MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ACTUARIAL POLICY

EFFECTIVE APRIL 25, 2019

Contents

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 has decided to promulgate this single Actuarial Policy, incorporating all of its current actuarial and funding policies, statements and Plan provisions relating to the Defined Benefit Plan and defined benefit portion of the Hybrid Plans. This Policy is intended to be dynamic, and the Board shall review and revise 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 system and any additional statutory 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, 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 municipality or court meets the eligibility requirements as described in Section IV 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 municipality or court adopts the benefit change within 12 months of the date of the valuation; and

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

The 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 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 has incorporated the foregoing requirements into the Section 44(3) and 45(3) of the Plan.

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

In addition, MERS requires that an actuary prepare and that MERS reviews 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 or hybrid plan (regardless of conversion being offered to current defined contribution participants); or

- Freezing the benefits accrued by participants in a 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 a 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 a defined benefit plan. Such bonds are issued in order to pay all or part of the cost of the unfunded accrued liability.

It is MERS' policy that municipalities that issue pension obligation bonds are subject to a minimum annual contribution requirement not less than the municipality's normal cost.

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 participants 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.

5. 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 who might have too much influence over the development of the final work product nor a subordinate who might have too little.

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 an amortization payment of unfunded liability, participating MERS employers are required to contribute monthly normal cost equal to the total 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

In response to the impact of the actuarial assumption changes made by the Board and effective with the December 31, 2015 annual actuarial valuation, the Board adopted a five-year phase-in that recognizes 20% of the impact on minimum contribution requirements each year through the December 31, 2019 actuarial valuation. Minimum required contributions without the five-year phase-in that fully reflect the actuarial assumptions change shall also be provided and may be elected at discretion of the employer.

Any actuarial assumption changes adopted by the Board that will become effective for the December 31, 2019 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, 2022 actuarial valuation shall also be provided and may be elected by the employer.

III. AMORTIZATION OF UNFUNDED LIABILITIES

An amortization policy determines the period of time and pattern of contributions required to fund any unfunded accrued liability (UAL). 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, or

- Changes in assumptions or methods.

Since 2005, MERS has been gradually reducing the amortization periods. As of December 2015, many open divisions are using a 23-year amortization period, while closed divisions are using various amortization periods, according to their closure date. MERS continues to reduce amortization periods, by one year each year, until the accrued liability is fully funded. To reduce contribution volatility, for open divisions, once the amortization period gets below 15 years, MERS will amortize any future liability gains or losses after that time over a new 15-year fixed period. For closed divisions, future liability gains or losses will be amortized over a 10-year fixed period beginning with the 2016 valuations, once the amortization period get below 10 years.

The Board endeavors to ensure that assets are sufficient to provide for the benefits that are expected to be paid, and that each municipality is making reasonable progress toward achieving full funding. Having a fixed amortization period gives a specific target date to each municipality 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 sources of liability – to display what action resulted in changes in a municipality's UAL, and when the cost for that action will be paid.

Prior to the December 31, 2018 valuations, when an employer's UAL is fully paid for a division or when a division switches from overfunded to underfunded, the amortization table will be reset. Initial negative UAL or overfunding credit shall be amortized over an open (rolling) ten-year period. MERS recommends that, for overfunded divisions, the employer contribute a minimum normal cost to avoid sharp increases in minimum required contributions resulting from losing overfunding credit.

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, the employer shall contribute the minimum normal cost until the division's funded ratio reaches 120%.

Benefit provisions are adopted by division. There are essentially three types of divisions for funding purposes that an employer may have in its actuarial valuations:

- Open divisions, accepting new hires and having at least one active member.

- Closed (linked) divisions, not accepting new hires, with new hires enrolled in a separate open division, and are usually created when a defined benefit plan or hybrid plan is closed and a new defined benefit plan or hybrid plan for the same employee classification is adopted. Multiple closed (linked) divisions can be closed to the same open division.

- Closed (not linked) divisions, not accepting new hires, but may include remaining active members accruing service. A participating employer may close one or more employee divisions in the MERS Defined Benefit 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 participants by freezing service accrued, in a defined contribution plan instead of the Defined Benefit Plan or (ii) active members being transferred to a different division, leaving only retirees and vested former members in the closed division. Standalone divisions accepting new hires but having zero active members and non-zero inactive members are considered closed (not linked) 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. OPEN DIVISIONS AND CLOSED (LINKED) DIVISIONS

The following amortization policy is in effect for open divisions and closed (linked) divisions:

- Fixed period layered amortization based on the following schedule:

Source	**Period**
UAL as of 12/31/15 ("Initial UAL")	23 years
Liability and Asset Gain or Loss	15 years[1]
Future Active and Inactive Plan Amendments	10 years[1, 2]
Future Assumption or Method Changes	15 years[1]
Future Early Retirement Incentives	5 years[1, 2]

[1]The greater of this amount, or the remaining period of the Initial UAL on the date the amortization base established.

[2] Only applies to divisions that are over 100% funded before and after the benefit provision change.

- Reset amortization bases when the UAL changes from underfunded to overfunded, or from overfunded to underfunded. At the date of reset, a single gain or loss layer is established with a 15 year amortization period.

- Require a total minimum contribution equal to 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.

Although closed (linked) division amortization payments are calculated using the same amortization period and method used for open divisions, the contributions are invoiced as a dollar amount rather than a percentage of pay. This is done to avoid issues involved with applying a percent of pay contribution to a declining (or non-existent) payroll. A total blended contribution of a closed (linked) division(s) and its applicable open division expressed as a percentage of combined payroll is available by request of the employer.

2. CLOSED (NOT LINKED) DIVISIONS

Closed (not linked) divisions that closed prior to September 12, 2016 have two options for the maximum amortization period for financing the positive initial unfunded actuarial accrued liability:

- An accelerated amortization schedule where the amortization period for positive initial unfunded liabilities is decreased annually by 2 years until the period reaches 5 or 6 years. Each year thereafter the amortization period decreases one year each valuation year.

- An alternate accelerated amortization schedule where the amortization period is decreased annually by 2 years until the period reaches 15 or 16 years. Thereafter, the amortization period decreases one year each valuation year.

Closed (not linked) divisions that closed to DC for new hires on or after September 12, 2016, or any closed division that receives approval based on an actuarial projection study will have their amortization period decline by one year until the UAL is fully paid off.

New unfunded liability shall be amortized over a layered fixed period schedule based on the following schedule:

Source	**Period**
Future Liability and Asset Gain or Loss	10 years[1]
Future Active and Inactive Plan Amendments	5 years[1, 2]
Future Assumption or Method Changes	10 years[1]
Future Early Retirement Incentives	5 years[1,2]

[1]The greater of this amount or the remaining period of the Initial UAL on the date the amortization base is established.

[2] Only applies to divisions that are over 100% funded before and after the benefit provision change.

To ensure funding adequacy in later years, the total minimum contribution requirement for closed (not-linked) divisions is equal to 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.

3. NEW EMPLOYERS

If an Employer offering a defined benefit or a Hybrid Plan joins MERS, the UAL calculated for the first MERS valuation must be amortized over a period no greater than 25 years, and 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. For poorly funded divisions that may need a shorter period for adequate funding, the MERS actuary shall assess the financial risks of the plan by reporting and discussing valuation results based on both 25-year amortization and a shorter, recommended period or alternate amortization method. MERS has the discretion, based on actuarial analysis and input, to require a different period if deemed advisable and/or necessary for adequate funding of the division.

New employers that join MERS overfunded (negative UAL) shall amortize any future unfunded liability according to the current amortization policy, as noted in previous sections.

Once the employer is participating in MERS, the amortization of unfunded liability accrued after the date of participation will comply with the current amortization policy and schedule for open and closed divisions within the MERS system, as reviewed in the previous section.

MERS' Actuary and CEO may reasonably depart from the foregoing funding requirements based on analysis and cash flow needs of a particular plan.

4. AMORTIZATION EXTENSION APPROVAL GUIDELINES

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

After an actuarial analysis, a division is allowed a one-time opportunity to reset its initial UAL amortization period. The amortization period would be approved based on a case-by-case analysis, prepared by MERS' consulting actuary in accordance with their professional judgment and consideration of actuarial standards of best practice, and Michigan law. The actuary may consider the plan characteristics in his/her 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 approves or denies the request;
- 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; and
- The agreement is submitted for approval by the employer's governing body, and signed by MERS' CEO.

IV. MINIMUM FUNDING POLICY FOR 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. 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 in a lump sum 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 100% of the increased liability associated with the benefit increase.

Therefore for most benefit provision increases, the employer will either fully fund the increased liability immediately, or the employer will remain 100% funded after the adoption of the increased benefit provision.

2. PLAN CHANGES AND CONVERSIONS

As noted above in the amortization section, 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 choice of converting the present value of their Defined Benefit 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 choice of converting the present value of their Defined Benefit Plan.

There is a requirement of 80% minimum funding requirement for any plan change that includes a conversion of benefits (first and third bullets above). The Retirement System will, in limited circumstances, grant relief from this 80% minimum funding requirement.

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

Employers that freeze current participants' accrued service in a defined benefit plan and enroll current and new participants in another defined benefit or hybrid plan (frozen participants 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).

3. WITHDRAWN MUNICIPALITY (CLOSED EMPLOYERS)

When a participating municipality or court withdraws from MERS due to privatization, dissolution, or other change in corporate structure, or by election to terminate participation pursuant to Sections 11 or 12 of the Plan, such withdrawn employer leaves on reserve with MERS all or a portion of their actuarial accrued liabilities for retirees and beneficiaries, and active vested and deferred vested members, together with assets in the amount required by the Retirement Board, which shall include a margin for experience fluctuation. Such 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. Assets in excess of 130% of the actuarial accrued liability at the time of termination may be refunded as directed by the municipality or court.

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. The following requirements shall apply to a closed employer on an ongoing basis, until no liabilities remain:

- Funding at Required Level (market assets at least 120%, but not more than 130% of actuarial accrued liability). No action by municipality or court necessary.

- Funding Surplus (market assets in excess of 130% of the actuarial accrued liability). Excess over 130% may be refunded by MERS as directed by the municipality or court.

- Funding Deficit (market assets less than 120% of actuarial accrued liability). The municipality or court shall, within 90 days of the date of MERS' annual notification letter, remit to MERS the required payment toward elimination of the funding deficit, as follows:

    - Funding level between 115% and 120%. Shortfall shall be made up immediately by payment to MERS of sufficient funds equal to the lesser of: 5% of actuarial accrued liabilities or the amount needed to attain the 120% level.

    - Funding level between 110% and 115%. Shortfall shall be made up immediately by payment to MERS of sufficient funds equal to the lesser of: 5% of actuarial accrued liabilities or the amount needed to attain the 115% level.

    - Funding level between 105% and 110%. Shortfall shall be made up immediately by payment to MERS of sufficient funds equal to the lesser of: 5% of actuarial accrued liabilities or the amount needed to attain the 110% level.

    - Funding level between 100% and 105%. Shortfall shall be made up immediately by payment to MERS of sufficient funds equal to the lesser of: 5% of actuarial accrued liabilities or the amount needed to attain the 105% level.

- o Funding level less than 100%. Shortfall shall be made up immediately by payment to MERS of sufficient funds to attain the 100% level, except that the maximum required payment shall be equal to 5% of the actuarial accrued liability.

- o Regardless of funding level, the required payment shall not be less than the excess, if any, of 3 years of annual benefit payments over the current total market value of assets.

- o 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 their 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 their UAL faster can submit funds to a surplus division. By establishing a separate division within the employers' designated trust 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 adopting employer could 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:

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

    2. The employer could 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. 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. INDIVIDUAL MEMBER MATTERS

a. 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 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 valuation purposes 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 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 valuation purposes with the exception of lowering the interest rate by 1 percentage point.

b. Eligible Domestic Relations Orders

Under the Eligible Domestic Relations Order Act (MCL 38.1701 et seq.), a valid assignment of benefits to alternate payees may not result in an increased benefit, determined on the basis of actuarial value, as compared to that payable had the order not been entered. The actuarial equivalence method used converts the benefit from one payable over a participant's lifetime to one payable over the participant's and the alternate payee's lifetime. The actuarial assumptions for purposes of calculating the MERS benefits payable under the terms of these orders are the interest rate and mortality table used by MERS in the most recent annual actuarial valuation. For cases in which the alternate payee and/or the participant have already started to receive monthly benefits under the order, the actuarial assumptions in place at the time of retirement would be used (even for future computations or re-computations related to those cases).

c. 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. The interest rate and mortality assumptions shall be based on the same as those established by the Board for valuation purposes with the exception of using a unisex mortality table with an appropriate blend of male and female.

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)) 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.

In this section, the term "preceding reciprocal unit" means the reciprocal unit that is transferring the service credit out of its reciprocal retirement system, and the term "succeeding reciprocal unit" means the reciprocal unit that is transferring 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:

   a. 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.

   b. 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.

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:

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

   b. 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 of the Plan, in compliance with the requirements of IRC Section 415(b), recites that, if the participant's age is younger than 62, then the dollar limit equals the lesser of the amount determined using the IRS' actuarial factors and the amount determined under plan factors. The amount determined under plan factors is equal to the applicable dollar limit multiplied by the ratio of the participant's benefit to the benefit payable commencing at age 62. As required by the Plan and the Code, any decrease in the defined benefit dollar limitation determined in this manner shall not reflect a mortality decrement if benefits are not forfeited upon the death of the member. If any benefits are forfeited upon death, the full mortality decrement is taken into account

Further, if the benefit of a member begins after the member attains age 65, then the dollar limit equals the lesser of the amount determined using the IRS' actuarial factors and the amount determined under plan factors. The amount determined under plan factors is equal to the applicable dollar limit multiplied by the ratio of the participant's benefit to the benefit payable commencing at age 65.

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 participant'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 utilized. 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 defined contribution component of hybrid 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 defined benefit component of the Hybrid Plan, 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 utilized. Likewise, the earliest retirement date assumption under the Hybrid Plan shall be utilized. 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 defined contribution component of hybrid. 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.