MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ACTUARIAL POLICY

EFFECTIVE JUNE 25, 2020

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INTRODUCTION

The Retirement Board ("Board") of the Municipal Employees' Retirement System of Michigan ("MERS"), in the exercise of its legal and fiduciary obligations under the Municipal Employees' Retirement Act of 1984 ("MERA") and the Public Employees Retirement System Investment Act of 1965 ("PERSIA"), adopts actuarial assumptions and follows actuarial procedures in order to determine the contribution needs for employers, measure the funding status of its plans, calculate the cost or savings projected from the adoption of proposed plan changes, and address special situations.

To that end, the Board has over the years adopted various actuarial policies, statements and MERS Plan Document ("Plan") provisions to inform and guide actions of MERS' staff in the carrying out of the Board's duties. Upon the recommendation of MERS' staff, and in order to simplify administration, the Board promulgated a single Actuarial Policy in 2017, incorporating all of then-current actuarial and funding policies, statements and Plan provisions relating to the Defined Benefit Plan and Hybrid Plan defined benefit component. This Policy is dynamic, and the Board reviews and revises this Policy as necessary or advisable to address changing environments, legal developments, evolving best practices and the advice of its service providers. Ultimately this and other activities have a single goal – to meet the legal and fiduciary obligations that the Board has to MERS' members and beneficiaries.

I. ACTUARIAL STUDIES, ASSUMPTIONS AND REPORTS

1. ANNUAL ACTUARIAL VALUATION

a. Employer Actuarial Valuation

Under MERA, MCL Section 38.1536(2)(d), incorporated into the Plan at Section 71(2)(d), the Board is obligated to arrange for an annual actuarial valuation and report of the actuarial soundness of each participating municipality and court to be prepared by an independent actuary based upon data reported to MERS by the employer, and compiled and supplied by employees of MERS. Included in each report is a summary describing plan provisions, actuarial assumptions and actuarial funding methods that were used in the preparation of the report.

PERSIA, MCL Section 38.1140h(4), further requires that a system's annual actuarial valuation reflect assets valued on a market-related basis. The actuarial present value of total projected benefits are required to include all pension benefits to be provided by the system to members or beneficiaries pursuant to the terms of the Plan and any additional statutory requirements or contractual agreements to provide pension benefits through the System that are in force at the actuarial valuation date, including, but not limited to, service credits purchased by members, deferred retirement option plans, early retirement programs, and postretirement adjustment programs. MERS annually performs and publishes such a study that complies with the requirements of PERSIA.

b. Summary Annual Report

Under PERSIA, MCL Section 38.1133(3)(i), a number of reporting requirements are imposed. Among those is a requirement for issuance of a summary annual report containing specified information on MERS as a whole. MERS satisfies this requirement in part by annually producing a Consolidated Annual Financial Report (CAFR) and a summary report of the annual actuarial valuations described above.

2. INITIAL ACTUARIAL VALUATION

Before MERS accepts a new municipality or court that wishes to participate in its Defined Benefit Plan or Hybrid Plan defined benefit component, MERS' actuary shall determine the costs of the proposed benefits.

The actuary shall complete and provide an Initial Actuarial Valuation to MERS within a reasonable period determined by MERS. Valuations that require valuation of non-standard benefits, extensive census adjustment or involve special situations may take longer to complete.

The costs and contribution rates for adoption and implementation will be valid until the end of the twelfth month from the date specified on the valuation cover letter from the actuary.

3. PLAN CHANGES AND BENEFIT MODIFICATIONS

PERSIA, Section MCL 38.1140h(5), requires that a system provide a supplemental actuarial valuation before adoption of pension benefit changes (defined as a change in the amount of pension benefits received by persons entitled to pension benefits under the system). The supplemental actuarial valuation is required to be provided by the system's actuary and must include an analysis of the long-term costs associated with any proposed pension benefit change. A municipality or court may prepare and submit to MERS a Request for Benefit Change – Permanent or Temporary or a Request for Projection Study for each proposed permanent or temporary benefit program for each eligible valuation division.

MERS will not implement any benefit change unless each of the following conditions is met:

- The participating municipality or court meets the eligibility requirements as described in Section IV of the Policy based on the most recent annual actuarial valuation;
- MERS' actuary has issued a supplemental actuarial valuation for the benefit

change within the last 12 months;

- The governing body of the participating municipality or court adopts the benefit change within 12 months of the date of the valuation; and

- All of the participating municipality or court's employer contributions are current.

The participating municipality or court is required to remit all contributions to MERS, if any, due on account of the benefit change commencing the month in which the benefit change is effective.

Fees for supplemental actuarial valuations and projection studies shall be determined by MERS. The participating municipality or court making the request shall remit payment to MERS for the supplemental actuarial valuation prior to the actuary beginning work on the valuation(s). PERSIA prohibits system assets from being used for any actuarial expenses related to the supplemental actuarial valuation for pension benefit changes.

The actuary shall complete and provide reports to MERS within a reasonable period. Supplemental actuarial valuations that require valuations of non-standard benefits, extensive census adjustment or involve special situations may take longer to complete. MERS shall review all valuations received and forward them to the requesting municipality or court.

MERS requires that a projection study be performed to permit the municipality to review the impact of closing the Defined Benefit Plan and Hybrid Plan defined benefit component. Also at the time of this analysis, MERS would provide guidance to the participating municipality or court regarding the changed basis upon which employer contribution invoices are prepared (from a percent of payroll to a flat dollar amount).

In addition, MERS requires that an actuary prepare and that MERS review with an employer a certified projection study prior to an employer adopting any of the following plan changes:

- Closing a defined benefit plan and offering a MERS or non-MERS defined contribution plan where there is conversion being offered;

- Reopening and enrolling new hires in a closed Defined Benefit Plan and Hybrid Plan defined benefit component (regardless of conversion being offered to current defined contribution participants); or

- Freezing the benefits accrued by members in the Defined Benefit Plan (with or without conversion) with newly hired employees enrolling in a MERS or non-MERS defined contribution plan or hybrid plan.

4. PENSION OBLIGATION BOND ANALYSIS

The Michigan Revised Municipal Finance Act, MCL 141.2101 et seq., permits a municipality to issue a municipal security (which includes bonds or other evidences of indebtedness) to pay all or part of the costs of the unfunded accrued liability of certain retirement programs administered by the municipality. There are several conditions imposed on municipalities for the issuance of pension bonds, one of which is that the municipality prepare and make available to the public an analysis of the current and future obligations of the municipality with respect to each of its retirement programs. The purpose of the bonding analysis is to show the pattern in the annual amortization payments. This analysis is part of the information needed for the review and ultimate approval by the Michigan Department of Treasury.

Such a bond issuance is required to be made in connection with the partial or complete cessation of accruals to the Defined Benefit Plan or the closure of the Defined Benefit Plan to new or existing employees, and the implementation of a defined contribution plan, or to fund costs of a local unit that has already ceased accruals to the Defined Benefit Plan. Such bonds are issued in order to pay all or part of the cost of the unfunded accrued liability.

5. EXPERIENCE STUDY AND ASSUMPTIONS REVIEW

The actuarial assumption review process is based on the use of historical experience that is subject to statistical variation. In addition, it reflects available knowledge of current and future outlook of the economic environment, as well as knowledge about the Plan and its members and beneficiaries at a specific point in time. Thus, it becomes necessary to adjust assumptions periodically to reflect both the impact of changing circumstances and the availability of additional data. This involves an awareness of any changes in MERS' environment that may impact assumptions and also the monitoring of MERS' experience in a systematic fashion. Results from prior experience studies can be incorporated to study trends and improve credibility of data for decrements such as disability and mortality rates with low incidence.

MERS' actuary is required to conduct experience studies using generally accepted actuarial principles and techniques. The experience study is conducted for the purpose of updating or reviewing the actuarial assumptions and funding policy used in valuing actuarial liabilities and determining contribution requirements of MERS' Plans. Performing an experience study is a standard actuarial practice that compares actual experience with the current actuarial assumptions, and ensures that (i) actuarial assumptions reflect expected future experience, and (ii) MERS funding policies are within recommended or acceptable practice.

MERS' Plan, Section 71(1)(d), provides that, at intervals of five years, MERS' actuary shall conduct an actuarial experience study of the Retirement System and report the results to the Retirement Board. Upon consultation and with the recommendations of MERS' actuary, the Retirement Board reviews and considers the actuarial tables, assumptions, and methods that are incorporated into its Actuarial Policy. In this periodic review, MERS and its actuary review all aspects of pension valuation, including:

- Demographic and non-economic assumptions;
- Economic assumptions; and
- Funding policy, including
  - Amortization policy;
  - Actuarial cost method; and
  - Asset valuation or smoothing methods.

6. PEER REVIEW

Every five years or at another interval determined by MERS, MERS shall direct that a peer review or actuarial audit be performed of the work of its actuary, including the experience study, to help monitor and advise on the quality of work being performed. Peer review or audit can take many forms, including:

- Checking some or all of the computations underlying the work product;
- Evaluating the appropriateness of methodologies employed by the actuary who prepared the work product (the preparing actuary);
- Evaluating the selection of assumptions used by the preparing actuary in the underlying work product;
- Considering whether the preparing actuary complied appropriately with professional standards of conduct, practice and qualification;
- Determining whether the preparing actuary's findings and conclusions as set forth in the work product, including any expression of the preparing actuary's opinion, appear to be reasonable and well-supported; and
- Considering whether the work product communicates the preparing actuary's findings and conclusions in a manner that is reasonably clear and complete, appears consistent with the level of understanding of the anticipated audience, and contains the appropriate disclosures and caveats.

MERS requires that a peer reviewer or auditor have:

- Independence from the work product being reviewed, that is, someone not otherwise involved in the preparation of the work product and, therefore, in a position to offer an unbiased assessment, free of financial or other interest in the content of the work product.
- Expertise, that is, someone sufficiently proficient in the issues and areas addressed in the work product to offer a competent review.

- Independence from the preparing actuary, that is, someone who is neither a supervisor nor a subordinate of the preparing actuary.

The results of the peer review or audit are provided to MERS, and any items, issues or differences of opinion are discussed between MERS, its actuary and the peer reviewer or auditor. Any results requiring action by the Board are presented to and reviewed by the Chief Executive Officer (CEO) with the recommendation of MERS' actuary, after which, MERS staff reports the results to the Board.

II. FUNDING POLICY

A funding policy provides the framework for determining a series of contributions to fund the benefits. The funding policy includes a number of features, most notably:

- A funding method (e.g. entry age normal), which allocates the value of the benefits between past service and future service;
- A funding target;
- An amortization policy, specifying how to pay off any unfunded past service liabilities (unfunded accrued liability, or UAL), and including specific amortization period(s) and payment amounts;
- An asset smoothing method, intended to reduce contribution volatility arising from financial market volatility; and
- Other methods intended to reduce contribution volatility.

Changes in funding policy impact the pattern of contributions, not the ultimate cost of the benefits.

1. MERS' PRIORITIES

Every funding policy will address the goals of adequacy, equity, contribution stability, transparency and governance in different measures. Determining the relative weight for these sometimes conflicting goals aids in producing a specific policy. MERS' Board shall determine and review MERS' priorities in this regard from time to time and in keeping with its fiduciary obligations.

2. ACTUARIAL COST METHOD

In addition to the monthly amortization payment of unfunded accrued liability, participating MERS employers are required to contribute the monthly employer normal cost, which is the total employer normal cost less expected employee contributions. The Entry Age Normal Level Percent of Payroll (EAN) cost method shall be used in determining the normal cost or the portion of the present value of future benefits allocated to service accrued in the applicable participating municipality or court's fiscal year.

3. SMOOTHING METHOD

The Board has adopted an asset valuation method to mitigate substantial variations in minimum required contribution rates resulting from the volatility of the portfolio's investment returns. The Actuarial Value of Assets (AVA) is based on the Market Value of Assets (MVA) with five-year smoothing applied. This is accomplished by recognizing 20% of each year's investment gain (loss), or the difference between expected and actual investment income, over the following five annual actuarial valuations. Consequently, total recognized investment gain (loss) is defined as 20% of the current year's gain (loss) plus 20% of the gain (loss) from each of the preceding four years.

4. PHASE-IN OF ASSUMPTION CHANGE IMPACT

Actuarial assumption changes adopted by the Board effective with the December 31, 2019 actuarial valuation shall be fully reflected in the minimum contribution requirements. An alternative minimum required contribution with a five-year phase-in that recognizes 25% of the impact in the 2019 actuarial valuation and 25% of the remaining balance in the 2020, 2021, 2022, and 2023 valuations shall also be provided and may be elected by the employer.

Actuarial assumption changes adopted by the Board that will become effective for the December 31, 2020 actuarial valuation shall be fully reflected in the minimum contribution requirements. An alternative minimum required contribution with a four-year phase-in that recognizes 25% of the impact each year through the December 31, 2023 actuarial valuation shall also be provided and may be elected by the employer.

III. MINIMUM EMPLOYER CONTRIBUTION REQUIREMENTS

Each division of a participating municipality or court has a minimum employer contribution requirement of employer normal cost plus an unfunded accrued liability, defined further in this section. The minimum employer contribution requirement is also subject to the following, discussed in detail below:

- Three times benefit minimum threshold,
- Minimum contribution requirements for newly overfunded,
- Additional considerations pension obligation bonds ("POB") issuance,
- Optional invoicing of linked sets, and
- Optional phase-in of assumption change impact (refer to II. 4. above)

An amortization policy determines the period of time and pattern of contributions required to fund any unfunded accrued liability (UAL) adjusted to the start of the participating municipality or court's fiscal year. Changes in UAL from valuation year to year are common, and result from:

- Asset or liability gains or losses occurring due to actual experience being different than assumed,
- Changes in plan provisions, and/or
- Changes in assumptions or methods.

The Board endeavors to ensure that assets are sufficient to provide for the benefits that are expected to be paid, and that each participating municipality or court is making reasonable progress toward achieving full funding. Having a fixed amortization period gives a specific target date to each participating municipality or court by which all known obligations are anticipated to be fully funded. The Board's secondary goal is to encourage each generation of employees to support the cost of benefits accrued in that generation, rather than deferring those costs to future employees. Shorter amortization periods support this goal. Finally, the Board seeks to promote transparency and accountability with respect to the emergence of liability – to display when there is a change in a participating municipality's or court's UAL, and when the impact of this change will be fully realized.

There are three types of divisions for funding purposes that a participating municipality or court may have in its actuarial valuation:

- Open division (linked or not linked) – Generally a division accepting new hires and having at least one active member. An open linked division having zero active members, but having inactives or assets and having active members in the associated closed linked divisions(s) is considered open for valuation purposes.

- Closed (linked) divisions - A division not accepting new hires, with new hires enrolled in a separate open division. This division is usually created when a Defined Benefit Plan or Hybrid Plan division is closed and a new Defined Benefit Plan Division or Hybrid Plan division for the same employee classification is adopted. Multiple closed (linked) divisions can be closed to the same open division.

- Closed (not linked) – A division not accepting new hires, but that may include remaining active members. A participating municipality or court may close one or more employee divisions in the Defined Benefit Plan or Hybrid Plan without terminating participation in the Retirement System.

  Closed divisions generally arise from either:

  (i) a decision by the employer to enroll new hires (including rehires and transfers), and possibly current members (by freezing accrued service), in a defined contribution plan instead of the Defined Benefit Plan or Hybrid Plan defined benefit component, or

  (ii) a decision by the employer to transfer active members to a different division, leaving only inactives (retirees, vested former members, and nonvested former members who have not yet applied for a refund of accumulated employee contributions) in the closed division.

A division that is accepting new hires, that has no active members but has retirees, vested former members, and nonvested former members who have not yet applied for a refund of accumulated employee contributions members is considered closed (not linked) for valuation purposes.

An open linked division with no active members across all divisions within the linked set is considered closed for valuation purposes.

MERS' actuary and CEO may depart from the following amortization provisions based on actuarial analysis and cash flow needs of a particular plan (when an employer needs accelerated funding as a result of the financial condition, or an amortization extension or funding relief is approved). Employers may request that a different, shorter amortization period for UAL be used in their annual actuarial valuations, and MERS will apply that period to their future valuations. The CEO shall report exception approvals under this clause to the Board at the following Board meeting.

1. AMORTIZATION OF UAL

Beginning with the December 31, 2020 valuation, a single amortization layer will be established each valuation year for changes in UAL occurring since the prior valuation year (plan amendments, assumption or method changes, and experience). Each new layer will be recognized over a fixed period, refer to the following table, which will decline by 1-year in each subsequent valuation year.

Division Status	Link Status	Period[1]	Method
Open	Linked	15	Level Percent
Open	Not Linked	15	Level Percent
Closed	Linked	15	Level Percent
Closed	Not Linked	10	Level Percent

[1]The greater of this period or the remaining period under the prior policy, discussed further under legacy UAL.

Closed (linked and not linked) division amortization payments are calculated using the same amortization method used for open divisions. Contributions are invoiced as a dollar amount rather than a percentage of pay to avoid applying a percent of pay contribution to a declining (or non-existent) payroll.

The following are special situations affecting amortization bases, the establishment of amortization layers and minimum contribution requirements:

- When the UAL, adjusted to start of the participating municipality or court's fiscal year, changes from underfunded to overfunded, or from overfunded to underfunded, existing amortization bases are combined to a single layer. As of the date of the combination, the single layer is established in accordance with the schedule above.

- Every division is required to maintain a minimum market value of reserves equal to three times the expected annual benefit payments (the "three times benefit minimum" rule). The required total minimum employer contribution equals the excess (if any) of three times the expected annual benefit payments over the projected market value of assets as of the participating municipality or court's fiscal year for which the contribution applies. In the event that the three times minimum contribution applies, all existing amortization layers will be combined under a layer established in accordance with the schedule above.

- Effective with the December 31, 2018 valuations, when a division switches from underfunded to overfunded, the amortization table will be reset. In the case of negative UAL (that is, overfunded status), the employer is required to make a minimum contribution equal to employer normal cost until the division's funded ratio reaches 120%.

- At times, divisions within participating municipalities or courts issue POBs. In the valuation subsequent to receipt of POB proceeds, all existing amortization layers shall be combined to a single layer. As of the date of combination, the single layer is established in accordance with the schedule above.

    - All divisions within a participating municipality or court issuing a POB are subject to a minimum annual employer contribution requirement not less than the division employer normal cost, regardless of the division's funded ratio.

- Divisions within a linked set may be invoiced a total blended contribution. The total blended contribution of a closed (linked) division(s) and its applicable open division is expressed as a percentage of combined payroll, and is available by request of the participating municipality or court

New employers joining MERS will be placed on a schedule consistent with the treatment of existing divisions based on division and link status.

2. LEGACY UAL

Amortization policy has evolved over time. As a result, each division may have multiple legacy UAL layers established prior to December 31, 2020. Legacy layers were established by the source of UAL as denoted in the following table:

Source of UAL	Definition
Initial UAL	UAL as of December 31, 2015, or the valuation date the municipality joined MERS

Gain/Loss	UAL attributable to difference between the actuarial assumptions and expected contributions and the experience of the plan from one valuation to the next
Plan Amendment	UAL arising from adoption of a benefit change
Assumption Change	UAL arising from a change in actuarial assumptions
Method Change	UAL arising from a change in methods (i.e., funding method or asset method)
Early Retirement Incentive	UAL arising from adoption of an Early Retirement Incentive program
Merged Division Balance	Aggregate UAL resulting when divisions merge

Each legacy layer will continue to be recognized under the Policy pursuant to which it was established (including recognition of accelerated amortization periods where applicable), with the following exceptions:

- Triggering a feature of the current amortization policy (Section III.1. above) will result in the establishment of a single layer under the current Policy.
- Beginning with the December 31, 2020 valuations, any remaining (overfunded) negative Initial UAL shall be amortized over a closed ten-year period.

3. AMORTIZATION EXTENSION GUIDELINES

The funding policies that have been adopted by MERS are reflective of best practices and recommendations. However, some participating municipalities and courts may require flexibility with respect to funding liabilities. The MERS Retirement Board has adopted the following amortization extension guidelines to address this need.

After an actuarial analysis, a division is allowed a one-time opportunity to reset the amortization period of its remaining UAL. Amortization period reset requests are considered by MERS based on a case-by-case analysis, prepared by MERS' consulting actuaries in accordance with their professional judgment and consideration of actuarial standards of best practice, and Michigan law. The actuaries may consider the plan characteristics in their analysis, including but not limited to the following:

- The funded ratio of the employer and the projected funded status over time;
- Demographic attributes and plan maturity (e.g., the mix of actives and retirees);
- Contribution projections and their reasonableness in comparison to the level of baseline contributions;
- Employer reserve cash flow projections;

- Sensitivity to market shock or to a lower long-term rate of investment return.

The process for an amortization extension is as follows:

- An employer requests an analysis for an extension of amortization review.

- MERS' actuary prepares the required projections, at the expense of the employer, to evaluate criteria and provide decision-useful information for the request. Extension requests prepared on a December 31, 2019 or later valuation basis will have existing amortization layers combined into a single layer and amortized over a period of fixed length declining by 1-year each subsequent valuation. Future layers are established in accordance with the schedule in Section III. 1.

- If an extension of amortization is approved, the employer enters into an agreement acknowledging the receipt and understanding of the projections and full awareness of the risks (lower funded levels, market volatility, etc.) and MERS' general advice to use shorter amortization periods.

- The agreement is submitted for approval by the employer's governing body, and signed by MERS' CEO.

IV. MINIMUM FUNDING RULES FOR NEW EMPLOYERS AND PLAN CHANGES

MERS' actuary and MERS' CEO may reasonably depart from the following funding requirements based on analysis and cash flow needs of a particular plan. The CEO shall report exception approvals under this clause to the Board at the following Board meeting.

1. NEW EMPLOYERS

New employers must have a minimum 50% overall funded level based on the proposed MERS plan in order to provide service credit for the employees' pre-MERS service.

2. BENEFIT INCREASES

The MERS Plan requires that the affected division and the employer as a whole be 100% funded in order to be eligible to adopt an increased benefit provision, and the affected divisions must be 100% funded after adoption of an increased benefit provision. Exceptions to this policy are:

- A one-time benefit increase for current retirees may be adopted if the employer contributes, as a market value of assets, in a lump sum[1], 100% of the increased liability associated with the benefit increase, irrespective of the funded level of the divisions or the employer.

- Provided the employer is at least 80% funded, a division that is at least 80% funded may adopt an increased benefit provision if the employer contributes, in a lump sum[1], 100% of the increased liability associated with the benefit increase.

- Provide the employer is at least 80% funded, a division that is at least 80% funded may adopt an early retirement incentive, if the employer contributes, in a lump sum[1], 100% of the increased liability associated with the benefit increase.

[1]Required lump sum amounts may be adjusted for interest from the date of valuation to the date the lump sum is paid.

3. PLAN CHANGES AND CONVERSIONS

As noted above, there are various plan changes available that may result in a decreased UAL, such as:

- Implementing a defined contribution plan for new hires, and offering current employees the opportunity to convert the present value of their benefit under the Defined Benefit Plan to a contribution to that defined contribution plan,

- Implementing a defined contribution plan for new hires, as well as freezing current actives in the Defined Benefit Plan and placing them into the defined contribution plan moving forward, or

- Implementing a hybrid plan for new hires and offering current employees the opportunity to convert the present value of their benefit under the Defined Benefit Plan to a contribution to the Hybrid Plan defined contribution component.

Under any plan change that includes a conversion of benefits, the employer is responsible for maintaining the Defined Benefit Plan's most recently determined funded level as a minimum funding requirement. If the division's funded level is less than the conversion level (not less than 80% nor greater than 100%) as set forth in Section V(3)(f) of the Actuarial Policy, the employer is required to contribute, on behalf of any and all converting members, the shortfall, if any, based on the division's funded level and that which is required to be transferred to the defined contribution plan.

Employers that freeze current members' accrued service in the Defined Benefit Plan and enroll current and new members in the defined contribution plan (frozen members active employees with the employer) shall amortize unfunded liability according to the amortization policy for closed (not linked) divisions.

Employers that freeze current members' accrued service in the Defined Benefit Plan and enroll current and new members in another defined benefit or hybrid plan (frozen members remain active employees) shall amortize unfunded liability according to the amortization policy for open divisions.

There are no minimum funding requirements to freeze the Defined Benefit Plan (unless conversions to the new plan are offered).

4. WITHDRAWN MUNICIPALITY

a. Termination under Plan Section 11(1)(a)(i) or 12(1)(a)(i)

When a participating municipality or court withdraws from the Defined Benefit Plan or Hybrid Plan defined benefit component, by vote of the governing body of the participating municipality or by action of the chief judge of the participating court to terminate participation, assets may not remain with MERS for continued benefit distribution and management. Within thirty (30) days of the termination date established by the participating municipality or court ("Termination Date"), or as soon as is reasonably practical, MERS' actuary will conduct and provide to the governing body/chief judge a termination liability valuation, at the participating municipality or court's expense, confirming total market value assets ("Transfer Amount"), liabilities ("Liability Amount") in total and as to each member and retiree and funded level of the plan as of the Termination Date as a final valuation of the plan within the MERS system. In addition to the restrictions set forth in Sections 11 and 12 of the MERS Plan Document, if the participating municipality has had an emergency financial manager appointed pursuant to the Local Financial Stability and Choice Act, Act 436 of 2012, or its predecessor acts, former Act 101 of 1988, former Act 72 of 1990 PA 72, and former Act 4 of 2011, and its defined benefit plan is not funded to at least 60% pursuant to the termination liability valuation, the participating municipality must contribute sufficient funds to establish a funding level of greater than 60% to align with the Protecting Local Governmental Retirement and Benefits Act, Act 202 of 2017 within thirty (30) days of receipt of the termination liability valuation.

b. Termination under Plan Section 11(1)(a)(ii) or 12(1)(a)(ii)

When a participating municipality or court withdraws from MERS due to privatization, dissolution, or other change in corporate structure, such withdrawn employer shall leave in the reserve for employer contributions with MERS for the amount determined under MERS' Actuarial Policy, as it may be amended, for its retirees, beneficiaries, and vested and non-vested former members, in the Defined Benefit Plan. Such terminated closed group entities shall be required to have assets, based on market value, on deposit with MERS at the time of termination in an amount equal to 120% of the actuarial accrued liability.

As of each December 31, the MERS actuary shall prepare a Closed Group Valuation for all closed municipalities. A copy of the closed municipality valuation shall be distributed to the municipality or court, accompanied by MERS' annual notification letter addressing its current funded status as described below.

- In the event of a funding level less than 120%, the shortfall shall be made up immediately by payment to MERS of a minimum required payment to amortize the shortfall over a 5-year period with level payments. This 5-year period is re-established each valuation year.

- Regardless of funding level, the required payment shall not be less than the excess, if any, of three years of annual benefit payments over the current total market value of assets.

- Failure to submit the required payment will result in the application of the MERS' Reporting and Contribution Enforcement Policy, and may result in legal action.

V. OTHER ACTUARIAL MATTERS

1. EXTRA VOLUNTARY CONTRIBUTIONS FOR VALUATION PURPOSES

Extra voluntary contributions submitted by employers can be handled in two different ways for actuarial purposes depending on the employer's needs:

- An employer who submits extra voluntary contributions to MERS for the purpose of lowering its required rates and receiving immediate payment relief can submit funds directly to an employee division. This will ensure the funds are accounted for in an Annual Actuarial Valuation and, in turn, the UAL will be decreased. Since the amortization period will not change but the UAL is smaller, the required contributions will be lowered for the upcoming participating municipality or court's fiscal year and each year of the remaining UAL amortization period.

- An employer who submits extra voluntary contributions to MERS for the purpose of paying off its UAL faster can submit funds to a surplus division. By establishing a separate division within the employer's designated reserves to hold these contributions, they will not be included in any other division's valuation calculations and thus they will not lower any other division's required contributions rates. The funds will, however, be included in the employer's funding as a whole and will show as a surplus division in the valuation.

- At any time, an employer may direct that employer contributions designated as surplus contributions and reflected in one or more surplus divisions established by MERS as directed by the employer be used as follows:

   i. The employer may direct the transfer of surplus contributions not earmarked to a specific division to one or more employee division(s).

   ii. The employer may direct the transfer of such surplus contributions that were earmarked for a specific division to such employee division.

Once surplus contributions are transferred to an employee division, they may not thereafter be re-characterized as surplus contributions.

2. LINKED DIVISIONS WITH BLENDED RATES

Upon completion of the annual valuation reports, MERS may reallocate assets across blended divisions with significant funding level differences.

3. CONTRIBUTION DELINQUENCY

The MERS Retirement Board has adopted a Reporting and Contribution Enforcement Policy. Pursuant to that Policy, MERS monitors any shortfalls in contributions received, issues demands for payment, initiates collections actions and takes all other reasonable and necessary actions to secure recovery of all assets due to MERS. MERS regularly reports shortfalls and collection actions to the Retirement Board. Included in the data MERS provides to its actuary when preparing an employer's annual actuarial valuation is information regarding, as and if applicable, amounts of outstanding delinquencies, status of recovery and any payment plan or settlement of debt entered into between that employer and MERS so that the actuary can take this information into account in the performance of the valuation.

~~3.~~4. INDIVIDUAL MEMBER MATTERS

a. Optional Forms of Payment

A member or a vested former member may elect to have retirement allowance payments made under one of the forms of payment described in Section 27(2) of the Plan. The amount of a retirement allowance under the Life with 100%, 75%, or 50% to Survivor, or Life with 20, 15, 10, or 5 Years Certain forms of payment shall have the same actuarial present value as the amount of a retirement allowance under the Straight Life form or payment, computed as of the date of retirement. Under Section 27(2)(e) of the Plan (Form of Payment IV – Life with Period Certain Guarantee), if the monthly pension beneficiary dies before the expiration of the guaranteed period (and after the death of the retiree), the single sum actuarial present value of any remaining guaranteed retirement allowance payments is paid to the estate of such monthly pension beneficiary. The interest rate and mortality assumptions shall be based on the same as those established by the Board for valuation purposes with the disabled mortality table disregarded, and the exceptions of using a unisex mortality table with an appropriate blend of male and female, and mortality improvement projected through an appropriate static period recommended by the actuarial consultants. Future mortality improvement shall be studied every experience study, and the static improvement assumption reviewed and updated as appropriate.

b. Service Purchase Calculations

Active or vested former members and/or their participating employer may purchase up to five years of service for benefit and eligibility purposes, under terms and conditions set forth in Section 19 of the Plan. To accomplish this, MERS must receive an immediate contribution of 100% of the estimated actuarial cost of the service. The interest rate, mortality, and wage inflation assumptions shall be the same as those established by the Board for Optional Forms of Payment purposes (above, subsection 4(a)), with the exception of lowering the interest rate by 1 percentage point.

A member, other than a member covered by the Hybrid Plan, with qualifying service in the employ of the United States government, a state, or a political subdivision of a state, or in the governmental employ of a federally recognized Indian Tribal Government (as defined in 414(d) of the IRC), may be credited with service for such employment, under terms and conditions set forth in Section 18 of the Plan, if the member pays to the Retirement System the amount the participating municipality or court may require of the member in consideration for the crediting of qualifying governmental service; any payment shall be credited to the member's individual account in the reserve for employee contributions. The required payment, if any, shall not exceed the difference between the actuarial present value of potential benefits after crediting the specified period of qualifying service and the actuarial present value of potential benefits prior to crediting the specified period of qualifying service. The interest rate, mortality, and wage inflation assumptions used in determining the foregoing shall be the same as those established by the Board for Optional Forms of Payment purposes (above, subsection 4(a)), with the exception of lowering the interest rate by 1 percentage point.

c. Eligible Domestic Relations Orders

Under the Eligible Domestic Relations Order Act (MCL 38.1701 et seq.), an eligible domestic relations order is one that, among other requirements, does not require the retirement system to provide an increased benefit determined on the basis of actuarial value. Depending on the terms of the Order, it may be necessary to actuarially convert the benefit from one payable over a member's lifetime to one payable over the member's and the alternate payee's lifetime (a share interest order), or to actuarially convert a share of the member's benefits to an actuarially equivalent benefit over the alternate payee's lifetime (a separate interest order). The actuarial assumptions for purposes of calculating the MERS benefits payable under the terms of these orders are the interest rate and mortality tables used by MERS in effect as of the calculation date for Optional Forms of Payment (above, subsection 4(a)), with the exception that the disabled mortality table shall not be disregarded, if applicable. For post-retirement assignments of benefits, the actuarial assumptions in place at the time of retirement would be used (even for future computations or re-computations related to those cases).

d. Funding Requirements Regarding Transfer of Service Credit (Release of Deferred Obligation)

The following information is provided to assist reciprocal units (as defined in the Reciprocal Retirement Act, MCL 38.1101 *et seq*. (Act or Act 88)) in understanding MERS' requirements in the event of an agreement between two reciprocal units to transfer service credit between them pursuant to Section 6(4) of the Act. MCL 38.1106(4). This applies to all transactions between two reciprocal units for a transfer of service credit pursuant to Section 6(4) of the Act, where the transferred service credit is either becoming or ceasing to be included in any MERS retirement allowance, or both.

In this section, the term "preceding reciprocal unit" means the municipality or court reciprocal unit that is transferring the service credit out of its retirement system, and the term "succeeding reciprocal unit" means the municipality or court reciprocal unit that is accepting the service credit into its reciprocal retirement system.

1. In order for MERS to either credit or debit the service credit being transferred, the reciprocal units entering into such agreement shall forward to MERS a copy of such agreement and a copy of each reciprocal unit's resolution adopting such agreement.

2. Where MERS is the reciprocal retirement system of the succeeding reciprocal unit, irrespective of the financial consideration agreed to by the reciprocal units, MERS requires that the governing body of the succeeding reciprocal unit immediately contribute the greater of the following to MERS before the additional service credit is applied:

    i. The accumulated contributions with the reciprocal retirement system of the preceding reciprocal unit standing to the credit of the member whose credited service is being transferred.

    ii. The difference between the actuarial present value of the member's retirement allowance payable by MERS subsequent to transfer and the actuarial present value of the member's retirement allowance payable by MERS prior to transfer. The foregoing actuarial present value determinations shall be calculated using the interest rate, mortality tables and other assumptions and methods then in use by MERS to determine the cost of service credit purchases (above, subsection 4(b)).

3. Where MERS is the reciprocal retirement system of the preceding reciprocal unit, irrespective of the financial consideration agreed to by the reciprocal units, MERS shall transfer no more than the greater of the following to the reciprocal retirement system of the succeeding reciprocal unit:

    i. The accumulated contributions with MERS standing to the credit of the member whose credited service is being transferred.

    ii. The difference between the actuarial present value of the member's retirement allowance payable by MERS prior to transfer and the actuarial present value of the member's retirement allowance payable by MERS subsequent to the transfer. The foregoing actuarial present value determinations shall be calculated using the interest rate, mortality tables and other assumptions and methods then in use by MERS to determine funding liabilities and required contributions.

4. The amount paid to or payable by MERS described in subsections (2) and (3) above shall in no case exceed the actuarial present value of the retirement allowance that would have been payable by the reciprocal retirement system of the transferor reciprocal unit calculated using the interest rate and mortality tables specified by the Pension Benefit Guaranty Corporation for calculating the actuarial present value of immediate and deferred pensions under a terminated pension plan as provided in the Code of Federal Regulations, 29 C.F.R. pt. 4044, app. A and B.

e. IRC Section 415(b) Calculations

Section 87(3) of the Plan sets out the rules concerning the maximum permissible annual benefit amount that the Defined Benefit Plan and the defined benefit component of the Hybrid Plan may pay, in compliance with the requirements of IRC Section 415(b).

f. Benefit Conversion Calculations

i. Conversion from Defined Benefit to Defined Contribution

The defined contribution balance is the greater of the member's accumulated contributions and the actuarial present value of the accrued defined benefit associated with the member's coverage under the previous benefit plan based upon the funded level percentage selected by the governing body in the Defined Contribution Plan adoption agreement (which shall not be less than 80% nor exceed 100% funded level percentage in any case). The employer's defined benefit vesting schedule shall be disregarded. The earliest retirement date (for an unreduced benefit) assumption under the previous benefit plan in effect on the effective date of the change of the benefit program shall be used. For purposes of the actuarial present value calculation, any future benefit otherwise payable under benefit program COLA (cost of living adjustment) shall be disregarded. All accrued service will be transferred to the Defined Contribution Plan upon effective date of the new benefit.

ii. Conversion from Hybrid to Defined Contribution

The procedure is the same as that recited in (i) above for the purposes of calculating the present value of the defined benefit. Any accumulated defined contribution of hybrid benefit will be transferred to the new Defined Contribution Plan. All accrued service will be transferred to the Defined Contribution Plan as of the effective date of the new benefit.

iii. Conversion from Defined Benefit to Hybrid

The Hybrid Plan defined contribution component is the greater of the member's accumulated contributions and the difference between the actuarial present value of the accrued benefit associated with the member's coverage under the previous benefit plan and the actuarial present value of the accrued benefit associated with the member's coverage under the Hybrid Plan defined benefit component, after such excess is multiplied by the funded level percentage selected by the governing body in the Hybrid Plan adoption agreement (which shall not be less than 80% nor exceed 100% funded level percentage in any case). On the effective date of the change of the benefit program, the member's credited service under the Hybrid Plan shall be equal to the member's credited service under the previous benefit program. The employer's defined benefit vesting schedule shall be disregarded. The earliest retirement date (for an unreduced benefit) assumption under the previous benefit plan in effect on the effective date of the change of the benefit program shall be used. Likewise, the earliest retirement date assumption under the Hybrid Plan shall be used. For purposes of the actuarial present value calculation, any future benefit otherwise payable under benefit program COLA shall be disregarded.

iv. Conversion from Defined Contribution to Hybrid

The member's defined contribution balance is transferred to the Hybrid Plan defined contribution component. No prior benefit service is credited at the time of conversion and therefore no actuarial calculation is needed. All accrued service is maintained for vesting purposes toward both the defined benefit and the defined contribution components of the Hybrid Plan.

g. Corrections of Monthly Benefit Errors

For monthly benefit payments in excess of 415(b) limits or benefit overpayments due to any other reason, MERS will take reasonable steps to recover the overpayment and reasonable interest from the receiving individual. At MERS' option, MERS may accept a lump sum repayment, plus interest from the date of overpayment to the date of the repayment, or may deduct the overpayments plus interest, from future benefit payments, if any, due to the recipient of the overpayment. Such deduction can take the form of a permanent reduction in monthly benefits in the amount of the actuarial equivalent of the total overpayment paid to the recipient plus interest. In the case of an underpayment, MERS may distribute one or more lump sum payments or add the actuarial equivalent of the underpayment to future benefit payments due to the individual underpaid. The interest rate and mortality assumptions for these actuarial equivalence purposes shall be the same as those in effect for Eligible Domestic Relations Orders (above, subsection 4(c)) as of the calculation date.

h. Annuity Withdrawal Program (AWP)

Under Section 29(3) of the Plan, the retirement allowance of a member who elects AWP is permanently reduced by the actuarial equivalent of the AWP lump sum distribution paid to such member (which retirement allowance shall then be subject to any further reductions based on commencement date and the form of payment elected under Section 27). The actuarial equivalent will be calculated using either the interest rate for member contributions as determined by the System or the MERS actuarial assumed rate of return (as they were in effect on the date the lump sum distribution is withdrawn), as the participating municipality or court shall elect in its Adoption Agreement, and the MERS mortality tables set forth for Optional Forms of Payment in this Policy (above, subsection 4(a)) in effect on the date the lump sum distribution is withdrawn.