry out the provisions of the contracts and certificates and to govern all matters affecting the interest of anyone participating in CREF to the extent such matters are not specifically provided for in the contracts and certificates. These rules and any changes to them are effective only when approved by the Superintendent of Financial Services of the State of New York (the "Department") as not being unfair, unjust, inequitable or prejudicial to the interest of anyone participating in CREF. These rules have been worked out with great care to assure equitable treatment among participants. This printing of the rules contains amendments as adopted by the Board of Trustees and approved by the Superintendent of Financial Services of the State of New York.

The rules of the fund concern only the methods of calculating the amounts of benefits. The various benefit options are described in your CREF contract or certificate.

PART I. GENERAL DESCRIPTION OF THE CREF ANNUITY

A life annuity is a financial instrument that enables you to maximize the amount of periodic income you can get from your retirement savings, while insuring that you will never outlive those savings. Without annuities, you can only be certain that you won't outlive your retirement savings if you live only on the income earned by your savings, keeping your investments intact. If you take regular withdrawals that exceed your investment income, you risk exhausting your retirement savings while you are still alive and in need of retirement income.

The annuity mechanism enables you to maximize your payment amounts by distributing both investment income and a portion of the investment with each periodic payment. An annuity company can do this by pooling the retirement savings for all annuitants into one large fund from which annuity payments are made. The annuity payments are calculated so that each recipient gets the largest amount that the company can pay without exceeding the fund. This is possible through the use of mortality tables developed from the experience of many years. The company doesn't know **which** individuals will live through each year, but it does know about how **many** will live. It can therefore provide a lifetime income to each annuitant that will be greater than the investment income alone.

CREF provides variable annuities to its participants through eight different investment accounts. CREF has four expense classes, which apply to each of the eight accounts. An expense class within CREF is referred to as a CREF Expense Class ("Expense Class"), and an Expense Class within a particular account is referred to as a CREF Account Class ("Account Class"). We refer to these classes as Account Class 1, Account Class 2, Account Class 3, and Account Class 4 in this document. Premiums contributed to CREF buy accumulation units, which are similar to shares in a mutual fund. The value of each Account Class's accumulation unit changes over time reflecting the investment experience (dividend and interest income, plus capital gains and losses) and expenses of the Account Class. Capital gains and losses include all changes in market values, whether realized from the sale of assets or unrealized.

Unlike TIAA, where the guaranteed life income from an annuity is a specified number of dollars per payment period, in CREF the life income is a specified number of annuity units per payment period. When participants are ready to begin receiving annuity income, their accumulation units are converted into annuity units of equal total value. Lifetime income under a CREF variable annuity is paid as the current value of a specified number of annuity units. Payments are determined under one of two income change methods. Under the annual income change method, the amount of each payment is determined once each year, so that the payments remain level for one year intervals. Under the monthly income change method, the amount of each payment is determined every month, so that the amount may change every month.

Separate annuity units are maintained for each income change method within each Account Class that offers unit-annuities. The initial determination of the number of annuity units each annuitant will receive is based on assumptions about investment return, expenses and mortality. The value of an annuity unit changes over time to reflect differences in the actual experience of the Account Class from each of the assumptions.

For example, if actual mortality experience matches that which was expected, and actual investment experience less expenses exceeds the assumed 4% effective annual rate of investment return, the value of an annuity unit will generally increase, while if actual investment experience less expenses falls short of the assumed 4% effective annual rate of investment return, the value of an annuity unit will generally decrease.

Each account has a different investment objective, so the unit values and the changes in unit values for the Account Classes in one account will not necessarily be similar to the unit values or changes in unit values for the Account Classes of another account. Within each Account Class, the values of the accumulation units and annuity units (if any) will usually be different from each other.

Some Account Classes offer unit-annuities. Separate funds are maintained in each Account Class that offers unit-annuities. The accounts, the funds, and the different kinds of units are described in the next sections.

PART II. INVESTMENT ACCOUNTS

CREF has established the following investment accounts:

- the **CREF Stock Account** -- a broadly diversified portfolio consisting primarily of common stocks;
- the **CREF Global Equities Account** -- a broadly diversified portfolio consisting primarily of foreign and domestic common stocks;
- the **CREF Equity Index Account** -- a portfolio consisting primarily of domestic common stocks selected to track the overall U.S. stock market;
- the **CREF Growth Account** -- a portfolio consisting primarily of common stocks that we believe present the opportunity for exceptional growth;
- the **CREF Social Choice Account** -- a portfolio consisting primarily of common stocks, investment grade fixed-income securities and short-term debt securities;
- the **CREF Money Market Account** -- a portfolio consisting primarily of short-term debt securities and money market instruments;
- the **CREF Core Bond Account** -- a portfolio consisting primarily of investment grade fixed-income securities; and

- the **CREF Inflation-Linked Bond Account** -- a portfolio consisting primarily of inflation-indexed bonds issued by the U.S. Government and its agencies, corporate entities, and foreign governments.

Some CREF contracts and certificates may limit the accounts available for use under the contract/certificate. A retirement plan may limit pre-retirement participation in any account for premiums remitted under that plan. However, under the following CREF contracts and certificates, a retirement plan may not limit participation in the CREF Stock Account and the CREF Money Market Account: Retirement Unit-Annuity, Supplemental Retirement Unit- Annuity, Group Retirement Unit-Annuity, Group Supplemental Retirement Unit-Annuity, and Keogh Group Retirement Unit-Annuity. CREF may restrict certain classes of contracts and/or certificates from participating in the Inflation-Linked Bond Account.

CREF may delete or may stop providing unit-annuities from any account except the CREF Stock Account and the CREF Money Market Account. CREF may also stop providing unit-annuities under either income change method from any account.

CREF has four Expenses Classes. The Expense Class(es) associated with a contract or certificate is shown on the contract, certificate, or on an Endorsement thereto.

The Expense Class or Classes under which any CREF contract or certificate participates within CREF is determined in accordance with eligibility criteria established by CREF as follows.

Determination of Expense Class Eligibility

Accumulations: Institutions

Employer sponsored arrangements, as determined by CREF ("Institutions"), are in the following Expense Classes:

Expense Class 1: Institutions with CREF assets under management below $20 million.

Expense Class 2: Institutions with CREF assets under management of $20 million or more, but less than $400 million.

Expense Class 3: Institutions with CREF assets under management of $400 million or more.

Expense Class 4: Institutions that have adopted Retirement Choice / Retirement Choice Plus contracts as well as have entered into a recordkeeping services agreement with TIAA.

Accumulations: Other

For all other accumulations, the Expense Class for each product is determined based on the following. Such products include IRAs, Keoghs, After-Tax Retirement Annuities, deposit contracts issued in settlement of death proceeds, and any other contracts not being used as employer-sponsored plan accumulation funding vehicles (each a "Product"):

(1) CREF will determine the administrative expenses and the distribution expenses, associated with total CREF assets, separately for each Product;

(2) For each Product, CREF will determine the ratio of administrative expenses to total CREF assets under management and the ratio of distribution expenses to total CREF assets under management;

(3) For each Expense Class shown above, CREF will determine the ratio of administrative expenses to CREF assets under management in the Expense Class and the ratio of distribution expenses to CREF assets under management in the Expense Class;

(4) The Expense Class for each Product is the Expense Class whose combined administrative and distribution expense ratios associated with total CREF assets in such Expense Class is closest to such Product's combined administrative and distribution expense ratios. This will generally result in a Product being assigned to the less expensive of the two Expense Classes between which its combined administrative and distribution expense ratios fall, unless such assignment would under the circumstances result in an undue financial impact on the Expense Class as a whole. Investment performance alone will not result in the reassignment of a Product to a more expensive Expense Class.

For purposes of this determination, each Product shall be considered separately or, subject to the Department's approval, combined with one or more other Products. The total amount of administrative expenses and the total amount of distribution expenses shall also be separately determined in accordance with the corporate methodology for allocating CREF expenses. Any change to such methodology will preserve the principles of classification and fairness established by the eligibility criteria described above. Administrative and distribution expenses are proportionately allocated among the Expense Classes 1, 2, and 3 and Products based on actual utilization of services and costs, by Institutions and Products and in accordance with the CREF administrative and distribution services agreements. For the above products, Expense Class 4 is not available.

<u>Annuity Units</u>

The Expense Class(es) for Annuity Units shall be determined similarly to the determination of Expense Classes for "Accumulations: Other", described above.

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There may be exceptions to these classifications provided there is a sound actuarial basis for such exceptions and there is no unfair discrimination under applicable law. Such exceptions may include an Institution's decision to reject their reclassification from a more expensive Expense Class to a less expensive Expense Class subsequent to its initial Expense Class designation. Such rejection shall not be permitted in connection with an Institution's initial Expense Class determination. Initial Expense Class determinations will only include Expense Classes 1, 2 and 3. Expense Class 4 is optional and must be requested by the Institution subject to meeting the eligibility criteria.

CREF may adopt reasonable guidelines, interpretations, and procedures applicable to Part II that are not inconsistent with these rules and which preserve the principles of classification and fairness established by the eligibility criteria described above. Such guidelines, interpretations, and procedures include, for example, the frequency of class eligibility review and the definition of an "Institution" for the purposes of assignment of such Institution to an Expense Class.

CREF may add, delete, or modify one or more Expense Classes or may stop providing unit-annuities from one or more Expense Classes. Expense Class eligibility criteria may be changed by CREF. Any such additions to, deletions of, or modifications to the Expense Classes, and any such changes to the criteria, will be subject to approval of the Department. Changes to the Expense Class eligibility criteria may result in transfers of existing accumulations and/or annuity units to a different Expense Class.

Expense Class qualification will be reviewed at least annually by CREF. As a result, the applicable Expense Class for accumulations and/or annuity units may change.

Investment Management, Administration, Distribution, and other Expenses; Charges

Each Valuation Day, CREF deducts charges from the net assets of each Account for the expenses of investment management, administration, distribution, and other expenses and services. TIAA or subsidiaries of TIAA provide or arrange for the provision of these services for CREF "at cost" to TIAA and its affiliates.

(1) Investment Management Expenses. These expenses generally include investment management, portfolio accounting and custodial services. This charge does not vary by Expense Class.

(2) Administrative Expenses. These expenses cover the costs of administration and operations of CREF and the contracts. Administrative expenses for Expense Classes 1, 2 and 3 include certain costs associated with the provision by TIAA entities of recordkeeping and other services for products utilizing CREF Accounts. A portion of these expenses is allocated to CREF in accordance with applicable allocation procedures.

(3) Distribution Expenses. These expenses generally include the costs of solicitation, distribution, providing information, and rendering assistance and other services to contract owners and employers.

The preceding expenses also include the costs of audit, legal and certain other services provided by third parties.

Data supporting the above expenses are obtained from CREF's accounting and financial reporting systems, and are reviewed by the appropriate administrative departments. CREF expenses are regularly reviewed during the year, and are updated and approved by Management and the CREF Board of Trustees at least annually.

The total amount of investment management expenses is separately determined. The ratio of such amount to total assets under management is then allocated among the Expense Classes equally (i.e., same percentage charge), rather than on the basis of actual utilization of services and costs associated with a particular Expense Class, and in accordance with the investment management agreement.

The total amount of administrative expenses for Expense Classes 1, 2 and 3 and the total amount of distribution expenses for the Expense Classes are also separately determined in accordance with CREF's corporate methodology for allocating expenses. Administrative and distribution expenses are proportionately allocated among the Expense Classes and Products based on actual utilization of services and costs, by Institutions and Products and in accordance with the CREF administrative and distribution services agreements.

Mortality and Expense Charge

Each Valuation Day, CREF also deducts a mortality and expense risk charge to guarantee that contract owners transferring funds to TIAA for the immediate purchase of lifetime payout annuities will not be charged more than the annuity purchase rate stipulated in the contract. This charge does not vary by Expense Class (i.e., same percentage charge).

PART III. FUNDS

Each Account Class currently maintains an accumulation fund. In addition, each Account Class may offer unit-annuities under either or both income change methods and include one or two annuity funds. Unit-annuities are not currently offered under all classes in any account. For each Account

Class, the accumulation fund equals the portion of the Account Class's total net assets allocated to participants in the accumulation period. The annuity fund for each income change method in each Account Class that offers unit-annuities equals the portion of the Account Class's total net assets allocated to participants receiving annuity benefits payable under that income change method. There is no segregation of individual assets within an Account Class; however, a liability is maintained for each fund. An Account Class's total net assets are A) the value of the Account Class's total assets less B) the value of the Account Class's total liabilities excluding that Account Class's accumulation fund and annuity funds, if any. If, at any time, there are no remaining participants or beneficiaries receiving annuity benefits from an annuity fund in an Account Class the net assets of that fund will be transferred to that Account Class's accumulation fund.

A "period" is the time from the end of one valuation day to the end of the next valuation day. A "valuation day" is any day that the New York Stock Exchange is open for trading. Valuation days end as of the close of all United States national exchanges where securities or other investments of CREF are principally traded.

The value of each Account Class's accumulation fund and each Account Class's annuity funds, if any, at the end of a valuation day equals the corresponding value at the end of the previous valuation day, increased by amounts added to each fund during the current period and reduced by amounts withdrawn from each fund during the current period. These changes include the increase by the allocated portion of the current period's net investment income and capital gains and the decrease by the allocated portion of the current period's capital losses. This allocated portion is determined in accordance with the respective proportions of the Account Class's accumulation fund and annuity funds as of the end of the previous valuation day as adjusted for additions to and withdrawals from each fund as of the beginning of the current period.

The periodic total yield rate for an Account Class is based on the amount of dividends, interest and other income accrued and allocated to that Account Class during the current period, a deduction of expense charges, and both realized and unrealized capital gains and losses allocated to that Account Class during the current period. The precise formula for the rate is C minus 1, where C is A divided by B, and A and B are as follows:

A. The Account Class's accumulation unit value as of the end of the valuation day at the end of the period.

B. The Account Class's accumulation unit value as of the end of the prior valuation day.

EXPENSES

The investment advisory expense charges, the operating expense charges, and the mortality and expense risk charges are established by the Board of Trustees of CREF, and may be changed from time to time, but any changes in these charges become effective only when approved by the Superintendent of Financial Services of the State of New York. Each participant receives a schedule of the current charges.

Note: The current charges were established as of May 1, 2024. These charges are assessed each calendar day at a rate equal to the following percentages divided by 365, or by 366 during leap years.

- **Administrative Expense Charge:**
  - For Expense Class 1 (also called "R1") within each account, 0.340% of the Account Class's net assets.
  - For Expense Class 2 (also called "R2") within each account, 0.210% of the Account Class's net assets.

- For Expense Class 3 (also called "R3") within each account, 0.150% of the Account Class's net assets.
- For Expense Class 4 (also called "R4") within each account, 0.010% of the Account Class's net assets.

- **Distribution Expense Charge:**
  - For Expense Class 1 within each account, 0.060% of the Account Class's net assets.
  - For Expense Class 2 within each account, 0.025% of the Account Class's net assets.
  - For Expense Class 3 within each account, 0.020% of the Account Class's net assets.
  - For Expense Class 4 within each account, 0.005% of the Account Class's net assets.

- **Mortality and Expense Risk Charge:**
  - 0.005% of each Account Class's net assets.

- **Investment Advisory Expense Charge:**

  For any Account Class:

  0.080% of the CREF Stock Account's net assets in the Account Class;

  0.075% of the CREF Global Equities Account's net assets in the Account Class;

  0.010% of the CREF Equity Index Account's net assets in the Account Class;

  0.050% of the CREF Growth Account's net assets in the Account Class;

  0.045% of the CREF Social Choice Account's net assets in the Account Class;

  0.015% of the CREF Money Market Account's net assets in the Account Class;

  0.075% of the CREF Core Bond Account's net assets in the Account Class;

  0.040% of the CREF Inflation-Linked Bond Account's net assets in the Account Class.

Without limiting the powers of the Board of Trustees, it is the established policy to maintain an approximate balance between the cumulative total of expense charges and the cumulative total of CREF's expenses as determined by cost analyses. Accordingly, at the end of each calendar quarter, or as soon as practicable thereafter, any difference between the expense charges and CREF's actual expenses is repaid by equal daily installments through the end of the next calendar quarter, provided that material differences may be repaid in the current calendar quarter, in accordance with generally accepted accounting principles. It is also the policy that changes in the stated expense charge rates are made as infrequently as practicable, consistent with the policy of maintaining the approximate balance referred to above.

Each participant's share in the accumulation funds is expressed in terms of accumulation units, and each participant's share in each of the annuity funds is expressed in terms of annuity units payable at stated intervals under a specified income change method.

PART IV. ACCUMULATION UNITS

All payments by participants and their employers to CREF accumulating annuities buy accumulation units in one or more of the Account Classes. The dollar value of each such unit varies from valuation day to valuation day in accordance with the change in the value of the accumulation fund for that Account Class relative to the change in the number of accumulation units outstanding in that Account Class.

The dates at which all amounts credited to a participant commence or cease to participate in the accumulation fund, in the absence of specific provisions in the participant's contract or certificate, are determined by CREF in accordance with established rules.

For accumulation units purchased by premiums remitted under a retirement plan, the plan may limit: withdrawals, availability of the unit-annuity for a fixed period, participation in accounts to the extent described above, and transfers to a funding vehicle not offered by CREF or TIAA.

VALUE OF ONE ACCUMULATION UNIT

The value of each Account Class's accumulation unit as of the end of each valuation day will be determined by dividing A) the value of the Account Class's accumulation fund as of the end of the valuation day by B) the total number of accumulation units held by all participants in that Account Class as of the end of the valuation day. The value of the Account Class's accumulation fund and the total number of accumulation units does not include the impact of funds or units added or subtracted as a result of transactions effective as of that valuation day.

TOTAL NUMBER OF ACCUMULATION UNITS CREDITED TO A PARTICIPANT AT THE END OF ANY PERIOD

At the end of any valuation day, the total number of accumulation units credited to a participant may be determined by taking the number of accumulation units to the participant's credit at the end of the previous period and adding the number of units purchased by premiums or transfers during the period and subtracting the number of units transferred, withdrawn or converted into annuity units during the period. The number of accumulation units so added or subtracted will be based on the accumulation unit value determined at the end of the period.

PART V. ANNUITY UNITS

At the time annuity payments are to begin for a participant (or for the beneficiary in the event the participant has died), the value of the accumulation units held by the participant in each Account Class is converted into a promise to pay, periodically, the then current value of a number of annuity units in an Account Class that offers unit-annuities. Unit-annuities are not currently offered under all Account Classes. Accordingly, upon conversion, accumulations in Account Classes not offering unit-annuities must be converted to annuity units in an Account Class that offers unit-annuities. The number of annuity units established on conversion is, in general, obtained by dividing the value of the participant's accumulation units at that time by the actuarial present value of an annuity of the value of one annuity unit at that time. Such present values are calculated based on the annuity unit value for the Account Class from which the unit-annuity is to be paid.

The dates at which participants commence or cease to participate in the annuity funds, in the absence of specific provisions in the participant's contract or certificate, are determined by CREF in accordance with established rules.

The rules stated in the following paragraphs refer only to annuities paid on a monthly basis. For annuities paid on a frequency other than monthly, appropriate actuarial adjustments are made.

HOW UNIT-ANNUITY PAYMENTS ARE DETERMINED

The amount of each annuity payment is determined by multiplying the number of annuity units payable by the value of one annuity unit as of the payment valuation date for the income change method selected.

► Under the **annual income change method**, the amount of each payment is revalued once each year. The payment valuation date for the annual income change method is the last valuation day in March, with the subsequent payment changes effective on May 1. For participants beginning annuity income, the initial value of the annuity unit is the interim annuity unit value for the annual income change method as of the end of the day on which the accumulation units are converted into annuity units.

► Under the **monthly income change method**, the amount of each payment is revalued every month. The payment valuation date for the monthly income change method is the twentieth day of a month (or if the twentieth is not a valuation day, the prior valuation day) for payments due on the first day of the following month. For participants beginning annuity income, the initial value of the annuity unit is the interim annuity unit value for the monthly income change method as of the end of the day on which the accumulation units are converted into annuity units.

The value of an annuity unit is defined in terms of a basic annuity unit that is established as of the last valuation day in March of each year, for each income change method offered in each Account Class providing unit-annuities. The value of the interim annuity unit for each income change method offered in each such Account Class is set equal to the value of the basic annuity unit on the last valuation day in March, and is redetermined as of each subsequent valuation day.

- **Beginning Income:** The following example illustrates how the number of annuity units is calculated for a participant who elects a single life annuity from the CREF Stock Account, payable monthly under the annual income change method.

> **Example:** Suppose that at retirement Professor Smith, a participant, owns 1,000 accumulation units in the CREF Stock Account under Account Class 1, each worth $110. The value of Professor Smith's accumulation units equals 1,000 multiplied by $110, or $110,000. Assume that Expense Class "x" is the only Expense Class in any account from which unit-annuities are currently being paid. Next, assume that the actuarial present value of a single life annuity of $1 a month at Professor Smith's retirement age is $160, and that the current value of one interim annuity unit payable under the annual income change method in the Stock Account under Account Class x is $170. At Professor Smith's age, the actuarial present value of a single life annuity of the current value of one Stock Account annuity unit per month payable under the annual income change method under Account Class x is thus $160 multiplied by $170, or $27,200. To obtain the number of annuity units for Professor Smith, we divide the $110,000 by the $27,200 and find that Professor Smith will receive the value of 4.044 Stock Account annuity units per month for life payable under the annual income change method under Account Class x (unless those annuity units are subsequently transferred or switched). Accordingly, Professor Smith will receive monthly income payments of 4.044 multiplied by $170, or $687.48 per month until the payments are revalued on the next payment valuation date for the annual income change method.

- **Transferring:** Some CREF contracts and certificates allow annuitants to transfer annuity units from an account to any other account then offering unit-annuities under the same income change method and Expense Class. The resulting number of annuity units payable from an Account Class to which annuity units are transferred will be obtained by multiplying the number of annuity units transferred out of the originating Account Class by the interim annuity unit value for that income change method in the originating Account Class, and dividing the result by the interim annuity unit value for the same income change method and Expense Class in the account to which the units are being transferred. Participation in the experience of the accounts changes as of the transfer's effective date. The amount of each unit-annuity payment will change when the payments are revalued on the next payment valuation date that is on or after the transfer's effective date.

► For example, if annuity units payable under the annual income change method are transferred on September 1, the unit-annuity payments will be revalued on the next payment valuation date for the annual income change method (the last valuation day in March), and the new payment amount will begin with payments beginning on the following May 1.

► If annuity units payable under the monthly income change method are transferred on the fifteenth day of a month, the unit-annuity payment will be revalued on the twentieth day of that month (or the prior valuation day if the twentieth is not a valuation day, which is the payment valuation date for the monthly income change method), and the change in payment will occur for the unit-annuity payment due on the first day of the next month.

The following example illustrates a transfer of annuity units payable under the annual income change method from the CREF Stock Account to the CREF Core Bond Account.

> **Example:** As above, suppose that Professor Smith owns 4.044 annuity units in the CREF Stock Account Class x payable monthly under the annual income change method as a single life annuity, and that the current value of a Stock Account Class x annuity unit for the annual income change method for payments through April 1, 20xx is $170. Suppose that on January 11, 20xx Professor Smith transfers all of those annuity units to the CREF Core Bond Account Class x. Next, assume that on January 11, 20xx the value of the Stock Account Class x interim annuity unit for the annual income change method is $173 and the value of the Core Bond Account Class x interim annuity unit for the annual income change method is $44. To obtain the number of annuity units purchased in the Core Bond Account Class x for Professor Smith, we multiply the 4.044 Stock Account Class x annuity units by $173, and divide by $44 to get 15.900 Core Bond Account Class x annuity units payable under the annual income change method.
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> From February 1, 20xx through April 1, 20xx, Professor Smith will continue to receive a monthly payment of $687.48 (equal to his original 4.044 Stock Account Class x annuity units multiplied by $170). Beginning May 1, 20xx, Professor Smith will receive monthly income payments of 15.900 Core Bond Account Class x annuity units multiplied by the recalculated basic annuity unit value, as of the last valuation day in March of 20xx, for the Core Bond Account Class x under the annual income change method. The revaluation, on the last valuation day in March of 20xx, of the monthly annuity payment for Professor Smith will include the effect of participation in the Stock Account Class x from the day following the last valuation day in March of the prior year through January 11, 20xx, and participation in the Core Bond Account Class x from January 12 through the last valuation day in March of 20xx.

If accumulation units are purchased by premiums received on behalf of a participant within 70 days after a participant begins annuity payments, they may be converted into annuity units under the same annuity income option. Accumulation units will be converted into annuity units using the same methods and values used for other accumulation units being converted into annuity units on that date. Payments from the additional annuity units purchased under either income change method will begin with the next payment due after the payment valuation date for the monthly income change method which is on or after the conversion date.

VALUE OF ONE ANNUITY UNIT

- **Interim Annuity Unit Values:** Separate annuity units are maintained for each of the income change methods within each Account Class providing unit-annuities. The value of an annuity unit is defined in terms of a basic annuity unit that is established as of the last valuation day in March of each year, for each income change method offered in each Account Class providing unit-annuities. The value of the interim annuity unit for each income change method offered in an Account Class is set equal to the value of the basic annuity unit on the last valuation day in March. The interim annuity unit value for an income change method under an Account Class as of any other valuation day is equal to the most recently determined basic annuity unit value for that income change method under that Account Class multiplied by A and divided by B, then modified by C and D, as follows:

A. The value of $1 accumulated at the Account Class's periodic total yield rates from the end of the last valuation day of the preceding March, through the current valuation day.

B. The value of $1 accumulated with interest at the effective rate of 4% from the end of the last valuation day of the preceding March, through the current valuation day.

C. An adjustment to reflect that annuity income amounts are redetermined only on the payment valuation date for that income change method. The purpose of the adjustment is to equitably apportion the annuity fund's assets between annuitants who participated in the annuity fund for the entire period between two payment valuation dates for that income change method, and those who enter or leave the fund during that period.

D. An adjustment to reflect year-to-date mortality experience, determined as of the respective last valuation days of each June, September, and December.

- **Basic Annuity Unit Values:** The value of one basic annuity unit payable under each income change method in each Account Class providing unit-annuities was initially set to $10.00 and has been subsequently revalued as described below.

The value of an Account Class's basic annuity unit for each income change method is revalued on the last valuation day of each March by dividing the annuity fund for the income change method in that Account Class less the present value of all annuity benefits that are payable under that income change method on April 1 under annuity contracts and certificates in force on the last valuation day in March, by the discounted actuarial present value of the total number of that Account Class's annuity units that are payable on May 1 and thereafter over the future lifetimes (and for fixed periods) of all participants receiving annuity payments under that income change method as of the last valuation day in March, in accordance with specified assumptions as to mortality and net investment income.

Example: Assume the last valuation day in March of 20xx is March 30th. A hypothetical basic annuity unit value recalculation as of March30th, 20XX can be summarized as follows:

A.	Annuity fund at March30th, 20XX:	$10,000,000
B.	Present value of benefit payments to be made on April 1, 20XX under annuity certificates in force on March 30th, 20XX:	$800,000
C.	Discounted Actuarial present value as of March 30, 20XX of total number of annuity units payable on May 1 and thereafter over future lifetimes (and for fixed periods) of all annuitants in force as of March 30, 20XX:	125,000

New basic annuity unit value = (A – B) ÷ C = $73.60

The precise actuarial formula for the value of the basic annuity unit for each income change method in an Account Class, as recalculated as of the last valuation day in any March, is A divided by B, as follows:

A. The Account Class's annuity fund for the income change method as of such last valuation day in March, reduced by the present value of the benefits payable under that income change method on April 1 to annuitants in force on such last valuation day in March.

B. The present value of the sum, for all annuitants in the Account Class as of such last valuation day in March, of the product of (i) multiplied by (ii) where:

(i) is the number of annuity units payable under that income change method each month, and

(ii) is the actuarial present value on March 31 of an annuity of $1 per month, with payments beginning on May 1 and continuing while such annuity units are payable.

The present values as described above will be calculated on the basis of interest at the effective annual rate of 4%. The actuarial present values described above will be calculated on the basis of interest at the effective annual rate of 4% and mortality according to the CREF Progressive Annuitant Mortality Table, a merged gender table updated annually as necessary to incorporate CREF's most recently available mortality experience.

DETERMINATION OF THE NUMBER OF ANNUITY UNITS FOR A PARTICIPANT

The number of annuity units payable to an annuitant under an income change method from an Account Class will be modified by the number of units purchased by converting accumulation units into annuity units and by transfers or switches. The number of annuity units so added or subtracted will be based on the formulas described below. If a participant requests a transfer and a switch on the same effective date, the transfer will be processed first. The right of a participant, second participant, or beneficiary to transfer among CREF accounts, to transfer between a CREF contract or certificate and a comparable TIAA contract, or to switch between income change methods is determined by the terms of the CREF contract / certificate and the TIAA contract.

- **Beginning Income:** When accumulation units are converted into annuity units, the number of annuity units is determined by actuarial methods which take into account the value of the accumulation units being converted, the income option chosen, the mortality table used for participants in the annuity funds, and interest at the effective rate of 4% per year.

The precise actuarial formula for the number of annuity units obtained as a result of converting accumulation units to annuity units payable from an Account Class under an income change method, is A divided by B, as follows:

A. The value of the accumulation units being converted into annuity units as of the conversion date.

B. The product of (i) multiplied by (ii) as follows:

(i) The actuarial present value of an annuity due of $1 per month payable for as long as such annuity units are payable, calculated on the basis of interest at the effective annual rate of 4% and mortality according to the CREF Progressive Annuitant Mortality Table, a merged gender table updated annually as necessary to incorporate CREF's most recently available mortality experience.

(ii) The Account Class's interim annuity unit value for the income change method as of the conversion date.

- **Transferring between CREF Accounts:** When a participant or beneficiary receiving annuity benefits transfers annuity units from one CREF account to another CREF account, the Expense Class will remain the same. The number of annuity units in the CREF account transferred to will be determined by multiplying A by B and dividing by C, as follows:

  A. The number of annuity units to be transferred from the Account Class.

  B. The interim annuity unit value, determined on the transfer date, for the income change method in the Account Class from which the annuity units are being transferred.

  C. The interim annuity unit value, determined on the transfer date, for the same income change method in the Account Class to which the annuity units are being transferred.

- **Transferring from a TIAA Separate Account to a CREF Account:** When a participant or beneficiary receiving annuity benefits transfers annuity units from a TIAA Separate Account to a companion CREF contract or certificate, the number of annuity units in the CREF account transferred to is equal to A plus B, all divided by C, as described below.

  A. ► if the annuity units being transferred are payable under the annual income change method, i) minus ii) as follows:

  i) the actuarial present value of the monthly payments scheduled to be paid from the new annuity units through the April 1 following the transfer date, determined on the participant's then-current attained age and the actuarial basis then in use for transfers out of the TIAA Separate Account from which the transfer is being made.

  ii) the actuarial present value of the payments described in i), determined on the participant's then-current attained age and the actuarial basis then in use for participants beginning income in CREF.

  ► if the annuity units being transferred are payable under the monthly income change method, zero.

  B. the product of i), ii), and iii), as follows:

  i) the number of annuity units being transferred from the TIAA Separate Account from which the transfer is being made.

  ii) the interim annuity unit value, determined on the transfer date, for the income change method in the TIAA Separate Account from which the annuity units are being transferred.

  iii) the actuarial present value of an annuity of $1.00 per period, payable as follows, determined on the participant's then-current attained age and the actuarial basis then in use for transfers out of the TIAA Separate Account from which the transfer is being made.

  ► if the annuity units are payable under the annual income change method, the annuity is payable for as long as such annuity units are payable, beginning with the first payment scheduled after the April 1 following the transfer date.

  ► if the annuity units are payable under the monthly income change method, the annuity is payable for as long as such annuity units are payable, beginning with the first payment scheduled from the new units.

C. the interim annuity unit value, determined on the transfer date, for the same income change method in the Account Class to which the units are being transferred, multiplied by the present value of an annuity of $1.00 per period, payable as described in B.iii) above, determined on the actuarial basis then in use for participants beginning income in CREF.

- **Transferring from a TIAA Traditional Annuity to a CREF Account:** When a participant or beneficiary receiving annuity benefits transfers from the TIAA Traditional Annuity to a companion CREF contract or certificate, the number of annuity units in the Account Class transferred to is equal to the account value transferred from TIAA (as determined under the terms of the TIAA contract) divided by the product of A and B, as described below.

A. the interim annuity unit value, determined on the transfer date, for the income change method in the Account Class to which the units are being transferred.

B. the present value of an annuity of $1.00 per month, payable for as long as such annuity units are payable, beginning with the first payment scheduled from the new units, determined on the basis of interest at the effective annual rate of 4% and the mortality basis then in use for participants beginning income in CREF.

- **Switching:** When a participant receiving annuity benefits under one income change method switches annuity units to the other income change method within the same Account Class as of the last valuation day in any March, the number of annuity units payable under the other income change method will be determined by multiplying A by B and dividing by C, as follows:

A. The number of annuity units to be switched.

B. The basic annuity unit value, determined as of the effective date of the switch, for the income change method in the Account Class from which the annuity units are being switched.

C. The basic annuity unit value, determined as of the effective date of the switch, for the other income change method in the same Account Class.

PRESENT VALUES OF UNIT-ANNUITIES

- **Commuted Values:** Under some CREF contracts and certificates, the present value of a unit-annuity may be calculated to provide a one-sum payment in lieu of any annuity payments remaining due to a beneficiary during a guaranteed period, or to an annuitant or beneficiary during the remainder of a fixed-period unit-annuity. The formula for the present value of a unit- annuity at the end of any valuation day is the actuarial present value, calculated on the basis of interest at the effective annual rate of 4%, of the unit-annuity payments due for the remainder of the guaranteed or fixed period.

► If the annuity units being commuted are payable under the annual income change method, the dollar amount is that scheduled to be paid through the following April 1, and, thereafter, the dollar amount is equal to the number of annuity units payable each month multiplied by the interim annuity unit value for the annual income change method as of the calculation date.

► If the annuity units being commuted are payable under the monthly income change method, the dollar amount is that scheduled to be paid for any payment that has already been valued on a prior payment valuation date for the monthly income change method, and, thereafter, the dollar amount is equal to the number of annuity units payable each month multiplied by the interim annuity unit value for the monthly income change method as of the calculation date.

- **Transfers to TIAA:** Some CREF contracts and certificates allow annuitants to transfer annuity units from a CREF account to a companion TIAA contract. The value used to determine benefits in TIAA will be the actuarial present value, calculated on the actuarial basis then in use for participants beginning income in CREF, of an annuity. The annuity will begin with the payment due after the next payment valuation date for the monthly income change method that is on or after the effective date of the transfer, and the annuity is payable for as long as the annuity units being transferred are payable.

► If the annuity units being transferred are payable under the annual income change method, the dollar amount used in the calculation is that scheduled to be paid through the following April 1, and thereafter is equal to the number of annuity units payable each month multiplied by the interim annuity unit value for the annual income change method as of the effective date of the transfer.

► If the annuity units being transferred are payable under the monthly income change method, the dollar amount used in the calculation is equal to the number of annuity units payable each month multiplied by the interim annuity unit value for the monthly income change method as of the effective date of the transfer.

REDETERMINATION OF NUMBER OF ANNUITY UNITS BECAUSE OF AN INCORRECT STATEMENT OF AGE

If a participant's date of birth, as stated in a CREF certificate under which unit-annuity payments are being made, is incorrect, the number of annuity units payable each month, beginning when the correction is made and continuing throughout the subsequent duration of the annuity, is appropriately redetermined by actuarial formula.

The redetermined number of annuity units is equal to the number of annuity units currently payable under each income change method from each Account Class multiplied by a factor equal to A minus B, all divided by C, as defined below. All present values are calculated as of the original commencement date of the unit-annuity, on the income option chosen and on the actuarial basis then in use.

A. The actuarial present value of an annuity due of $1 per month payable for as long as such annuity units are payable, based on the incorrect age that was used in the initial calculation.

B. The actuarial present value of an annuity due of $1 per month payable for as long as such annuity units are payable, but not beyond the correction date, based on the correct age as of the initial calculation date.

C. The actuarial present value of an annuity due of $1 per month payable after the correction date, for as long as such annuity units are payable, based on the correct age as of the initial calculation date.

President and
Chief Executive Officer