The Massachusetts Institute of Technology Basic Retirement Plan

Summary Plan Description

Effective January 2021

This Summary Basic Plan Description (SPD) summarizes the major features of the Massachusetts Institute of Technology Basic Retirement Plan (the Basic Plan) as restated and amended through January 2021. Please read this SPD carefully. It explains how the Basic Plan works for you, your spouse, and other beneficiaries; however, it is only a summary of the Basic Plan's provisions. The actual provisions are contained in formal documents available upon request from the Massachusetts Institute of Technology (MIT) Benefits. If there are any inconsistencies between this SPD and the formal Basic Plan documents, the formal documents will prevail and control in all cases.

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I. Introduction

Historical Overview

Before July 1, 1989, MIT maintained two retirement plans, one for faculty and staff and the other for service and support employees. The plan for faculty and staff was called the Retirement Plan for Staff Members, or RPSM. The plan for service and support employees was called the Retirement Plan for Employees, or RPE.

The RPSM was a defined contribution plan providing for contributions from both MIT and individual participants. These contributions were credited to individual accounts each year and grew with investment earnings over time. At retirement, an individual's account balance was converted to a lifetime pension. In contrast, the RPE was a defined benefit plan, funded entirely by MIT after 1974, providing lifetime pensions that were calculated using a formula based on each participant's career pay at MIT.

In 1989, MIT adopted a single, unified retirement program for all faculty and staff as well as service and support employees. This program has remained in effect, with various subsequent amendments. The unified program incorporates elements of both the RPSM and the RPE, and includes the following two plans:

- ***The Massachusetts Institute of Technology Basic Retirement Plan (Basic Plan):*** a defined benefit plan providing a benefit calculated using formulas based on each participant's date of hire, pay, and service at MIT.

- ***The Massachusetts Institute of Technology Supplemental 401(k) Plan (Supplemental 401(k) Plan):*** a defined contribution plan providing a 100% MIT match on each participant's voluntary contributions each year up to 5% of pay, with benefits based on the account value.

The Basic Plan provides a foundation for your financial security in retirement. This plan can offer a retirement income for life – or a single lump sum payment under certain circumstances – to complement benefits from the Supplemental 401(k) Plan, Social Security, and your personal savings.

For more information about the Supplemental 401(k) Plan, please refer to the SPD for that plan, which can be found by visiting the Benefits web site.

To find out more about your Social Security benefits, you may visit the Social Security web site at www.ssa.gov.

About This SPD

This summary plan description (or SPD) provides a description of the **Basic Plan** – how it works, the retirement income it provides and the choices you have. In addition, the way your benefit is determined depends on:

- When you were first hired by MIT;
- Whether you were a participant in the RPSM; and
- Whether you were a participant in the RPE.

To find out how your benefit is determined, please refer to the portion of Section III that applies to you. All other sections of the SPD – Sections I and II, and Sections IV through XII – apply to all participants in the Basic Plan except as specifically noted.

For easy reference, the SPD provides a general overview called **"The Basic Plan At-a-Glance."** More detailed information, including examples of benefit calculations, is provided later in the document. In addition, the SPD provides you with guidance and contact information if you have additional questions. Throughout the SPD, you will find certain terms that are defined in more detail in the Appendix.

How the Basic Plan is Funded

MIT pays the entire cost of the Basic Plan by making contributions to a trust. Contributions are not required from you. MIT's contributions are determined by an actuary in accordance with strict federal guidelines and are held in a trust for the exclusive benefit of eligible employees. The trustee pays benefits from this trust as they become due.

Legal Considerations

The Basic Plan has been designed to comply with the Employee Retirement Income Security Act of 1974 (ERISA), as amended, and subsequent employee benefits laws and regulations as enforced by the Department of Labor and the Internal Revenue Service.

II. The Basic Plan At–a–Glance

Features	*Basic Plan Provisions*
You are eligible for the Basic Plan if…	You are being paid by MIT and you are: • Scheduled to work at least **50% of the normal full-time work schedule** in your department, laboratory, or center (or scheduled to work less than 50% provided you have completed 1,000 hours of service* during a calendar year or the first 12-month period beginning with your hire date); *and* • Not excluded from the Basic Plan as described below. **Excluded from the Basic Plan** are visitors; students and coop students; fellows; summer employees; affiliates; trainees; teaching or research assistants; officers, enlisted personnel and civilian employees of the military assigned to MIT; employees on the voucher payroll; casual employees; and leased employees. Union employees of MIT are eligible for the Basic Plan only if the applicable collective bargaining agreement provides for plan participation. *Hours equivalency rules (as defined by the IRS) may apply to certain employees whose actual hours worked are not available.
You start earning benefits under the Basic Plan…	• **If you were hired or first became an eligible employee after July 1, 2012***: On the later of the first of the month after completing one year of service or meeting the eligibility requirements described above. Special rules apply to employees who accepted a deferred appointment with the Institute by July 1, 2012 (generally on your first day of work if you are scheduled to work 50% or more). • **If you were hired or first became an eligible employee on or before July 1, 2012*:** On the first day you become eligible (generally on your first day of work if you are scheduled to work 50% or more). Special rules apply to employees who work less than a 50% schedule (generally must have met eligibility requirements described above and have completed 1,000 hours of service during the calendar year). Membership is automatic. You do not need to take any action or make a contribution to start earning benefits from the Basic Plan. We do ask that you designate a beneficiary, however, as soon as you are eligible. You may do so online at **https://mitpension.ehr.com**. *August 2, 2013, for employees represented by SEIU Main Campus Union and September 1, 2013, for the Campus Police Association.

Features	***Basic Plan Provisions***
Benefits provided by the Basic Plan may include…	• A lifetime pension for you • A lifetime pension for your surviving spouse or other beneficiary under certain circumstances • A Single Sum payment instead of a lifetime pension under certain circumstances • Periodic cost-of-living adjustments to your pension • Continued accrual of pension benefits during certain periods of disability
Your Normal Retirement Date – the date when you can start to receive your full, unreduced pension from the Basic Plan – is…	The first day of the month on or after **your 65th birthday.** If you were employed by MIT between January 1, 1999, and December 31, 2003, however, your Normal Retirement Date is the first day of the month on or after your **62nd birthday** for benefits earned before January 1, 2004.
If you are hired after July 1, 2012, your Basic Plan benefit is …	The annual lifetime pension that can be provided by your Cash Balance Account (determined using actuarial conversion factors). Your **Cash Balance Account** is the accumulation of Basic Credits and Interest Credits over the course of your membership in the Basic Plan. Basic Credits equal 5% of your Compensation up to the Social Security wage base each year and thereafter 10% of your Compensation in excess of the Social Security wage base each year. The Social Security wage base is generally adjusted annually with inflation and is $142,800 in 2021. Interest Credits for a calendar year are determined using the 24-month average annual yield on U.S. long-term corporate bonds reported by the IRS as the "Third Segment Rate." The annual rate will be no less than 4% and no more than 15%.
If you were hired or first became an eligible employee on or before July 1, 2012, your Basic Plan benefit is …	Your **Career Pay Benefit** or **Cash Balance Benefit**, whichever is larger: • **Career Pay Benefit:** The monthly lifetime pension payable at your normal retirement date equal to 1.65% of the aggregate Compensation you earned at MIT while a member of the Basic Plan. • **Cash Balance Benefit**: The annual lifetime pension that can be provided by your Cash Balance Account (determined using actuarial conversion factors) Your **Cash Balance Account** is the accumulation of Basic Credits and Interest Credits over the course of your membership in the Basic Plan. Basic Credits equal 5% of your Compensation each year. Interest Credits for a calendar year are determined using the 24-month average annual yield on U.S. long-term corporate bonds reported by the IRS as the "Third Segment Rate." The annual rate will be no less than 4% and no more than 15%. Additional benefits may apply to former members of the RPE or RPSM.

Features	*Basic Plan Provisions*
For purposes of calculating your Basic Plan benefit, Compensation means...	Your regular basic salary or wages, overtime, bonuses, shift differentials, summer session pay, and temporary rates while a member of the Basic Plan. It does not include any other type of compensation, such as incentives, awards, site differentials, lump-sum sick leave payouts, and other payments for services not included above. Federal law limits the amount of pay that may be used in a calendar year to determine pension benefits. This limit is generally adjusted annually with inflation and is $290,000 in 2021.
For purposes of calculating your Basic Plan benefit, vesting means...	You "own" your benefit and can start payment at any time after your termination of employment with MIT. • If you are hired or you first became an eligible employee after July 1, 2011, you must generally complete at least three years of service to become vested. • If you were hired or first became an eligible employee on or before July 1, 2011, you are generally fully vested in the benefit you earned while at MIT. • If you were a participant in this plan on December 31, 2020, and became an employee of edX, Inc. as of January 1, 2021.
If you continue to work at MIT past your Normal Retirement Date…	You will receive either (a) or (b), whichever is greater: (a) The Basic Plan benefit you would have received at your Normal Retirement Date with actuarial increases to reflect the expected shorter payout period; or (b) The Basic Plan benefit based on your entire career at MIT reflecting your Compensation both before and after your Normal Retirement Date.
When you are about to start your pension, you will have the choice of several payment options, including…	• A Single Life Annuity* with payments made only to you as long as you live • A Joint and Survivor Annuity, with reduced payments made to you as long as you live and a percentage of your reduced benefit continuing to your spouse after your death; the percentage may be 50%, 75%, or 100% • A Joint and Survivor Annuity as described above, but with a beneficiary other than your spouse* • A Period Certain Annuity* under which payments are guaranteed for 10, or 15 years Additional payment options may be available if you were hired or first became an eligible employee on or before July 1, 2012. *You must obtain your spouse's written, notarized consent if you are married and would like to elect one of these options.

Features	Basic Plan Provisions
Cost-of-living adjustments are available under the plan…	If you were hired or first became an eligible employee after July 1, 2012, you may elect a reduced pension with cost-of-living adjustments (COLAs). If you were hired or first became an eligible employee on or before July 1, 2012, COLAs are automatic. COLAs are applied every three years, starting the third July 1st on or after your Normal Retirement Date. Each adjustment is 75% of the cumulative rise in the Consumer Price Index over the prior three years (measured on March 31) to a maximum of 10%. Your first COLA will generally be prorated.
Instead of a lifetime pension, you may elect a Single Sum…	If you have been employed at MIT for 15 years or less or your Cash Balance Account is $75,000 or less, you may elect a Single Sum benefit. You must obtain your spouse's written, notarized consent if you are married and would like to elect a Single Sum in lieu of a lifetime pension. If the Single Sum value of your benefit is below $1,000, you will receive a Single Sum cash payment automatically. No spousal consent is required. If the Single Sum value of your benefit is at least $1,000 but not more than $5,000, you can elect to receive your Single Sum as a cash payment or a direct rollover to an Individual Retirement Account (IRA) or another qualified plan. If you do not make a payment election, your benefit will automatically be rolled over into an IRA designated by the administrator of the plan. No spousal consent is required.
If you die before benefit payments start…	The full value of your benefit will be paid to your designated beneficiary. • If your beneficiary is your spouse, he or she may elect either a lifetime pension or a Single Sum. • If your beneficiary is not your spouse, he or she (or your estate if there is no designated beneficiary) will receive a Single Sum. A special Qualified Spouse Benefit may apply to former members of the RPSM.
If you die after benefit payments start...	Benefits to your surviving spouse or other beneficiary will depend on the form of payment you chose before your pension started. A special Qualified Spouse Benefit may apply to former members of the RPSM.
If you become totally disabled and are collecting benefits from MIT's Long-Term Disability Plan...	You will continue to earn Basic Plan benefits based on your rate of Compensation immediately before the start of your disability.

III. How Your Basic Plan Benefits are Determined

Participants First Hired after July 1, 2012

If You Leave on or Before Your Normal Retirement Date and Start Payments

If you were first employed as an eligible employee by MIT after July 1, 2012, your Normal Retirement Date is the first day of the month on or after your **65th birthday**. If you leave on or before your normal retirement date and start receiving benefits, you will be eligible for a lifetime benefit as described below.

Your Basic Plan benefit will be the annual lifetime benefit that can be provided by your Cash Balance Account using the actuarial conversion factors specified in the plan

To illustrate, let's determine the benefit for a hypothetical employee named Jan. We'll make some simplifying assumptions to keep the math easy. Let's assume:

- Jan starts working full-time at MIT on January 1, 2013, at age 40;
- She earns $40,000 each year of her 22-year career at MIT; and
- She retires on January 1, 2033, age 62.

Step 1: Determine Jan's Cash Balance Benefit

To determine Jan's Cash Balance Benefit, we need to know her Cash Balance Account at age 62 – Basic Credits plus Interest Credits – as well as the actuarial factor that will convert her Cash Balance Account into an equivalent annual lifetime pension.

Remember that Basic Credits equal 5% of your Compensation up to the Social Security wage base each year and, thereafter, 10% of your Compensation in excess of the Social Security wage base each year. The Social Security wage base is generally adjusted annually with inflation and is $142,800 in 2021. Because Jan earns $40,000 each year, her Basic Credits are 5% of $40,000, or $2,000 each year.

In addition, Jan earns Interest Credits each month based on the Basic Plan's interest crediting basis. Interest Credits for a calendar year are determined using the 24-month average of yields on U.S. long-term corporate bonds reported by the IRS as the "Third Segment Rate." The annual rate will be no less than 4% and no more than 15%.

Assuming the Cash Balance Account grows at an average annual rate of about 4% over her 22-year career, Jan's Cash Balance Account at age 62 is approximately $69,750.

Step 2: Determine Jan's Annual Lifetime Benefit

This $69,750 would produce a pension of $4,464/year ($69,750 times 6.4%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary.

These factors change every year based on market interest rates and depend on the age at which benefits start. (See the sidebar to the right for more information.)

Each year, MIT's actuary determines the factors to be used to convert Cash Balance Accounts to equivalent annual lifetime pensions. In addition to reflecting current interest rates, these factors take into account life expectancies, so they vary depending on the age when benefits start. Here is a summary of average factors for the five years 2017 through 2021 for selected ages.

To obtain the equivalent annual lifetime pension, multiply the Cash Balance Account by the factor shown for the appropriate age:

Age	*Factor*
55	5.2%
60	6.0%
62	6.4%
65	7.1%
70	8.6%

Note: These factors are illustrative. Actual factors will be determined at the time of your retirement based on the prevailing interest rates at that time.

If You Leave on or Before Your Normal Retirement Date and Defer Benefits

If you leave MIT on or before your Normal Retirement Date, you may:

- Start your pension right away, as Jan did in the prior example; or
- Defer payment of your pension to a later date if your Single Sum value is greater than $5,000. You may not defer later than April 1 of the year following the calendar year in which you reach age 72 (age 70½ if you were born before July 1, 1949), or, if later, the date you terminate employment.

If you defer your pension, you will receive a greater annual benefit because of the shorter period of time over which payments are expected to be made. Interest Credits will continue to be added to your Cash Balance Account during the period of deferral, but Basic Credits will stop being added at the time of your termination of employment.

For example, if Jan retires at age 62 but decides to wait until her Normal Retirement Date to start her pension, her account balance will grow with interest from age 62 to age 65. Jan's Cash Balance Account at age 65 assuming 4% interest would grow to approximately $78,450.

This would produce a pension of $5,570/year ($78,450 times 7.1%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary.

If You Work Past Your Normal Retirement Date

If you work past your Normal Retirement Date, your Cash Balance Account will continue to receive Basic Credits and Interest Credits until your actual retirement date as described earlier in this section.

After your actual retirement date, your pension amount would be determined based on your Cash Balance Account value using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary. These factors change every year based on market interest rates and depend on the age at which benefits start.

III. How Your Basic Plan Benefits are Determined

Participants First Hired on or After January 1, 2004,
through July 1, 2012

If You Retire at Your Normal Retirement Date

If you were first employed by MIT on or after January 1, 2004, through July 1, 2012, your Normal Retirement Date is the first day of the month on or after your **65th birthday**. If you work at MIT until then, you will be eligible for the annual lifetime benefit described below.

Your annual lifetime benefit starting at your Normal Retirement Date will be your Career Pay Benefit or your Cash Balance Benefit, whichever is larger.

- **Career Pay Benefit**: 1.65% of your aggregate Compensation at MIT while a member of the Basic Plan
- **Cash Balance Benefit**: Your Cash Balance Account – Basic Credits plus Interest Credits – converted to an equivalent lifetime benefit

To illustrate, let's determine the benefit for a hypothetical employee named Sam. Again, we'll make some simplifying assumptions to keep the math easy. Let's assume:

- Sam starts working full-time at MIT on January 1, 2004, at age 45;
- He earns $40,000 each year of his 20-year career at MIT; and
- He retires on January 1, 2024, his Normal Retirement Date.

Step 1: Determine Sam's Career Pay Benefit

To determine Sam's Career Pay Benefit, we only need to know his aggregate Compensation at MIT while a member of the Basic Plan. Because he earns $40,000 each year of his 20-year career, his aggregate Compensation is **$40,000/year *times* 20 years, or $800,000.**

Sam's Career Pay Benefit is:

1.65% of $800,000 = $13,200/year

Step 2: Determine Sam's Cash Balance Benefit

To determine Sam's Cash Balance Benefit, we need to know his Cash Balance Account at his Normal Retirement Date – Basic Credits plus Interest Credits – as well as the actuarial factor that will convert his Cash Balance Account into an equivalent annual lifetime pension.

Remember that Basic Credits are 5% of Compensation each year. Because Sam earns $40,000 each year, his Basic Credits are 5% of $40,000, or $2,000 each year.

In addition, Sam earns Interest Credits monthly based on the Basic Plan's interest crediting basis. The cash balance Interest Credit for a calendar year will be determined using the average annual yield on U.S. long-term corporate bonds, reported monthly by the IRS as the "Third Segment Rate," for the 24-month period ending August 31 of the preceding calendar year. The annual rate will be no less than 4% and no more than 15%.

Assuming the Cash Balance Account grows at an average annual rate of about 4% over his 20-year career, Sam's Cash Balance Account at his Normal Retirement Date is approximately $60,650.

This $60,650 would produce a pension of $4,306 /year ($60,650 x 7.1%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary. These factors change every year based on market interest rates and depend on the age at which benefits start. (See the sidebar to the right for more information.)

Sam's Cash Balance Benefit is:

7.1% of $60,650 = $4,306/year

Each year, MIT's actuary determines the factors to be used to convert Cash Balance Accounts to equivalent annual lifetime pensions. In addition to reflecting current interest rates, these factors take into account life expectancies, so they vary depending on the age when benefits start. Here is a summary of average factors for the five years 2017 through 2021 for selected ages.

To obtain the equivalent annual lifetime pension, multiply the Cash Balance Account by the factor shown for the appropriate age:

Age	Factor
55	5.2%
60	6.0%
62	6.4%
65	7.1%
70	8.6%

Note: These factors are illustrative. Actual factors will be determined at the time of your retirement based on the prevailing interest rates at that time.

Step 3: Determine Sam's Annual Lifetime Benefit

Sam's annual lifetime benefit is the larger of his Career Pay Benefit ($13,200/year) and his Cash Balance Benefit ($4,306/year). In this example, his Career Pay Benefit is the larger benefit.

Starting at age 65, his Normal Retirement Date, Sam will receive an annual Basic Plan benefit of $13,200.

- This benefit will be paid monthly ($1,100 per month) for life.
- This assumes Sam chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Leave Before Your Normal Retirement Date and Start Receiving Benefits

If you leave MIT and start your benefits before your Normal Retirement Date, your pension will be less than at your Normal Retirement Date for two reasons:

- You will have fewer years of service to earn benefits; and
- Your pension will be reduced to reflect the longer period of time over which payments are expected to be made.

To illustrate, let's determine the benefit for a hypothetical employee named Lynn. We will assume:

- Lynn starts working full-time at MIT on January 1, 2004, at age 45;
- She earns $40,000 each year of her 17-year career at MIT; and
- She retires and starts to receive her pension on January 1, 2021, at age 62.

Step 1: Determine Lynn's Career Pay Benefit

To determine Lynn's Career Pay Benefit starting at her early retirement date of age 62, we need to know her aggregate Compensation at MIT while a member of the Basic Plan.

Because she earns $40,000 each year of her 17-year career, her aggregate Compensation is $40,000/year times 17 years, or $680,000.

We also need to know the reduction factor that applies because she is starting benefits at age 62 rather than at her Normal Retirement Date. As shown in the sidebar to the left, this reduction factor is 72% at age 62.

Lynn's Career Pay Benefit starting at age 62 is:

1.65% of $680,000 times 72% = $8,078/year

If you start to receive your pension before your Normal Retirement Date at age 65, your pension will be reduced. The factors* below reflect the percentage you would receive as a single life annuity under the Career Pay formula.

Age	Factor
45	15%
50	23%
55	36%
60	59%
62	72%
65	100%

**These are rounded; actual unrounded factors are in Appendix A.*

Step 2: Determine Lynn's Cash Balance Benefit

To determine Lynn's Cash Balance Benefit, we need to know her Cash Balance Account – Basic Credits plus Interest Credits – as well as the actuarial factor that will convert her Cash Balance Account into an equivalent annual lifetime pension.

Remember that Basic Credits are 5% of Compensation each year. Because Lynn earns $40,000 each year, her Basic Credits are 5% of $40,000, or $2,000 each year.

In addition, Lynn's Cash Balance Account earns Interest Credits monthly based on the Basic Plan's interest crediting basis. The cash balance Interest Credit for a calendar year will be determined using the average annual yield on U.S. long-term corporate bonds, reported monthly by the IRS as the "Third Segment Rate," for the 24-month period ending August 31 of the preceding calendar year. The annual rate will be no less than 4% and no more than 15%.

Assuming Lynn's Cash Balance Account grows at an average annual rate of about 4% over her 17-year career, Lynn's Cash Balance Account at age 62 is approximately $48,250.

This $48,250 would produce a pension of $3,088/year ($48,250 x 6.4%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary. These factors change every year based on market interest rates and depend on the age at which benefits start. (See the sidebar on page 11 for more information.)

If You Were Hired or First Became an Eligible Employee on or before July 1, 2012…

Career Pay Benefit vs. Cash Balance Benefit: Which is Larger?

- ***For many employees retiring at or near their Normal Retirement Date, the Career Pay Benefit is larger than the Cash Balance Benefit.***
- ***Several factors affect which benefit is larger, including career length, age when benefits begin and Interest Credits on the employee's Cash Balance Account.***
- ***Employees hired at young ages who leave MIT well before their Normal Retirement Date often receive greater value from the Cash Balance Benefit.***

Lynn's Cash Balance Benefit starting at age 62 is:

6.4% of $48,250 = $3,088/year

Step 3: Determine Lynn's Annual Lifetime Benefit

Lynn's annual lifetime benefit is the larger of her Career Pay Benefit ($8,078/year) and her Cash Balance Benefit ($3,088/year). In this example, her Career Pay Benefit is the larger benefit.

Starting at age 62, Lynn will receive an annual Basic Plan benefit of $8,078.

- This benefit will be paid monthly ($673 per month) for life.
- This assumes Lynn chooses to receive her benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Leave Before Your Normal Retirement Date and Defer Benefits

If you leave MIT before your Normal Retirement Date, you may:

- Start your pension right away, as Lynn did in the prior example; or
- Defer payment of your pension to a later date if your Single Sum value is greater than $5,000. You may not defer to a date later than April 1 of the year following the calendar year in which you reach age 72 (age 70½ if you were born before July 1, 1949), or, if later, terminate employment.

If you defer your pension, you will receive a greater annual benefit because of the shorter period of time over which payments are expected to be made. Interest Credits will continue to be added to your Cash Balance Account during the period of deferral, but Basic Credits will stop being added at the time of your termination of employment.

For example, if Lynn retires at age 62 but decides to wait until her Normal Retirement Date to start her pension, her benefit will be $11,220 per year – rather than $8,078 − calculated as shown below. (This assumes her Career Pay Benefit is greater than her Cash Balance Benefit at her Normal Retirement Date.)

Starting at age 65, Lynn will receive an annual Basic Plan benefit of $11,220, calculated as follows: 1.65% of $680,000 = $11,220/year

- This benefit will be paid monthly ($935 per month) for life.
- This assumes Lynn chooses to receive her benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Work Past Your Normal Retirement Date

If you work past your Normal Retirement Date, you will receive either (a) or (b), whichever is greater:

(a) The Basic Plan benefit you would have received at your Normal Retirement Date – with actuarial increases to reflect the expected shorter payout period

(b) The Basic Plan benefit calculated based on your entire career at MIT, reflecting your Compensation after your Normal Retirement Date

Let's say our hypothetical employee Sam decides to work until age 70 rather than retiring at age 65. How will his benefit be determined when he retires at age 70?

Actuarial increase factors depend on the age when benefits start, as follows:

Age	*Factor**
65	*100%*
66	*109%*
67	*120%*
68	*131%*
69	*145%*
70	*160%*

****These are rounded factors; actual unrounded factors are in Appendix B.***

Step 1: Determine Career Pay Benefit with Actuarial Increase

We will first calculate Sam's benefit at his Normal Retirement Date with actuarial increases. On page 12, we show Sam's annual benefit starting at his Normal Retirement Date to be $13,200. This amount needs to be adjusted using the age 70 factor shown in the sidebar to the right: 160%.

Sam's Career Pay Benefit with actuarial increases is:

$13,200 times 160% = $21,120/year

Step 2: Determine Career Pay Benefit with Continued Accruals

We then calculate Sam's benefit at age 70 using all his Compensation, including his pay after his Normal Retirement Date. We will assume he continues to earn $40,000 each year after age 65, so his aggregate Compensation at MIT is $40,000/year times 25 years, or $1,000,000.

Sam's Career Pay Benefit with continued accruals is:

1.65% of $1,000,000 = $16,500

Step 3: Determine Sam's Annual Lifetime Benefit

Sam's annual lifetime benefit is the larger of his Career Pay Benefit with an actuarial increase and his Career Pay Benefit with continued accruals. In this example, his Career Pay Benefit with an actuarial increase is the larger benefit. This assumes his Career Pay Benefit is greater than his Cash Balance Benefit at retirement. (Sam's Cash Balance Account would continue to receive Basic Credits and Interest Credits until his retirement.)

Starting at age 70, Sam will receive an annual Basic Plan benefit of $21,120.

- This benefit will be paid monthly ($1,760 per month) for life.
- This assumes Sam chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

III. How Your Basic Plan Benefits are Determined

Participants Employed by MIT between January 1, 1999, and December 31, 2003

If You Retire at Your Normal Retirement Date

In general, if you worked at MIT anytime between January 1, 1999, and December 31, 2003, you have two Normal Retirement Dates under the Basic Plan as follows:

- For benefits earned after December 31, 2003, your Normal Retirement Date is the first day of the month on or after your **65th birthday**. *(We will refer to this date as your Age-65 NRD.)*
- For benefits earned through December 31, 2003, your Normal Retirement Date is the first day of the month on or after your **62nd birthday**. *(We will refer to this date as your Age-62 NRD.)*

What does it mean to have two Normal Retirement Dates? Normal Retirement Date is defined as the date you can start receiving your full pension without reductions for starting your benefit early. Having two Normal Retirement Dates does **not** mean you have to retire on either date. It just means:

- Career Pay Benefits earned after December 31, 2003, will be reduced if they start before your Age-65 NRD.
- Career Pay Benefits earned through December 31, 2003, will be reduced if they start before your Age-62 NRD.

At your Normal Retirement Date, your benefit will be determined as follows:

Your annual lifetime benefit starting at your Normal Retirement Date will be your Career Pay Benefit or your Cash Balance Benefit, whichever is larger:

- **Career Pay Benefit**: 1.65% of your aggregate Compensation at MIT while a member of the Basic Plan
- **Cash Balance Benefit**: Your Cash Balance Account – Basic Credits plus Interest Credits – converted to an equivalent annual lifetime benefit

To illustrate, let's look at how benefits would be determined for a hypothetical employee named Tim who has decided to continue to work until his Age-65 NRD. Specifically, we will assume:

- Tim starts working full-time at MIT on January 1, 1992, at age 32;
- He earns $50,000 each year of his 33-year career at MIT; and
- He retires on January 1, 2025, his Age-65 NRD.

Career Pay Benefit vs. Cash Balance Benefit: Which is Larger?

- ***For many employees retiring at or near their Normal Retirement Date, the Career Pay Benefit is larger than the Cash Balance Benefit.***
- ***Several factors affect which benefit is larger, including career length, age when benefits begin and Interest Credits on the employee's Cash Balance Account.***
- ***Employees hired at young ages who leave MIT well before their Normal Retirement Date often receive greater value from the Cash Balance Benefit.***

We will also assume Tim's Career Pay Benefit is larger than his Cash Balance Benefit at his retirement date. See page 11 for a description of how the Cash Balance Benefit is calculated.

Tim's Career Pay Benefit will be either (a) or (b), whichever is greater:

(a) The Basic Plan benefit he would have received at his Age-62 NRD – with an actuarial increase on the benefit he earned for service before 2004 to reflect the expected shorter payout period (percentage increases shown in the table on page 21)

(b) The Basic Plan benefit calculated based on his entire career at MIT, reflecting all Compensation

Step 1: Determine Tim's Career Pay Benefit with Continued Accruals

We will first calculate Tim's benefit at his Age-65 NRD using his aggregate Compensation at MIT while a member of the Basic Plan from his hire date of January 1, 1992, until his retirement on January 1, 2025, a 33-year period.

Because we are assuming he earns $50,000 each year of his career, his aggregate Compensation is $50,000/year times 33 years, or $1,650,000.

Tim's Career Pay Benefit with continued accruals is:

1.65% of $1,650,000 = $27,225/year

Step 2: Determine Tim's Age-62 Actuarial Increase Minimum

Tim's Career Pay Benefit at his Age-62 NRD reflects Compensation earned up to his Age-62 NRD, or January 1, 2022. Because Tim has two Normal Retirement Dates, we need to look at his benefit in two pieces – his Career Pay Benefit earned through and after December 31, 2003.

To determine Tim's Career Pay Benefit earned after December 31, 2003, we need to know his aggregate Compensation at MIT while a member of the Basic Plan from January 1, 2004, until his Age-62 NRD on January 1, 2022, an 18-year period. Because he earns $50,000 each year of his career, his aggregate Compensation after December 31, 2003, is $50,000/year times 18 years, or $900,000.

To determine Tim's Career Pay Benefit earned through December 31, 2003, we look at his aggregate Compensation at MIT while a member of the Basic Plan from his date of hire of January 1, 1992, through December 31, 2003, a 12-year period. Because he earns $50,000 each year of his career, his aggregate Compensation through December 31, 2003, is $50,000/year times 12 years, or $600,000.

We also need to know the actuarial factor that increases the benefit he's earned for service before 2004 from his Age-62 NRD to his actual retirement at his Age-65 NRD. This factor is shown in column 1 of the table on page 21 and is 129%.

Tim's Age-62 Actuarial Increase Minimum is:

1.65% of $600,000 times 129%

+

1.65% of $900,000 = $27,621/year

Step 3: Determine Tim's Total Annual Lifetime Benefit

We determine Tim's total annual lifetime benefit starting January 1, 2025 (his Age-65 NRD) by comparing the results of Step 1 and Step 2. His total annual benefit will equal the greater of $27,225 (his Career Pay Benefit with continued accruals) and $27,621 (his Age-62 Actuarial Increase Minimum), or $27,621.

Starting January 1, 2025, his Age-65 NRD, Tim will receive an annual Basic Plan benefit of $27,621.

- This benefit will be paid monthly ($2,302 per month) for life.
- This assumes Tim chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Work Past Your Age-65 Normal Retirement Date

If you work past your Age-65 Normal Retirement Date, you will receive either (a), (b) or (c), whichever is greater:

(a) Continued Accrual Benefit
Total Compensation x 1.65%

(b) Age-65 Actuarial Increase Minimum
The sum of:
(i) Pre-2004 pay x 1.65% x Actuarial Increase from age 65 to commencement, plus
(ii) Post-2003 pay through age 65 x 1.65% x Actuarial Increase from age 65 to commencement

(c) Age-62 Actuarial Increase Minimum
The sum of:
(i) Pre-2004 pay at age 62 x 1.65% x Actuarial Increase based on commencement age using the Age-62 NRD table to the right, plus
(ii) Post-2003 pay through age 62 x 1.65% x Actuarial Increase based on commencement age using the Age-65 NRD column from the table to the right

Actuarial increase factors depend on the age when benefits start, as follows:

Start Age	*Age-62 NRD Factor**	*Age-65 NRD Factor**
65	*129%*	*100%*
66	*140%*	*109%*
67	*154%*	*120%*
68	*169%*	*131%*
69	*186%*	*145%*
70	*205%*	*160%*

****These are rounded factors; actual unrounded factors are in Appendix B.***

Let's say our hypothetical employee, Tim, decides to work five more years and retire at age 70 rather than age 65. When he retires, he will have a total of 38 years at MIT rather than 33. How will his benefit be determined?

Step 1: Determine Tim's Career Pay Benefit with Continued Accruals

We first calculate Tim's benefit at age 70 using all his Compensation, including his pay after his Normal Retirement Date. We will assume he continues to earn $50,000 each year after age 65, so his aggregate Compensation at MIT, as shown above, is $50,000/year times 38 years, or $1,900,000.

Tim's Career Pay Benefit with continued accruals is:

1.65% of $1,900,000 = $31,350/year

Step 2: Determine Tim's Age 65 Actuarial Increase Minimum

We first need to look at Tim's pre-2004 compensation, the 12 years between January 1, 1992, and January 1, 2004, in which he earned $50,000 x 12 or $600,000. We then need to look at the compensation he earned between January 1, 2004, and his age 65 (January 1, 2025) or 21 years. $50,000 x 21 = $1,050,000. Looking at the Actuarial Increase Table on page 21, the increase from age 65 to 70 is 160%.

Tim's Age 65 Actuarial Increase Minimum is:

$600,000 x 1.65% x 160% =$15,840

$1,050,000 x 1.65% x 160% =$27,720

$43,560

Step 3: Determine Tim's Age-62 Actuarial Increase Minimum

We first need to look at Tim's pre-2004 compensation, the 12 years between January 1, 1992, and January 1, 2004, in which he earned $50,000 x 12 or $600,000. We then need to look at the compensation he earned between January 1, 2004, and age 62 (January 1, 2022) or 18 years. $50,000 x 18 = $900,000. Looking at the Actuarial Increase Table on page 21, the increase from age 62 to 70 is 205% and the Actuarial Increase from 65 to 70 is 160%.

Tim's Age-62 Actuarial Increase Minimum is:

$600,000 x 1.65% x 205% =$20,295

$900,000 x 1.65% x 160% =<u>$23,760</u>

$44,055

Step 4: Determine Tim's Annual Lifetime Benefit

Tim's annual lifetime benefit is the larger of his Career Pay Continued Accruals, Age-65 Actuarial Increase Minimum or Age-62 Actuarial Increase Minimum. In this example, his Age 62-Actuarial Increase Minimum wins.

Starting at age 70, Tim will receive an annual Basic Plan benefit of $44,055.

- This benefit will be paid monthly ($3,671 per month) for life.
- This assumes Tim chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Leave Before Your Normal Retirement Date and Start Receiving Benefits

If you leave MIT and start to receive Basic Plan benefits before your Age-62 Normal Retirement Date, your pension will be less for two reasons:

- You will have fewer years of service to earn benefits; and
- Your pension – both the benefit earned through December 31, 2003, and the benefit earned after that date – will be reduced to reflect the longer period of time over which pension payments are expected to be paid.

To illustrate, let's determine the benefit for a hypothetical employee named Joanna. We will assume:

- Joanna starts working full-time at MIT on January 1, 1992, at age 32;
- She earns $50,000 each year of her 28-year career at MIT; and
- She retires on January 1, 2020, at age 60, two years before her Age-62 NRD.

We will also assume Joanna's Career Pay Benefit is larger than her Cash Balance Benefit at her retirement date. See page 11 for a description of how the Cash Balance Benefit is calculated.

Step 1: Determine Joanna's Career Pay Benefit Earned After December 31, 2003

To determine Joanna's Career Pay Benefit earned after December 31, 2003, we need to know her aggregate Compensation at MIT while a member of the Basic Plan from January 1, 2004, until her retirement on January 1, 2020, a 16-year period.

Because we are assuming she earns $50,000 each year of her career, her aggregate Compensation after December 31, 2003, is $50,000/year times 16 years, or $800,000.

Because the benefit she earns after December 31, 2003, is reduced if she starts to receive it before her Age-65 NRD, we also need to know the reduction factor that would be applied when her benefit starts at her actual retirement date of January 1, 2020, when she is age 60. Based on the second column of the table in the sidebar on page 25, this factor is 59%.

Joanna's Career Pay Benefit earned after December 31, 2003, starting January 1, 2020, is:

1.65% of $800,000 times 59% = $7,788/year

Step 2: Determine Joanna's Career Pay Benefit Earned Through December 31, 2003

To determine Joanna's Career Pay Benefit earned through December 31, 2003, we need to know her aggregate Compensation at MIT while a member of the Basic Plan from her hire date of January 1, 1992, through December 31, 2003, a 12-year period.

Because she earns $50,000 each year of her career, her aggregate Compensation through December 31, 2003, is $50,000/year times 12 years, or $600,000.

We also need to know the reduction factor that would be applied, because she will be receiving her benefit starting at age 60, two years before her Age-62 NRD. Based on the first column of the table in the sidebar to the right, this factor is 81%.

If you leave MIT and start to receive your pension before your Normal Retirement Date of age 62 or 65, the following factors will apply to your Career Pay Benefit if it starts at the ages shown:

Start Age	*Age-62 NRD Factor**	*Age-65 NRD Factor**
45	20%	15%
50	31%	23%
55	50%	36%
60	81%	59%
62	100%	72%

**These are rounded factors; actual unrounded factors are in Appendix A.*

Joanna's Career Pay Benefit earned through December 31, 2003, starting January 1, 2020, is:

1.65% of $600,000 times 81% = $8,019/year

Step 3: Determine Joanna's Total Annual Lifetime Benefit

We determine Joanna's total annual lifetime benefit starting January 1, 2020 (when she is age 60) by adding the results of Step 1 and Step 2. Her total annual benefit will equal $7,788 plus $8,019, or $15,807.

Starting January 1, 2020, when she is age 60, Joanna will receive an annual Basic Plan benefit of $15,807.

- This benefit will be paid monthly ($1,317 per month) for life.
- This assumes Joanna chooses to receive her benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Retire and Decide to Defer Benefits

When you leave MIT, you may:

- Start your pension right away; or
- Defer payment of your pension to a later date if your Single Sum value is greater than $5,000. You may not defer to a date later than April 1 of the year following the calendar year in which you reach age 72 (age 70½ if you were born before July 1, 1949), or, if later, the date you terminate employment.

If you defer payment, you will receive a greater annual benefit because of the shorter period of time over which payments are expected to be made. Your benefit will be calculated using the actuarial increase and reduction factors described in the previous examples, based on the age when you retire.

Calculating Your Cash Balance Benefit

To determine your Cash Balance Benefit, we need to know your Cash Balance Account at retirement – Basic Credits plus Interest Credits – as well as the actuarial factor that will convert your Cash Balance Account into an equivalent annual lifetime pension.

Remember that Basic Credits are 5% of Compensation each year. Let's assume you earn $40,000 each year. Your Basic Credits are 5% of $40,000, or $2,000 each year.

In addition, you earn Interest Credits monthly based on the Basic Plan's interest crediting basis. The cash balance Interest Credit for a calendar year will be determined using the average annual yield on U.S. long-term corporate bonds, reported monthly by the IRS as the "Third Segment Rate," for the 24-month period ending August 31 of the preceding calendar year. The annual rate will be no less than 4% and no more than 15%.

Assuming the Cash Balance Account grows at an average annual rate of 4% and you retire at age 65 after a 20-year career, your Cash Balance Account at age 65 is approximately $60,650, consisting of both Basic Credits plus Interest Credits.

Each year, MIT's actuary determines the factors to be used to convert Cash Balance Accounts to equivalent annual lifetime pensions. In addition to reflecting current interest rates, these factors take into account life expectancies, so they vary depending on the age when benefits start. Here is a summary of average factors for the five years 2017 through 2021 for selected ages.

To obtain the equivalent annual lifetime pension, multiply the Cash Balance Account by the factor shown for the appropriate age:

Age	Factor
55	5.2%
60	6.0%
62	6.4%
65	7.1%
70	8.6%

Note: These factors are illustrative. Actual factors are determined at the time of your retirement based on the prevailing interest rates at that time.

This $60,650 would produce a pension of $4,306 year ($60,650 x 7.1%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT’s actuary. These factors change every year and depend on the age at which benefits start. (See the sidebar on the prior page for more information.)

III. How Your Basic Plan Benefits are Determined

Participants Who Were Members of the RPSM before July 1, 1989

If you were a member of the Retirement Plan for Staff Members (or RPSM) before July 1, 1989, when the Basic Plan became effective, there are special provisions and features that apply to you. Specifically:

- For your MIT service **on or after July 1, 1989**, you will receive Basic Plan benefits as described in this section.

- For your MIT service **before July 1, 1989**, you will receive your prior RPSM benefit as described in the Supplemental 401(k) Plan SPD.

- You may be entitled to a special **"Early Retirement Supplement"** from the Basic Plan, described in this section. To be eligible, you must terminate between the first of the month on or after your 60^{th} birthday and the July 1^{st} on or after your 65^{th} birthday and have 20 years of service with MIT.

- Your spouse may be eligible for an additional death benefit called the **"Qualified Spouse Benefit"** described in Section VI.

If You Retire at Your Normal Retirement Date

In general, if you worked at MIT anytime between January 1, 1999, and December 31, 2003, you have two Normal Retirement Dates under the Basic Plan as follows:

- For benefits earned after December 31, 2003, your Normal Retirement Date is the first day of the month on or after your **65^{th} birthday**. *(We will refer to this date as your Age-65 NRD.)*

- For benefits earned through December 31, 2003, your Normal Retirement Date is the first day of the month on or after your **62^{nd} birthday**. *(We will refer to this date as your Age-62 NRD.)*

What does it mean to have two Normal Retirement Dates? Normal Retirement Date is defined as the date you can start receiving your full pension without reductions for starting your benefits early. Having two Normal Retirement Dates does **not** mean you have to retire on either date. It just means:

- Career Pay Benefits earned after December 31, 2003, will be reduced if they start before your Age-65 NRD.

- Career Pay Benefits earned through December 31, 2003, will be reduced if they start before your Age-62 NRD or will be actuarially increased if they start after your Age-62 NRD.

At your Normal Retirement Date, your benefit will be determined as follows:

Your annual lifetime benefit starting at your Normal Retirement Date will be your Career Pay Benefit or your Cash Balance Benefit, whichever is larger:

- **Career Pay Benefit**: 1.65% of your aggregate Compensation at MIT while a member of the Basic Plan after July 1, 1989
- **Cash Balance Benefit**: Your Cash Balance Account – Basic Credits plus Interest Credits – converted to an equivalent annual lifetime benefit

To illustrate, let's look at how benefits would be determined for a hypothetical employee named Ray who has decided to continue to work until his Age-65 NRD. Specifically, we will assume:

- Ray starts working full-time at MIT on July 1, 1985, at age 25;
- He earns $50,000 each year of his 40-year career at MIT; and
- He retires on July 1, 2025, his Age-65 NRD.

We will also assume Ray's Career Pay Benefit is larger than his Cash Balance Benefit at his retirement date. See page 11 for a description of how the Cash Balance Benefit is calculated.

Ray's Career Pay Benefit will be either (a) or (b), whichever is greater:

(a) The Basic Plan benefit he would have received at his Age-62 NRD – with an actuarial increase to reflect the expected shorter payout period for the part of his benefit attributable to his service before 2004 (percentage increases shown in the table on page 32)
(b) The Basic Plan benefit calculated based on his career at MIT reflecting all Compensation.

Step 1: Determine Ray's Career Pay Benefit with Continued Accruals

We will first calculate Ray's benefit at his Age-65 NRD using his aggregate Compensation at MIT while a member of the Basic Plan from July 1, 1989, until his retirement on July 1, 2025, a 36-year period. (Remember that Ray's prior RPSM benefit for his service from July 1, 1985, through June 30, 1989, will be paid from the Supplemental 401(k) Plan.)

Because we are assuming he earns $50,000 each year of his career, his aggregate Compensation is $50,000/year times 36 years, or $1,800,000.

Ray's Career Pay Benefit with continued accruals is:

1.65% of $1,800,000 = $29,700/year

Career Pay Benefit vs. Cash Balance Benefit: Which is Larger?

- ***For many employees retiring at or near their Normal Retirement Date, the Career Pay Benefit is larger than the Cash Balance Benefit.***
- ***Several factors affect which benefit is larger, including career length, age when benefits begin and Interest Credits on the employee's Cash Balance Account.***
- ***Employees hired at young ages who leave MIT well before their Normal Retirement Date often receive greater value from the Cash Balance Benefit.***

Step 2: Determine Ray's Age-62 Actuarial Increase Minimum

Ray's Career Pay Benefit at his Age-62 NRD reflects Compensation earned up to his Age-62 NRD, or July 1, 2022. Because Ray has two Normal Retirement Dates, we need to look at his benefit in two pieces – his Career Pay Benefit earned through and after December 31, 2003.

To determine Ray's Career Pay Benefit earned after December 31, 2003, we need to know his aggregate Compensation at MIT while a member of the Basic Plan from January 1, 2004 until his Age-62 NRD on July 1, 2022, an 18 ½ -year period. Because he earns $50,000 each year of his career, his aggregate Compensation after December 31, 2003, is $50,000/year times 18 ½ years, or $925,000.

To determine Ray's Career Pay Benefit earned through December 31, 2003, we look at his aggregate Compensation at MIT while a member of the Basic Plan from his July 1, 1989, date of hire through December 31, 2003, a period of 14 ½ years. (Remember that Ray's prior RPSM benefit for his service from July 1, 1985, through June 30, 1989, will be paid from the Supplemental 401(k) Plan.) Because he earns $50,000 each year of his career, his aggregate Compensation through December 31, 2003, is $50,000/year times 14 ½ years, or $725,000.

We also need to know the actuarial factor that increases his benefit from his Age-62 NRD to his actual retirement at his Age-65 NRD. This factor is shown in column 1 of the table on page 32 and is **129%.**

Ray's Career Age-62 Actuarial Increase Minimum is:

1.65% of $725,000 times 129% +

1.65% of $925,000 = $30,694/year

Step 3: Determine Ray's Total Annual Lifetime Benefit

We determine Ray's total annual lifetime benefit starting January 1, 2025 (his Age-65 NRD) by comparing the results of Step 1 and Step 2. His total annual benefit will equal the greater of $**29,700** (his Career Pay Benefit with continued accruals) **and $30,694** (his Age-62 Actuarial Increase Minimum)**, or $30,694.**

Starting January 1, 2025, his Age-65 NRD, Ray will receive an annual Basic Plan benefit of $30,694.

- This benefit will be paid monthly ($2,558 per month) for life.
- This assumes Ray chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Work Past Your Age-65 Normal Retirement Date

If you work past your Age-65 Normal Retirement Date, you will receive either (a) or (b), whichever is greater:

(a) The Basic Plan benefit you would have received at your two Normal Retirement Dates – with actuarial increases to reflect the expected shorter payout period (percentage increases shown in the table below.

(b) The Basic Plan benefit calculated based on your entire career at MIT, reflecting all Compensation.

Let's say our hypothetical employee Ray (see page 29) decides to work five more years and retire on July 1, 2030, at age 70 rather than age 65. How will his benefit be determined?

Actuarial increase factors depend on the age when benefits start, as follows:

Start Age	*Age-62 NRD Factor**	*Age-65 NRD Factor**
65	*129%*	*100%*
66	*140%*	*109%*
67	*154%*	*120%*
68	*169%*	*131%*
69	*186%*	*145%*
70	*205%*	*160%*

**These are rounded; actual unrounded factors are in Appendix B.*

Step 1: Determine Ray's Career Pay Benefit with Continued Accruals

We first calculate Ray's benefit at age 70 using all his Compensation, including his pay after his Normal Retirement Date. We will count his pay from July 1, 1989, through June 30, 2030, a period of 41 years. (Remember that Ray's prior RPSM benefit for his service from July 1, 1985, through June 30, 1989, will be paid from the Supplemental 401(k) Plan.)

We will assume he continues to earn $50,000 each year after age 65, so his aggregate Compensation at MIT after July 1, 1989, is **$50,000/year times 41 years, or $2,050,000**.

Ray's Career Pay Benefit with continued accruals is:

1.65% of $2,050,000 = $33,825/year

Step 2: Determine Ray's Career Pay Benefit with Actuarial Increase

This benefit is the greater of (1) or (2):

(1) Ray's Age-65 NRD benefit, reflecting Compensation earned up to July 1, 2025 (his Age-65 NRD) and actuarially increased from age 65 to his retirement age (age 70) with an Age-65 NRD actuarial increase factor.

$50,000/yr. x 36 yrs. (7/1/1989 – 7/1/2025) x 1.65% x 160% = $47,520

(2) Ray's Age-62 NRD benefit, reflecting Compensation earned up to July 1, 2022 (his Age-62 NRD) and actuarially increased from age 62 to his retirement age (age 70) with an Age-62 NRD. The Age-62 NRD actuarial increase factor applies on the benefit earned through December 31, 2003, and the Age-65 NRD actuarial increase factor applies on the benefit earned after December 31, 2003.

$50,000/yr. x 14.5 yrs. (7/1/1989 – 12/31/2003) x 1.65% x 205% =$24,523

\+ $50,000/yr. x 18.5 yrs. (1/1/2004 – 7/1/2022) x 1.65% x 160% = <u>$24,420</u>

$48,943

We then determine Ray's benefit at his Normal Retirement Date actuarially increased until age 70 to be **$48,943/year**.

Step 3: Determine Ray's Annual Lifetime Benefit

Ray's annual lifetime benefit is the larger of his Career Pay Benefit with an actuarial increase and his Career Pay Benefit with continued accruals. In this example, his Career Pay Benefit with an actuarial increase is the larger benefit.

Starting at age 70, Ray will receive an annual Basic Plan benefit of $48,943.

- This benefit will be paid monthly ($4,079 per month) for life.
- This assumes Ray chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Leave Before Your Normal Retirement Date and Start Receiving Benefits

If you leave MIT and start to receive Basic Plan benefits before your Normal Retirement Date, your pension will be less for two reasons:

- You will have fewer years of service to earn benefits; and
- Your pension – both the benefit earned through December 31, 2003, and the benefit earned after that date – will be reduced to reflect the longer period of time over which pension payments are expected to be paid.

To illustrate, let's determine the benefit for a hypothetical employee named Jen. We will assume:

- Jen starts working full-time at MIT on July 1, 1985, at age 25;
- She earns $50,000 each year of her 35-year career at MIT; and
- She retires on July 1, 2020, at age 60, two years before her Age-62 NRD.

We will also assume Jen's Career Pay Benefit is larger than her Cash Balance Benefit at her retirement date. See page 11 for a description of how the Cash Balance Benefit is calculated.

Step 1: Determine Jen's Career Pay Benefit Earned After December 31, 2003

To determine Jen's Career Pay Benefit earned after December 31, 2003, we need to know her aggregate Compensation at MIT while a member of the Basic Plan from January 1, 2004, until her retirement on July 1, 2020, a 16 ½ year period.

Because we are assuming she earns $50,000 each year of her career, her aggregate Compensation after December 31, 2003, is $50,000/year times 16 ½ years, or $825,000.

Because the benefit she earns after December 31, 2003, is reduced if she starts to receive it before her Age-65 NRD, we also need to know the reduction factor that would be applied when her benefit starts at her actual retirement date of July 1, 2020, when she is age 60. Based on the second column of the table in the sidebar on page 35, this factor is 59%.

Jen's Career Pay Benefit earned after December 31, 2003, starting July 1, 2020, is:

1.65% of $825,000 times 59% = $8,031/year

Step 2: Determine Jen's Career Pay Benefit Earned from July 1, 1989, through December 31, 2003

To determine Jen's Career Pay Benefit earned through December 31, 2003, we need to know her aggregate Compensation at MIT while a member of the Basic Plan from July 1, 1989, through December 31, 2003, a period of 14 ½ years. (Remember that her prior RPSM benefit for service from July 1, 1985, through June 30, 1989, will be paid from the Supplemental 401(k) Plan.)

Because she earns $50,000 each year of her career, her aggregate Compensation through December 31, 2003, is **$50,000/year times 14 ½ years, or $725,000.**

We also need to know the reduction factor that would be applied, because she will be receiving her benefit starting at age 60, two years before her Age-62 NRD. Based on the first column of the table in the sidebar to the right, this factor is **81%.**

Jen's Career Pay Benefit earned through December 31, 2003

starting July 1, 2020, is:

1.65% of $725,000 times 81% = $9,690/year

If you leave MIT and start to receive your pension before your Normal Retirement Date of age 62 (NRD-62) or 65 (NRD-65), the following factors will apply to your Career Pay Benefit if it starts at the ages shown:

Start Age	*Age-62 NRD Factor**	*Age-65 NRD Factor**
45	*20%*	*15%*
50	*31%*	*23%*
55	*50%*	*36%*
60	*81%*	*59%*
62	*100%*	*72%*

**These are rounded factors; actual unrounded factors are in Appendix A.*

Step 3: Determine Jen's Total Annual Lifetime Benefit

We determine Jen's total annual lifetime benefit starting January 1, 2020 (when she is age 60) by adding the results of Step 1 and Step 2. Her total annual benefit will equal **$8,031** (her Career Pay Benefit after 2003) **plus $9,690** (her Career Pay Benefit through 2003)**, or $17,721.**

Starting July 1, 2020, when she is age 60, Jen will receive an annual Basic Plan benefit of $17,721.

- This benefit will be paid monthly ($1,477 per month) for life.
- This assumes Jen chooses to receive her benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

In addition, because she is retiring at age 60, has 20 years of service with MIT and was a prior member of the RPSM Plan, Jen will receive an Early Retirement Supplement (or ERS) of $625/month as described in the sidebar to the right. This ERS will be paid to her as a Single Life Annuity. If she elects an alternative payment form for her Basic Plan benefit, it will apply to her ERS as well.

If You Retire and Decide to Defer Benefit Payments

When you leave MIT, you may:

- Start your pension right away; or
- Defer payment of your pension to a later date if your Single Sum value is greater than $5,000. You may not defer to a date later than April 1 of the year following the calendar year in which you reach age 72 (age 70½ if you were born before July 1, 1949), or, if later, terminate employment.

If you defer payment, you will receive a greater annual benefit because of the shorter period of time over which payments are expected to be made. Your benefit will be calculated using the actuarial adjustment factors described in the previous examples, based on the age when you retire.

Former members of the RPSM may be eligible for a special Early Retirement Supplement, or ERS. To be eligible, you must have at least 20 years of service with MIT and retire between the July 1 on or after your 60th birthday and the July 1st on or after your 65th birthday.

The ERS is an extra benefit paid monthly for your lifetime. The amount depends on your age when you leave MIT, grading down from $625 per month at age 60 to $0 on the July 1st on or after you turn 65 as follows:

*Retirement Age**	*Monthly Lifetime ERS*
60	*$625*
61	*$500*
62	*$375*
63	*$250*
64	*$125*
65	*$ 0*

****Based on a 7/1 birthday***

Calculating Your Cash Balance Benefit

To determine your Cash Balance Benefit, we need to know your Cash Balance Account at retirement – Basic Credits plus Interest Credits – as well as the actuarial factor that will convert your Cash Balance Account into an equivalent annual lifetime pension.

Remember that Basic Credits are **5% of Compensation each year**. Let's assume you earn $40,000 each year. Your Basic Credits are 5% of $40,000, or $2,000 each year.

In addition, you earn Interest Credits monthly based on the Basic Plan's interest crediting basis. The cash balance Interest Credit for a calendar year will be determined using the average annual yield on U.S. long-term corporate bonds, reported monthly by the IRS as the "Third Segment Rate," for the 24-month period ending August 31 of the preceding calendar year. The annual rate will be no less than 4% and no more than 15%. Assuming the Cash Balance Account grows at an average annual rate of 4% and you retire at age 65 after a 20-year career, your Cash Balance Account at age 65 is approximately $60,650, consisting of both Basic Credits plus Interest Credits.

This $60,650 would produce a pension of $4,306/year ($60,650 x 7.1%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary. These factors change every year based on market interest rates and depend on the age at which benefits start. (See the sidebar to the right for more information.)

Each year, MIT's actuary determines the factors to be used to convert Cash Balance Accounts to equivalent annual lifetime pensions. In addition to reflecting current interest rates, these factors take into account life expectancies, so they vary depending on the age when benefits start. Here is a summary of average factors for the five years 2017 through 2021 for selected ages.

To obtain the equivalent annual lifetime pension, multiply the Cash Balance Account by the factor shown for the appropriate age:

Age	Factor
55	5.2%
60	6.0%
62	6.4%
65	7.1%
70	8.6%

Note: These factors are illustrative. Actual factors are determined at the time of your retirement based on the prevailing interest rates at that time.

III. How Your Basic Plan Benefits are Determined

*Participants Who Were Members of the RPE before July 1, 1989**

If you were a member of the Retirement Plan for Employees (or RPE) before July 1, 1989, when the Basic Plan became effective, there are special provisions and features that apply to you. Specifically:

- For your MIT service **on or after July 1, 1989**, you will receive Basic Plan benefits as described in this section.
- For your MIT service **before July 1, 1989**, you will receive the benefit you earned under the RPE. This benefit will also be paid from the Basic Plan.
- If you leave MIT and start benefits before your Normal Retirement Date, you may be eligible for a full unreduced pension if you meet certain requirements. These requirements and other early retirement provisions are described in this section.

Career Pay Benefit vs. Cash Balance Benefit: Which is Larger?

- ***For many employees retiring at or near their Normal Retirement Date, the Career Pay Benefit is larger than the Cash Balance Benefit.***
- ***Several factors affect which benefit is larger, including career length, age when benefits begin and Interest Credits on the employee's Cash Balance Account.***
- ***Employees hired at young ages who leave MIT well before their Normal Retirement Date often receive greater value from the Cash Balance Benefit.***

If You Retire at Your Normal Retirement Date

If you worked at MIT anytime between January 1, 1999, and December 31, 2003, you have two Normal Retirement Dates under the Basic Plan as follows:

- For benefits earned after December 31, 2003, your Normal Retirement Date is the first day of the month on or after your **65th birthday**. *(We will refer to this date as your Age-65 NRD.)*
- For benefits earned through December 31, 2003, your Normal Retirement Date is the first day of the month on or after your **62nd birthday**. *(We will refer to this date as your Age-62 NRD.)*

What does it mean to have two Normal Retirement Dates? Normal Retirement Date is defined as the date you can start receiving your full pension without reductions for early commencement.

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* This date is January 1, 1990, for members of the Campus Police Association. Throughout this section of the SPD, please substitute January 1, 1990, for July 1, 1989, if you are a member of this union.

Having two Normal Retirement Dates does **not** mean you have to retire on either date. It just means:

- Career Pay Benefits earned after December 31, 2003, will be reduced if they start before your Age-65 NRD.
- Career Pay Benefits earned through December 31, 2003, including any RPE benefits, will be reduced if they start before your Age-62 NRD or will be actuarially increased if they start after your Age-62 NRD.

At your Normal Retirement Date, your benefit will be determined as follows:

Your annual lifetime benefit starting at your Normal Retirement Date will be your Career Pay Benefit or your Cash Balance Benefit, whichever is larger:

- **Career Pay Benefit**: 1.65% of your aggregate Compensation at MIT while a member of the Basic Plan after July 1, 1989
- **Cash Balance Benefit**: Your Cash Balance Account – Basic Credits plus Interest Credits – converted to an equivalent annual lifetime benefit

In addition, you will receive the benefit you earned under the RPE for your service before July 1, 1989.

To illustrate, let's look at how benefits would be determined for a hypothetical employee named Colleen who has decided to continue to work until her Age-65 NRD. Specifically, we will assume:

- Colleen starts working full-time at MIT on July 1, 1985, at age 25;
- She earns $50,000 each year of her 40-year career at MIT; and
- She retires on July 1, 2025, her Age-65 NRD.

We will also assume Colleen's Career Pay Benefit is larger than her Cash Balance Benefit at her retirement date. See page 11 for a description of how the Cash Balance Benefit is calculated.

Step 1: Determine Colleen's Career Pay Benefit with Continued Accruals

We will first calculate Colleen's benefit at her Age-65 NRD using her aggregate Compensation at MIT while a member of the Basic Plan from July 1, 1989, until her retirement on July 1, 2025, a 36-year period. (Remember that for her service from July 1, 1985, through June 30, 1989, she receives the benefit she earned under the RPE.)

Because we are assuming she earns $50,000 each year of her career, her aggregate Compensation is **$50,000/year times 36 years, or $1,800,000.**

Colleen's Career Pay Benefit with continued accruals is:

1.65% of $1,800,000 = $29,700/year

Step 2: Determine Colleen's Age-62 Actuarial Increase Minimum

Colleen's Career Pay Benefit at her Age-62 NRD reflects Compensation earned up to her Age-62 NRD, or July 1, 2022. Because Colleen has two Normal Retirement Dates, we need to look at her benefit in two pieces – her Career Pay Benefit earned through and after December 31, 2003.

To determine Colleen's Career Pay Benefit earned after December 31, 2003, we need to know her aggregate Compensation at MIT while a member of the Basic Plan from January 1, 2004, until her Age-62 NRD on July 1, 2022, an 18 ½ -year period. Because she earns $50,000 each year of her career, her aggregate Compensation after December 31, 2003, is **$50,000/year times 18 ½ years, or $925,000.**

To determine Colleen's Career Pay Benefit earned through December 31, 2003, we look at her aggregate Compensation at MIT while a member of the Basic Plan from her date of hire of July 1, 1989, through December 31, 2003, a period of 14 ½ years. (Remember that for her service from July 1, 1985, through June 30, 1989, she will receive the benefit she earned under the RPE.) Because she earns $50,000 each year of her career, her aggregate Compensation through December 31, 2003, is **$50,000/year times 14 ½ years, or $725,000.**

We also need to know the actuarial factor that increases the portion of the benefit she earned for service before 2004 from her Age-62 NRD to her actual retirement at her Age-65 NRD. This factor is shown in column 1 of the table on page 42 and is **129%.**

Colleen's Age-62 Actuarial Increase Minimum is:

1.65% of $725,000 times 129% +

1.65% of $925,000 = $30,694/year

Step 3: Determine Colleen's Annual Pension Benefit under the RPE for Service from July 1, 1985, through June 30, 1989

This amount is retained on file by MIT. Let's assume this amount is $2,000 a year, payable for life starting at age 62 (the RPE benefit at Normal Retirement Date). This benefit will be actuarially increased as well, using the same factor of 129% that applied to Colleen's Career Pay Benefit earned through December 31, 2003. Colleen's adjusted RPE benefit is therefore **$2,000/year times 129% or $2,580.**

Step 4: Determine Colleen's Total Annual Lifetime Benefit Starting July 1, 2025 (Her Age-65 NRD)

We determine Colleen's total annual lifetime benefit starting July 1, 2025 (her Age-65 NRD) by comparing the results of Step 1 and Step 2 and adding the results of Step 3. Her total annual benefit will equal the greater of **$29,700** (her Career Pay Benefit with continued accruals) and **$30,694** (her Age-62 Actuarial Increase Minimum) plus **$2,580** (her Annual Pension Benefit under the RPE for Service from July 1, 1985, through June 30, 1989), **or $33,274.**

Starting July 1, 2025, her Age-65 NRD, Colleen will receive an annual Basic Plan benefit of $33,274.

- This benefit will be paid monthly ($2,773 per month) for life.
- This assumes Colleen chooses to receive her benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Work Past Your Age-65 Normal Retirement Date

If you work past your Age-65 Normal Retirement Date (Age-65 NRD), you will receive either (a) or (b), whichever is greater:

(a) The Basic Plan benefit you would have received at your two Normal Retirement Dates – with actuarial increases to reflect the expected shorter payout period (percentage increases shown in the table below)

(b) The Basic Plan benefit calculated based on your entire career at MIT, reflecting all Compensation

Let's say our hypothetical employee Colleen (see page 39) decides to work five more years and retire on July 1, 2030, at age 70 rather than age 65. How will her benefit be determined?

Step 1: Determine Colleen's Career Pay Benefit with Continued Accruals

We first calculate Colleen's benefit at age 70 using all her Compensation, including her pay after her Normal Retirement Date. We will count her pay from July 1, 1989, through June 30, 2030, a period of 41 years. (Remember that Colleen's prior RPE benefit will account for her service from July 1, 1985, through June 30, 1989.)

We will assume she continues to earn $50,000 each year after age 65, so her aggregate Compensation at MIT after July 1, 1989, is **$50,000/year times 41 years, or $2,050,000.**

Colleen's Career Pay Benefit with continued accruals plus her prior $2,000 RPE benefit is:

1.65% of $2,050,000 plus $2,000 = $35,825/year

Actuarial increase factors depend on the age when benefits start, as follows:

Start Age	*Factor for Age-62 NRD**	*Factor for Age-65 NRD**
65	*129%*	*100%*
66	*140%*	*109%*
67	*154%*	*120%*
68	*169%*	*131%*
69	*186%*	*145%*
70	*205%*	*160%*

****These are rounded factors; actual unrounded factors are in Appendix B.***

Step 2: Determine Colleen's Career Pay Benefit with Actuarial Increase

We then determine Colleen's benefit at her Normal Retirement Date actuarially increased until age 70 to be **$57,003/year.**

Compensation for the Period	Normal Retirement Age	Actuarial Increase Factor	Benefit Increased from NRD to Age 70
$1,075,000 (1/1/04 – 6/30/25)	Age 65	160% (Age-65 NRD Factor)	1.65% x $1,075,000 x 160% = $28,380
$725,000 (7/1/89-12/31/03)	Age 62	205% (Age-62 NRD Factor)	1.65% x $725,000 x 205% = $24,523
$2,000 (RPE Benefit) (7/1/85 – 6/30/89)	Age 62	205% (Age-62 NRD)	2,000 x 205% = $4,100
			$57,003

Step 3: Determine Colleen's Annual Lifetime Benefit

Colleen's annual lifetime benefit is the larger of her prior RPE benefit plus Career Pay Benefit with an actuarial increase and her prior RPE benefit plus Career Pay Benefit with continued accruals. In this example, her RPE benefit plus Career Pay Benefit with an actuarial increase is the larger benefit.

Starting at age 70, Colleen will receive an annual Basic Plan benefit of $57,003.

- This benefit will be paid monthly ($4,750 per month) for life.
- This assumes Colleen chooses to receive her benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Leave Before Your Normal Retirement Date and Start Receiving Benefits

If you leave MIT and start to receive Basic Plan benefits before your Normal Retirement Date, your pension will be less for two reasons:

- You will have fewer years of service to earn benefits; and
- Your pension – both the benefit earned through December 31, 2003, and the benefit earned after that date – will be reduced to reflect the longer period of time over which pension payments are expected to be paid.

Special Early Retirement Provisions for Former Members of the RPE

There are important exceptions to the above rule for former members of the RPE who meet certain requirements.

If you were a participant in the RPE on June 30, 1989, and had five years of service on that date**,** you may receive full unreduced benefits from the Basic Plan if you:

- Retire at age 55 or later with at least 25 years of service; or
- Retire at age 62 or later with at least 20 years of service.

If you were a participant in the RPE on June 30, 1989, and do not meet the age and service requirements described above, your benefits will be reduced by 3% per year for each year before your Normal Retirement Date if you terminate employment after 10 years of service and start your benefits on or after age 55.

These provisions generally apply to both the benefit you earned under the RPE for your service up to June 30, 1989, and your Basic Plan Career Pay Benefit earned after that date. However, if you were not eligible under the RPE on June 30, 1989, but still have an RPE benefit, the annual 3% reduction will apply to your RPE benefit and your Basic Plan Career Pay Benefit will be reduced under the Basic Plan's standard reduction table.

If you terminate employment and start your benefits before age 55, the reduction factors shown in the sidebar on page 44 will apply to your benefit, depending on the applicable Normal Retirement Date and your age when benefits start.

If you leave MIT and start to receive your pension before your Normal Retirement Date of age 62 or 65, the following factors will apply to your Career Pay Benefit if it starts at the ages shown:

Start Age	*Age-62 NRD Factor**	*Age-65 NRD Factor**
45	*20%*	*15%*
50	*31%*	*23%*
51	*34%*	*25%*
52	*38%*	*27%*
53	*41%*	*30%*
54	*45%*	*33%*

****These are rounded factors; actual unrounded factors are in Appendix A.***

To illustrate, let's determine the benefit for a hypothetical employee named Mike. We will assume:

- Mike starts working full-time at MIT on July 1, 1985, at age 25;
- He earns $50,000 each year of his 35-year career at MIT; and
- He retires on July 1, 2020, at age 60.

We will also assume Mike's Career Pay Benefit is larger than his Cash Balance Benefit at his retirement date.

Step 1: Determine Mike's Career Pay Benefit Earned After December 31, 2003

To determine Mike's Career Pay Benefit earned after December 31, 2003, we need to know his aggregate Compensation at MIT while a member of the Basic Plan from January 1, 2004, until his retirement on July 1, 2020, a 16 ½ year period.

Because we are assuming he earns $50,000 each year of his career, his aggregate Compensation after December 31, 2003, is **$50,000/year times 16 ½ years, or $825,000.**

Because Mike did not have five years of service on July 1, 1989, his benefit earned after December 31, 2003, is therefore reduced by 3% for each of the five years before his Age-65 NRD, a reduction of 15%. *(If Mike had completed the RPE requirement of five years of service by June 30, 1989, and retired at age 62, no reduction factor would apply to his benefit because he is retiring at age 62 with at least 20 years of MIT service.)*

Mike's Career Pay Benefit earned after December 31, 2003, starting July 1, 2020, is:

1.65% of $825.000 times 85% = $11.571/year

Step 2: Determine Mike's Career Pay Benefit Earned from July 1, 1989, through December 31, 2003

To determine Mike's Career Pay Benefit earned through December 31, 2003, we need to know his aggregate Compensation at MIT while a member of the Basic Plan from July 1, 1989, through December 31, 2003, a period of 14 ½ years. (Remember that for his service from July 1, 1985, through June 30, 1989, he will receive the benefit he earned under the RPE.)

Because he earns $50,000 each year of his career, his aggregate Compensation through December 31, 2003, is **$50,000/year times 14 ½ years, or $725,000.**

We also need to know the reduction factor that would be applied, because he will be receiving his benefit starting at age 60, two years before his Age-62 NRD. Because Mike did not have five years of service on July 1, 1989, his benefit earned through December 31, 2003, is therefore reduced by 3% for each of the two years before his Age-62 NRD, a reduction of 6%.

Mike's Career Pay Benefit earned through December 31, 2003, starting July 1, 2020, is:

1.65% of $725,000 times 94% = $11,245/year

Step 3: Determine Mike's Annual Pension Benefit under the RPE for Service from July 1, 1985, through June 30, 1989

This amount is retained on file by MIT. Let's assume this amount is $2,000 a year, payable for life starting at age 62 (the RPE benefit at Normal Retirement Date). Because Mike did not have five years of service on July 1, 1989, his prior RPE benefit is reduced by 3% for each of the two years before his Age-62 NRD, a reduction of 6%. Mike's adjusted RPE benefit is therefore **$2,000/year times 94% or $1,880.**

Step 4: Determine Mike's Total Annual Lifetime Benefit

We determine Mike's total annual lifetime benefit starting January 1, 2020 (when he is age 60) by adding the results of Step 1, 2 and 3. His total annual benefit will equal **$11,571** (his Career Pay Benefit earned after December 31, 2003) **plus $11,245** (his Career Pay Benefit earned through December 31, 2003) **plus $1,880** (his annual benefit from the RPE for service from July 1, 1985, through June 30, 1989) **or $24,696.**

Starting July 1, 2020, when Mike is age 60, he will receive an annual Basic Plan benefit of $24,696.

- This benefit will be paid monthly ($2,058 per month) for life.
- This assumes Mike chooses to receive his benefit as a "Single Life Annuity." See Section V to learn about other available payment forms.

If You Retire and Decide to Defer Benefit Payments

When you leave MIT, you may:

- Start your pension right away; or
- Defer payment of your pension to a later date if your Single Sum value is greater than $5,000. You may not defer to a date later than April 1 of the year following the calendar year in which you reach age 72 (age 70½ if you were born before July 1, 1949), or, if later, terminate employment.

If you defer payment, you will receive a greater annual benefit because of the shorter period of time over which payments are expected to be made. Your benefit will be calculated using the actuarial adjustment factors described in the previous examples, based on the age when you retire.

Calculating Your Cash Balance Benefit

To determine your Cash Balance Benefit, we need to know your Cash Balance Account at retirement – Basic Credits plus Interest Credits – as well as the actuarial factor that will convert your Cash Balance Account into an equivalent annual lifetime pension.

Remember that Basic Credits are **5% of Compensation each year**. Let's assume you earn $40,000 each year. Your Basic Credits are 5% of $40,000, or $2,000 each year.

In addition, you earn Interest Credits monthly based on the Basic Plan's interest crediting basis. The cash balance Interest Credit for a calendar year will be determined using the average annual yield on U.S. long-term corporate bonds, reported monthly by the IRS as the "Third Segment Rate," for the 24-month period ending August 31 of the preceding calendar year. The annual rate will be no less than 4% and no more than 15%.

Assuming the Cash Balance Account grows at an average annual rate of 4% and you retire at age 65 after a 20-year career, your Cash Balance Account at age 65 is approximately **$60,650**, consisting of both Basic Credits plus Interest Credits.

Each year, MIT's actuary determines the factors to be used to convert Cash Balance Accounts to equivalent annual lifetime pensions. In addition to reflecting current interest rates, these factors take into account life expectancies, so they vary depending on the age when benefits start. Here is a summary of average factors for the five years 2017 through 2021 for selected ages.

To obtain the equivalent annual lifetime pension, multiply the Cash Balance Account by the factor shown for the appropriate age:

Age	Factor
55	5.2%
60	6.0%
62	6.4%
65	7.1%
70	8.6%

Note: These factors are illustrative. Actual factors are determined at the time of your retirement based on the prevailing interest rates at that time.

This $60,650 would produce a pension of $4,306/year ($60,650 x 7.1%) using the annuity conversion factors required under the Basic Plan terms and supplied by MIT's actuary. These factors change every year based on market interest rates and depend on the age at which benefits start. (See the sidebar on the previous page for more information.)

IV. Cost-of-Living Adjustments after Your Benefit Starts

Participants Hired on or before July 1, 2012

In general, cost-of-living adjustments will be made to your pension payments every three years, starting on the third July 1st on or after your Normal Retirement Date (or your actual retirement date, if later). Each adjustment is 75% of the cumulative rise in the Consumer Price Index (CPI) over the prior three years (measured on March 31) to a maximum of 10%.

To see how this works, let's look at an example. Let's assume Lucas retires at age 65, his Normal Retirement Date, on July 1, 2015. His monthly benefit from the Basic Plan is $1,000.

On the third July 1st after Lucas's Normal Retirement Date – July 1, 2018 – Lucas will be eligible for his first cost-of-living adjustment to his monthly pension from the Basic Plan. For illustration purposes, let's assume the CPI has risen by 12% between March 31, 2015, and March 31, 2018. Here is how Lucas's adjusted pension will be determined:

- **Calculate 75% of the increase in the CPI between March 31, 2015, and March 31, 2018:**

  75% of 12% = 9%

- **Because 9% is smaller than the maximum increase of 10%, Lucas's pension of $1,000 per month will be increased by 9%, or $90 per month.**

- **Starting July 1, 2018, Lucas will start to receive an increased pension of $1,090 per month ($1,000 plus $90).**

This cost-of-living adjustment process will be repeated on July 1, 2021, and every three years after that for Lucas's lifetime. In addition, if you are an employee with two Normal Retirement Dates, you will receive an adjustment on the third July 1st on or after age 62 with respect to benefits earned before 2004.

Employees who retire after their Normal Retirement Date will have their first cost-of-living adjustment prorated. For example, an employee with a Normal Retirement Date of July 1, 2010, who retires a year later on July 1, 2011, will be eligible for his or her first adjustment on July 1, 2013. The amount of the first adjustment will equal two-thirds of the increase the retiree would have received had he or she retired on his/her Normal Retirement Date (July 1, 2010, in this example).

Employees who leave MIT and start their Basic Plan benefit before their Normal Retirement Date will not receive any cost-of-living increases until the third July 1st after their Normal Retirement Date.

The cost-of-living adjustment will not apply to the Early Retirement Supplement or the Qualified Spouse Benefit. These benefits are provided to former RPSM members. See pages 36 and 54 for more information.

Participants Hired after July 1, 2012

If you were hired or first became an eligible employee after July 1, 2012, you may elect to receive an automatic cost-of-living adjustment (COLA), but your pension will be actuarially reduced to reflect the value of this adjustment.

The cost-of-living adjustment will be calculated as described above. The actuarial reduction factors change every year based on current inflation expectations and depend on your age when your benefits start.

Here is a summary of COLA reduction factors for 2021 that will apply to your pension benefit if you elect to receive an automatic cost-of-living adjustment. These factors are illustrative. The actual factors will be determined at the time your benefits commence.

Age Benefits Commence	*COLA Reduction Factor*
55	*.9435*
60	*.9251*
62	*.9157*
65	*.8985*
70	*.9136*

V. How Your Basic Plan Benefits are Paid

Standard Forms of Payment for Single and Married Employees

If you are single when you start to receive your benefit from the Basic Plan, the standard form of payment is a **Single Life Annuity**. Under this form of payment, your monthly benefit will continue throughout your lifetime and cease upon your death.

If you are married when you start to receive your benefit from the Basic Plan, the standard form of payment is a **50% Joint and Survivor Annuity**. Under the 50% Joint and Survivor Annuity, you will receive reduced payments throughout your lifetime with the provision that your spouse will continue receiving 50% of your benefit for his or her life after your death. The amount of the reduction in your benefit depends on your age and your spouse's age at the time your benefit begins.

Alternatively, you may elect one of the optional forms described in the following section. If you are married, you may need to obtain written, notarized consent from your spouse if you want to elect certain options.

Other Forms of Payment Available under the Basic Plan

If you were hired or first became an eligible employee on or before July 1, 2012, other payment options may be available.

The Basic Plan offers the following payment options:

Form of Payment	Description	Conditions of Election
Single Life Annuity	Payments continue for your life, ceasing upon your death	You must obtain your spouse's written, notarized consent if you are married
Joint and Survivor Annuity with 50%, 75%, or 100% of your benefit continued to your spouse or other designated beneficiary	Reduced payments continue for your life with the specified percentage continuing to your spouse or designated beneficiary for life after your death	You must obtain your spouse's written, notarized consent if you are married and designate a beneficiary other than your spouse
A Period Certain Annuity with 10 or 15 years of payments guaranteed	Payments guaranteed to continue for the specified period (Must be elected with either a Single Life Annuity or a Joint and Survivor Annuity)	You must obtain your spouse's written, notarized consent if you are married

Form of Payment	Description	Conditions of Election
Single Sum	The full value of your Basic Plan benefit paid to you in a Single Sum. See additional detail below.	A Single Sum may be elected only if you have 15 or fewer years of service when you leave MIT or your Cash Balance Account is $75,000 or less. If the value of your benefit is over $5,000, you must obtain your spouse's written, notarized consent to elect a Single Sum if you are married.

Single Sum Distributions

If you leave MIT with 15 or fewer years of service – or if your Cash Balance Account is $75,000 or less – you may elect a Single Sum instead of a lifetime pension, subject to obtaining your spouse's consent if you are married. The amount of the Single Sum will be (a) or (b) below, whichever is greater:

(a) The Actuarial Equivalent of your Career Pay Benefit

(b) Your Cash Balance Account

For participants hired on or before July 1, 2012, the lump sum amount is increased to reflect the estimated value of automatic post-retirement cost-of-living adjustments.

Please note that if the value of your Basic Plan benefit is $5,000 or less, your benefit will be distributed to you as a Single Sum subject to the rules described below based on your account value. Spousal consent requirements will not apply.

- If the value of your benefit is less than or equal to $1,000, you will automatically receive a Single Sum cash payment.
- If the value of your benefit is at least equal to $1,000 but it is not greater than $5,000, you may elect to receive a Single Sum payment or you may elect to have the Single Sum rolled over to another qualified plan or an Individual Retirement Account (IRA). If you do not make an election, your lump sum will automatically be rolled over into an Individual Retirement Account designated by the plan administrator.

If you choose a direct rollover:

- Your distribution will not be taxed in the year of the rollover and no income tax will be withheld.

- Your distribution will be taxed later when you take it out of the IRA or other employer's plan.

- If you are over age 72 (age 70½ if you were born before July 1, 1949) at distribution, a portion of your Single Sum may not be eligible for a rollover.

If you choose to have your Single Sum paid to you rather than rolled over:

- You will receive only 80% of the amount of your payment because 20% federal income tax must be withheld.

- Your payment will be taxed in the current year unless you roll it over, generally within 60 days of your receipt of the distribution.

Maximum Benefits

Federal regulations specify certain limits on the amount of benefits that can be paid to any individual from a retirement plan. If you become affected by these rules, you will be notified and given further explanation at retirement.

Payment of Benefits and Tax Considerations

Amounts you receive from the Basic Plan are subject to federal income taxes. As noted above, if you receive a Single Sum, you can defer current federal income tax by electing to roll over your payment to another employer's plan or an IRA.

The federal income taxes you pay on your Basic Plan benefits will be based on your individual tax situation. You should also review the state and local tax laws that may apply to you. Because tax laws change from time to time, you should consult with a tax advisor at the time your payments begin to understand what laws and rules apply.

VI. Benefits in the Event of Your Death

Death before Benefits Start

If you die before your benefits have started, the value of your benefit from the Basic Plan will be paid to your beneficiary.

- **If your beneficiary is your spouse,** he or she will have the choice of receiving payment as a Single Sum or Single Life Annuity. Under federal tax law, Single Sums must be paid by December 31 following the fifth anniversary of your date of death and may be rolled over to an IRA. Single Life Annuities must start by April 1 of the year following the year you would have attained age 72 (age 70½ if you were born before July 1, 1949). Please note that if the value of the death benefit is $1,000 or less, it will be distributed to your spouse automatically as a Single Sum.

- **If your beneficiary is not your spouse,** he or she will receive payment as a Single Sum. Under federal tax law, payment must be made by December 31 following the fifth anniversary of your date of death.

If you are married and wish to designate a beneficiary who is not your spouse, your spouse must provide consent to your designation. If you do not designate a beneficiary, your default beneficiary will be your spouse (if you are married) or your estate (if you are not married).

If you were a participant in the RPSM before July 1, 1989, your spouse may be eligible for a special Qualified Spouse Benefit, as described later in this section.

Death after Benefits Start

If you die after your monthly pension has started, benefits to your spouse or other beneficiary will depend on the form of payment you selected before your pension began. Refer to Section V for information on forms of payment. If you received a Single Sum instead of a monthly lifetime pension prior to your death, no payments will be made to your spouse or other beneficiary.

If you were a participant in the RPSM before July 1, 1989, your spouse may be eligible for a special Qualified Spouse Benefit, as described in the following paragraph.

Qualified Spouse Benefits for Former Participants in the RPSM

If you participated in the RPSM before July 1, 1989, your surviving spouse may be eligible for a special Qualified Spouse Benefit (QSB) under certain circumstances. If you and your spouse both meet the eligibility conditions, this benefit will be payable in addition to any other death benefits payable from the Basic Plan. This benefit is payable to your spouse upon your death (either before or after your retirement if your final termination is on or after your 55th birthday).

The eligibility conditions are as follows:

- You die when you are age 55 or older;
- You have 10 or more years of MIT service on your date of death or termination date (if earlier);
- You have been married to your spouse for at least three years immediately prior to the benefit commencement date; and
- You are not divorced or legally separated from your spouse at the time of your death.

The QSB is generally 50% of the monthly lifetime pension that could be provided to you by your RPSM balance (greater reductions apply if your spouse is more than 10 years younger than you). For the purposes of this calculation, your RPSM balance is your actual balance as of December 31, 1998, adjusted with assumed rates of investment return from December 31, 1998, until the earlier of your date of death, termination date, or the July 1st on or after your 65th birthday.

This balance is then converted to a monthly lifetime pension based on your age and the Basic Plan's actuarial conversion factors in effect at the calculation date. If your eligible spouse is more than 10 years younger than you, actuarial reductions will apply to reflect the longer expected payout period.

If you are eligible for a QSB and are about to retire, you have the option to increase the QSB available to your spouse to reflect the value of retirement benefits earned after June 30, 1989. In exchange, your Basic Plan benefit will be based only on the Cash Balance Benefit (rather than the greater of the Cash Balance Benefit and the Career Pay Benefit). In addition, your Cash Balance Benefit will not be adjusted for future cost-of-living increases.

VII. Special Circumstances

Disability

If you become totally disabled and are receiving disability payments from MIT's Long-Term Disability Plan, you will continue to earn Basic Plan benefits while you receive disability payments as if you were continuing to work at MIT at your pay rate immediately before you became disabled.

Breaks in Service

If you have already started your benefits and you are rehired at a 50% schedule or more, your benefit payments will continue to be paid while you are working. When you terminate your employment again, your benefit will be recalculated to account for your additional period of re-employment and will be offset for the benefits you had already received. When your benefit resumes, it will be paid in the same form as before you were rehired.

If you have not yet started your benefit when you are rehired, you will continue to earn benefits during your re-employment that will be added to the benefits you earned during your earlier period of employment.

Military Leave

The Uniformed Services Employment and Reemployment Rights Act of 1994 (USERRA) guarantees certain rights to eligible employees who enter military service. The terms "Uniformed Services" or "Military Service" mean the Armed Forces (i.e., Army, Navy, Air Force, Marine Corps, Coast Guard), the reserve components of the Armed Services, the Army National Guard, and the Air National Guard when engaged in active duty for training, inactive duty training, or full-time National Guard duty, the commissioned corps of the Public Health Service, and any other category of persons designated by the President in time of war or national emergency.

If you die while performing qualified military service, your spouse or beneficiary will be entitled to the full value of your benefit.

Upon your return to MIT immediately following your military leave, you may receive retroactive benefit credit for your period of military service as if you had been employed at MIT at your rate of pay immediately prior to your military leave.

FMLA Leave

Under the federal Family and Medical Leave Act (FMLA), if you meet eligible service requirements, you are entitled to take up to 12 weeks of leave for certain family and medical situations (or 26 weeks in a single 12-month period for military caregiver leave). An absence under the Family and Medical Leave Act will not constitute a break in service for purposes of this Basic Plan.

In general, your FMLA leave is treated like any other paid or unpaid leave under the plan. If your FMLA leave is paid, your leave will be treated like other paid leaves; if your FMLA leave is unpaid, it will be treated like other unpaid leaves.

Sabbaticals or Other Leaves of Absence

While you are on sabbatical or any other paid leave of absence, you will earn benefits as though you were actively employed. While you are on an unpaid leave of absence, however, you will not earn benefits under the Basic Plan.

How You May Lose Benefits

The Basic Plan exists specifically to provide retirement benefits. However, under certain circumstances, those benefits may be delayed, reduced, or lost. For example:

- If your employment with MIT terminates for any reason before you are vested, no benefits will be payable.
- If your employment status changes such that you are no longer an eligible employee under the Plan or work enough hours to earn benefits, you may stop accruing benefits. For example, if you become a part-time employee, you might not have sufficient service to earn years of service in the future.
- If you are receiving an Early Retirement Supplement benefit and you return to work for more than 50% of a regular full-time work schedule, those payments will be suspended, and you will no longer be eligible for ERS benefits. Other retirement benefits will continue to be paid if you return to work after retirement.
- If you do not apply for benefits in a timely manner or fail to provide information requested by the administrator, benefits could be delayed or lost.
- If you do not notify the administrator of a change in your address, benefits could be delayed or lost.
- If a court order concerning child support, alimony, or marital property rights so decrees, part of your benefit may be payable to someone other than you or your designated beneficiary.

- Federal law limits the amount of benefits that may be received from a qualified pension plan. In particular, for 2021, no more than $290,000 of annual compensation may be taken into account in determining your benefits. Also, in 2021, your annual benefit will be limited to the lesser of $230,000 or 100% of your average compensation during your highest three years. These limits may be adjusted periodically for changes in the cost of living and may be adjusted depending on the form of benefit you select and the date that payments begin.

- The Basic Plan contains certain limitations on the amount of benefits that can be distributed to the 25 highest paid employees of MIT, under certain circumstances. These restrictions may, among other things, limit the value of Single Sum payments that may be paid to these affected employees. IF you are subject to this limitation, you will be notified.

Contractors and Leased Employees

If you are not classified by MIT as an employee, for example if you are an independent contractor or leased employee, you will not be eligible for the Basic Plan. If you are later reclassified as an employee, you may become eligible if you meet the requirements above at the time of reclassification, but you will not be eligible for any prior period, even if the reclassification is made on a retroactive basis.

VIII. How to File for Benefits

To find out what you need to do to start your pension, please refer to MIT's pension web site PensionConnect at https://mitpension.ehr.com. Alternatively, you may call 1-855-464-8736 (1-855-4MITPEN).

Claim Procedures

You should receive benefits to which you are entitled when you satisfy the Basic Plan's requirements. If you believe an error has been made with respect to your benefits under the Basic Plan, you (or your authorized representative) should promptly make your claim in writing to the Director of Benefits no later than 30 days before the date you want benefits to begin.

You must use and exhaust the Basic Plan's administrative claims and appeals procedure before bringing a suit in either state or federal court. Similarly, failure to follow the Basic Plan's prescribed procedures in a timely manner will also cause you to lose your right to sue regarding an adverse benefit determination.

Timing of Claim Decision

The Director of Benefits will consider your claim for benefits. If your claim is denied, in whole or in part, the Director of Benefits will give you (or your representative) a written (or electronic) notice of the decision within 90 days after your claim is received by the Director of Benefits or within 180 days if special circumstances require an extension of time to process your claim. You will be notified, before the end of the original 90-day period, if any extension is required, the special circumstances requiring an extension and the date when a determination is expected.

Disability

If your claim for benefits relates to disability retirement benefits, any claim regarding your disability status will be determined under the applicable disability plan maintained by MIT.

Notice of Claim Denial

If you are denied a claim for benefits, the Director of Benefits will provide you with a written or electronic notice setting forth in clear, understandable language:

- The specific reason(s) for the denial;
- Specific reference(s) to pertinent Basic Plan provisions upon which the denial is based;
- A description of any additional material or information necessary for you to perfect the claim, and an explanation of why such material or information is necessary; and
- A description of the Basic Plan's claims review procedure and the time limits applicable to such procedures, including a statement of your right to bring a civil action in federal court under Section 502(a) of ERISA following a denial of benefits on review.

If you have any questions about a denied claim, you should contact the Director of Benefits.

Appeal of Claim Denial

You (or your representative) may request a review of a denial of a claim to the Director of Benefits by filing a written application for review within 60 days after your receipt of the written notice of the denial of your claim. You may submit written comments, documents, records, and other information relating to your claim without regard to whether such information was submitted or considered in the initial benefit determination. Another plan fiduciary will conduct a full and fair review of your claim denial. This plan fiduciary will have had no role in the initial claim denial and the review will be an independent one without giving the original denial any special consideration.

Timing of Decision on Appeal

The Director of Benefits will notify you of the determination on review within 60 days after receipt of your request for review, unless the Director of Benefits determines that special circumstances require an extension and provides you with written or electronic notice of the extension before the end of the original 60-day period. The extension may not be longer than 60 days. You will be notified if any extension is required, the special circumstances requiring an extension and the date when a determination is expected.

Notice of Benefit Determination on Review

The Director of Benefits will provide you with a written or electronic notice of the determination on review and, if your claim on review is denied, the notice will set forth in clear, understandable language:

- The specific reason or reasons for the denial;
- The specific Basic Plan provision(s) on which the decision is based;
- A statement that you are entitled to receive upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to your claim for benefits;
- A statement describing any voluntary appeal procedures offered by the Plan and the claimant's right to obtain the information about such procedures; and
- A statement of your right to bring a civil action under Section 502(a) of ERISA in federal court following a denial of benefits on review.

You must use the administrative claim procedures in the Plan before bringing action under ERISA in a court or any other forum.

If the Director of Benefits fails to follow the claims appeals procedures as outlined above, you will have the right to bring a civil action in federal court.

IX. Other Information

Basic Plan Funding

MIT pays the full cost of providing your pension benefit. Periodically, an independent actuary makes a valuation of the Basic Plan's assets and liabilities and recommends how much MIT should contribute to keep the Basic Plan funded on a sound basis. According to the terms of the Basic Plan and a trust agreement, contributions are paid into a trust fund maintained by the Basic Plan's Trustee.

Continuation, Amendment, or Termination of the Basic Plan

MIT reserves the right to change, modify, discontinue, or terminate the Basic Plan, in whole or in part, at any time and for any reason. MIT or its duly authorized officers can take such actions. In the event of Basic Plan termination, your benefit accrual will stop and the benefit you have earned under the Basic Plan will become fully vested.

The Basic Plan can be amended by approval of the Executive Committee of MIT or other person or committee of persons as may be designated by the Executive Committee. The Basic Plan can also be amended by approval of the President of MIT, or other MIT officer designated by the President, as may be necessary or desirable, in the sole discretion of such officer, to conform the Basic Plan with applicable law, clarify ambiguous plan language, simplify, or modify plan administration, or simplify or modify other plan language of a technical or clerical nature. Amendments to the Basic Plan may be retroactive if permitted by law. No amendment will reduce your accrued benefit under the Basic Plan or permit Basic Plan assets to be used for anything other than benefits for participants and beneficiaries and payment of Basic Plan expenses, except as permitted by law.

If the Basic Plan is terminated, its assets will be allocated to pay Basic Plan benefits and expenses, as required by law. Any remaining assets after all benefit liabilities have been satisfied may be returned to MIT.

Pension Benefit Guaranty Corporation (PBGC)

If the Basic Plan is terminated, benefits under the Basic Plan are insured by the Pension Benefit Guaranty Corporation (PBGC), a federal insurance agency. If the Basic Plan is terminated 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 pension plan, but some people may lose certain benefits.

The PBGC guarantee generally covers:

- Normal and early retirement benefits;
- Disability benefits if you become disabled before the Basic Plan terminates; and
- Certain benefits for your survivors.

The PBGC guarantee generally does not cover:

- Benefits greater than the maximum guaranteed amount set by law for the year in which the Basic Plan terminates;
- Some or all of the benefit increases and new benefits based on provisions that have been in place for fewer than five years at the time the Basic Plan terminates;
- Benefits that are not vested because you have not worked long enough for MIT;
- Benefits for which you have not met all of the requirements at the time the Basic Plan terminates;
- 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 Basic Plan's Normal Retirement Date; and
- Non-pension benefits, such as health insurance, life insurance, certain death benefits, vacation pay, and severance pay.

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

For more information about the PBGC and the benefits it guarantees, ask your administrator or contact the PBGC's Technical Assistance Division. Inquiries should be directed to:

PBGC Technical Assistance Division
1200 K Street, N.W.
Suite 930
Washington, DC 20005-4026
(202) 326-4000 (Not a toll-free number)

Telecommunications for the deaf (TTY/TDD) users may call the federal relay service toll-free at 1-800-877-8339 and ask to be connected to (202) 326-4000. Additional information about the PBGC's pension insurance program is available through the PBGC's web site on the Internet at http://**www.pbgc.gov**.

Basic Plan Documents

This SPD describes the highlights of the Basic Plan and does not attempt to cover all the details. Additional details may be provided in the Basic Plan documents that legally govern the Basic Plan. The documents may be seen in the administrator's office during normal working hours. These documents include any documents filed with the U.S. Department of Labor, such as the Plan's annual financial reports. You may obtain copies of these documents by sending a written request to the administrator. There will be a charge to cover copying costs. In the event of any discrepancy between this SPD and other Basic Plan documents, the Basic Plan documents will always govern.

Collective Bargaining Agreement

The Basic Plan as described in this SPD is maintained subject to a collective bargaining agreement for union participants whose participation is provided for in their union agreements. Copies of the collective bargaining agreements may be obtained by participants and beneficiaries upon written request to the administrator. These agreements are also available for review during normal business hours at:

MIT Human Resources
600 Technology Square
5th Floor
Cambridge, MA 02139-4307

Assignment of Benefits

The Basic Plan is designed to provide benefits exclusively for you or your beneficiary. Therefore, you may not sell, transfer, assign, or otherwise encumber your interest in the Basic Plan except as provided by law. All or some of your benefits may be assigned to a former spouse or a dependent child under a Qualified Domestic Relations Order (QDRO).

Trustee

The Trustee for the Basic Plan is:

The Board of Directors of the MIT Investment Management Company, Trustees of the MIT Basic Retirement Plan
c/o MIT Benefits
NE49-5000
77 Massachusetts Avenue
Cambridge, MA 02139-4026

Top Heavy Rules

If the total accrued benefit value of certain "key employees" (in general, certain officers of MIT or an affiliate) equals or exceeds 60% of the total value of accrued benefits for all covered employees, the Basic Plan becomes "top heavy" and certain remedies are required. The remedies could include a shorter vesting schedule and minimum benefits for individuals who are not "key employees." It is not expected that the Basic Plan will become top heavy. However, if the Basic Plan does become top heavy, you will be notified of your rights under top-heavy rules.

Qualified Domestic Relations Order (QDRO)

In general, a Qualified Domestic Relations Order or "QDRO" is a legal judgment, decree or domestic relations order issued by a court that assigns all or a portion of a participant's benefits under a qualified retirement plan to an alternate payee, the participant's former spouse, child or other dependent. MIT is legally required to recognize QDROs. For a domestic relations order to be "qualified," it must meet certain legal requirements. Any payment made as the result of a QDRO will not violate the rule that benefits may not be transferred or assigned.

If you become legally separated or divorced, a portion or all of your benefit under the Basic Plan may be assigned by a court to someone else to satisfy a legal obligation you may have to a spouse, former spouse, child or other dependent.

There are specific requirements the order must meet to be recognized by the administrator and specific procedures regarding the amount and timing of payments. The administrator has contracted with QDRO Consultants Co. to handle this process. If you are affected by such an order, you should contact QDRO Consultants Co. at (800) 527-8481 or by e-mail to qdroadmin@qdros.com. Participants and beneficiaries may obtain, without charge, a copy of the procedures governing QDRO determinations under the Plan from the administrator or from QDRO Consultants Co., 3071 Pearl Road, Medina, OH 44256.

No Rights to Continued Employment

No provision of the Basic Plan or this SPD gives you the right to remain employed by MIT, prohibits changes in the terms of your employment, or prohibits the termination of your employment.

Interpretation of the Basic Plan

The administrator has the exclusive power and discretionary authority to interpret the terms of the Basic Plan based on the Basic Plan documents, existing laws, and regulations. This right includes, for example, discretion to interpret the Basic Plan to resolve questions with respect to an employee's eligibility for benefits, service, and retirement, or to interpret any other provisions of the Basic Plan document. The administrator's interpretations and determinations are binding on all Basic Plan participants, employees, former employees, and their beneficiaries.

Receiving Advice

MIT cannot advise you regarding tax, investment, or legal considerations relating to the Plan. If you have questions regarding benefit planning, you should seek advice from your personal advisor (for example, your legal counsel, tax advisor, or investment advisor).

X. Your Rights under the Employee Retirement Income Security Act of 1974 (ERISA)

As a member of the Basic Plan, you are entitled to certain rights and protections under federal law through the Employee Retirement Income Security Act of 1974 (ERISA). ERISA provides that you are entitled to:

- Examine, without charge, at the administrator's office and at other specified locations, such as work sites and union halls, all documents governing the Basic Plan, including collective bargaining agreements and a copy of the latest annual report (Form 5500 Series) filed by the Basic Plan with the U.S. Department of Labor, and available at the Public Disclosure Room of the Employee Benefits Security Administration.

- Obtain copies of all documents governing the operation of the Basic Plan, including collective bargaining agreements and copies of the latest annual report (Form 5500 Series) and an updated Summary Plan Description, upon written request to the administrator. The administrator may charge a reasonable fee for the copies.

- Receive an annual summary of the Basic Plan's funding information. The administrator is required by law to furnish each participant with a copy of this annual funding notice.

- Obtain a statement telling you whether you have a right to receive a benefit under the Basic Plan at your Normal Retirement Date (age 65 and/or age 62 depending on your dates of service) and if so, what your benefits would be under the Basic Plan if you stop working now. If you do not have a right to a benefit, the statement will tell you how many more years you have to work to get a right to a benefit. This statement must be requested in writing and is not required to be given more than once every 12 months. The administrator must provide the statement free of charge.

Prudent Actions by Basic Plan Fiduciaries

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

Enforce Your Rights

ERISA specifically provides for circumstances under which you can take legal action as a Basic Plan participant. If your claim for a benefit is denied or ignored, in whole or in part, you have a right to know why the claim was denied, to obtain copies of documents relating to the decision free of charge, and to appeal any denial, all within certain timeframes.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request a copy of the Basic 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 administrator to provide the materials and pay you up to $110 each day until you receive the materials, unless the materials were not sent because of reasons beyond the control of the administrator.

If you have a claim for benefits that is denied or ignored, in whole or in part, you can file suit in a state or federal court, but only after you have exhausted the Basic Plan's claims and appeals procedures as described in this SPD. In addition, if you disagree with the administrator's decision, or lack thereof, concerning the qualified status of a domestic relations order, you may file suit in a federal court.

If the Basic Plan fiduciaries misuse the Basic Plan's money, or if you are discriminated against for asserting your rights, you (or your beneficiary) may seek assistance from the U.S. Department of Labor or file suit in a federal court. The court will decide who should pay court costs and legal fees. If you (or your beneficiary) 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 the Basic Plan, you should contact the 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 administrator, you should contact the nearest office of the Employee Benefits Security Administration (EBSA), 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 concerning your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration at 1-866-444-EBSA, logging on to www.dol.gov or contacting the EBSA field office nearest you.

XI. Basic Plan Identification Information

Employer: Massachusetts Institute of Technology (MIT)

Official Plan Name: The Massachusetts Institute of Technology Basic Retirement Plan

Basic Plan Sponsor: Massachusetts Institute of Technology
77 Massachusetts Avenue, Cambridge, MA 02139-4307

Administrator: MIT Benefits
77 Massachusetts Avenue, NE49-5000, Cambridge, MA 02139-4307
Telephone: (617) 253-6161

Agent for Service of Legal Process: MIT Office of General Counsel
77 Massachusetts Avenue, Bldg. 36-6000, Cambridge, MA 02139-4307

Service of legal process may also be made on the administrator or Trustee.

Employer Identification Number: 04-2103594

Plan Number: 002

Plan Type: Defined Benefit Pension Plan

Basic Plan Year: January 1-December 31

Type of Administration: The Basic Plan is self-administered through a Trust.

Basic Plan Funding: MIT pays the full cost of the Basic Plan and contributions are actuarially determined. Assets of the Basic Plan are maintained in a Trust for the benefit of participants and their beneficiaries.

Basic Plan Trustee:
The Board of Directors of the MIT Investment Management Company, Trustees of the MIT Basic Retirement Plan c/o MIT Benefits
77 Massachusetts Avenue, NE49-5000 Cambridge, MA 02139-4026
Telephone: 617-253-6151

MIT Benefits:
On Campus
77 Massachusetts Avenue, Cambridge, MA 02139-4026
Telephone: 617-253-6151

At Lincoln Laboratory
44 Wood Street, S2-170, Lexington, MA 02420-9108
Telephone: 781-981-7055

XII: Terms to Know

Defined Benefit Plan. This is a type of retirement plan under which a participant's pension is defined by formula, usually related to his or her pay and service with the sponsoring employer. Most defined benefit plans today are paid for entirely by employers and require no contributions from participants. Benefits usually increase as a participant's service increases and are not affected by investment results. The MIT Basic Retirement Plan is a defined benefit plan.

Defined Contribution Plan. This is a type of retirement plan under which the contributions to an individual participant's account are defined each year, usually as a percentage of pay. Contributions may be made by the sponsoring employer, by individual participants, or both. The participant's account grows over time with accumulated investment earnings or credits. At retirement or termination of employment, the participant may take his or her benefit as an equivalent lifetime pension or as a Single Sum, depending on the provisions of the plan. The amount of benefit the participant ultimately receives depends on both the contributions made over time and investment results. The MIT Supplemental 401(k) Plan is a defined contribution plan.

Cash Balance Account. This is a bookkeeping account maintained for every participant in the Basic Plan, made up of **Basic Credits** and **Interest Credits**. The participant's Cash Balance Benefit is derived from the Cash Balance Account using actuarial equivalency factors.

Compensation. This includes the following items of your MIT pay while you are a member of the Basic Plan: your regular basic salary or wages, overtime, bonuses, shift differentials, summer session pay and temporary rates. It does not include any other type of compensation, such as incentives, awards, site differentials, and other payments for services not included above. Includible items of Compensation are generally counted under the Basic Plan only for months in which you are a participant and you are employed for at least 50% of a full-time basis. Federal law limits the amount of pay that may be used in a calendar year to determine pension benefits. This limit is generally adjusted annually with inflation and is $290,000 in 2021.

Basic Credits under the Basic Plan. For participants hired after July 1, 2012*, Basic Credits equal 5% of annual Compensation up to the Social Security wage base and thereafter 10% of annual Compensation in excess of the Social Security wage base. The Social Security wage base is generally adjusted annually with inflation and is $142,800 in 2021.

For participants hired on or before July 1, 2012*, Basic Credits equal 5% of annual Compensation. In general, the Basic Credit for a calendar month is credited to the participant's Cash Balance Account on the last day of the calendar month (and after the addition of the Interest Credit for the month).

*August 2, 2013, for employees represented by SEIU Main Campus Union and September 1, 2013, for the Campus Police Association

Interest Credits under the Basic Plan. Each participant's Cash Balance Account is credited with an Interest Credit on the last day of each calendar month (before the addition of the Basic Credit for the month). The cash balance Interest Credit for a calendar year will be determined using the average annual yield on U.S. long-term corporate bonds, reported monthly by the IRS as the "Third Segment Rate," for the 24-month period ending August 31 of the preceding calendar year. The annual rate will be no less than 4% and no more than 15%.

Consumer Price Index. This is the U.S. city average for urban wage earners and clerical workers as published by the Department of Labor.

Normal Retirement Date. This is the date at which a participant in a pension plan can start to receive full benefits, without reduction for starting benefits early. Under the terms of the Basic Plan, Normal Retirement Date is generally the first of the month on or after a participant's 65th birthday. For employees who worked at MIT between January 1, 1999, and December 31, 2003, however, Normal Retirement Date is the first of the month on or after a participant's 62nd birthday for benefits earned before January 1, 2004.

Spouse. For purposes of the Basic Plan, spouse generally means a legally married opposite-gender or same-gender spouse. Special rules apply to the Qualified Spouse Benefit (QSB), however, based on the RPSM provisions in effect prior to July 1, 1989.

APPENDIX A: Early Retirement Factors

Appendix A
The Massachusetts Institute of Technology Basic Retirement Plan

Early Retirement Factors

Normal Retirement Age (NRA) of 65		
Age	**Years PRIOR to NRA**	**Factor**
65	0	100.00%
64	1	89.46%
63	2	80.22%
62	3	72.09%
61	4	64.92%
60	5	58.57%
59	6	52.92%
58	7	47.90%
57	8	43.42%
56	9	39.41%
55	10	35.82%
54	11	32.59%
53	12	29.69%
52	13	27.07%
51	14	24.71%
50	15	22.57%
49	16	20.64%
48	17	18.89%
47	18	17.30%
46	19	15.85%
45	20	14.54%
44	21	13.34%
43	22	12.25%
42	23	11.26%
41	24	10.35%
40	25	9.52%
39	26	8.76%
38	27	8.06%
37	28	7.42%
36	29	6.84%
35	30	6.30%
34	31	5.81%
33	32	5.36%
32	33	4.94%
31	34	4.56%
30	35	4.20%
29	36	3.88%
28	37	3.58%
27	38	3.31%
26	39	3.05%
25	40	2.82%
24	41	2.61%

Normal Retirement Age (NRA) of 62		
Age	**Years PRIOR to NRA**	**Factor**
65	N/A	N/A
64	N/A	N/A
63	N/A	N/A
62	0	100.00%
61	1	90.05%
60	2	81.25%
59	3	73.41%
58	4	66.44%
57	5	60.23%
56	6	54.67%
55	7	49.69%
54	8	45.21%
53	9	41.18%
52	10	37.55%
51	11	34.28%
50	12	31.31%
49	13	28.63%
48	14	26.20%
47	15	24.00%
46	16	21.99%
45	17	20.17%
44	18	18.50%
43	19	16.99%
42	20	15.62%
41	21	14.36%
40	22	13.21%
39	23	12.15%
38	24	11.18%
37	25	10.29%
36	26	9.49%
35	27	8.74%
34	28	8.06%
33	29	7.44%
32	30	6.85%
31	31	6.33%
30	32	5.83%
29	33	5.38%
28	34	4.97%
27	35	4.59%
26	36	4.23%
25	37	3.91%
24	38	3.62%

Normal Retirement Age (NRA) of 65		
Age	Years PRIOR to NRA	Factor
23	42	2.41%
22	43	2.23%
21	44	2.06%
20	45	1.90%
19	46	1.76%
18	47	1.62%
17	48	1.50%
16	49	1.39%
15	50	1.28%

Normal Retirement Age (NRA) of 62		
Age	Years PRIOR to NRA	Factor
23	39	3.34%
22	40	3.09%
21	41	2.86%
20	42	2.64%
19	43	2.44%
18	44	2.25%
17	45	2.08%
16	46	1.93%
15	47	1.78%

APPENDIX B: Late Retirement Factors

Appendix B
The Massachusetts Institute of Technology Basic Retirement Plan

Late Retirement Factors

Normal Retirement Age (NRA) of 65		
Age	Years AFTER NRA	Factor
62	N/A	N/A
63	N/A	N/A
64	N/A	N/A
65	0	100.0%
66	1	109.2%
67	2	119.6%
68	3	131.3%
69	4	144.6%
70	5	159.7%
71	6	177.0%
72	7	197.0%
73	8	220.0%
74	9	246.7%
75	10	277.9%
76	11	314.7%
77	12	358.1%
78	13	409.8%
79	14	471.8%
80	15	546.6%

Normal Retirement Age (NRA) of 62		
Age	Years AFTER NRA	Factor
62	0	100.0%
63	1	108.5%
64	2	117.9%
65	3	128.5%
66	4	140.3%
67	5	153.7%
68	6	168.7%
69	7	185.8%
70	8	205.3%
71	9	227.5%
72	10	253.1%
73	11	282.7%
74	12	317.0%
75	13	357.2%
76	14	404.4%
77	15	460.2%
78	16	526.6%
77	17	606.3%
80	18	702.4%

The actuarial basis underlying the above late retirement factors in this Appendix B is an effective annual interest rate of 5% and the 1983 Group Annuity Mortality Table with 50% male and 50% female blended rates.