MILLIMAN & ROBERTSON, INC. - Actuarial Analysis
HB 628/SB 277

April 10, 2000

Mr. Aristotle L. Hutras
Director
Ohio Retirement Study Council
88 East Broad Street, Suite 1175
Columbus, OH 43215-3580

Re: PERS Proposed Benefit Improvement Package 1B

Dear Aris:

As requested, we have reviewed the actuarial cost statement dated March 23, 2000 regarding the proposed plan enhancements for members of PERS identified as Package 1B.

Proposed changes to existing PERS Defined Benefit Program

Package 1B includes the following enhancements:

Description of Enhancement		Affected Group	
		State & Local Government	Law Enforcement
Active Members			
HB 628	2.2% multiplier for 1st 30 years of service	X	
HB 628	2.5% multiplier for 1st 25 years of service		X
SB 144	pay up to 6% interest on member contributions and refund 133% / 167% of member contributions with 5 / 10 years of service, respectively	X	
SB 93	Unreduced retirement @ age 48 with 25 years of service		X
HB 628	Increase Survivor Benefits	X	X
SB 93	Increase Member Contributions by 1.1%		X
Retired Members			
HB 628	Benefit recalculation based on new formula	X	X
HB 628	85% purchasing power floor	X	X
HB 628	3% fixed COLA without regard to actual inflation	X	X
Employers			
	Temporary contribution rate reduction for 2000 only	20%	6%

As indicated in the above table, Package 1B includes provisions from several bills currently under consideration by the Legislature – House Bill 628 (Senate Bill 277 contains identical provisions) and Senate Bills 93 and 144.

With respect to the increase in survivor benefits, the minimum survivor benefit would increase from a range of $96-$236 per month to a range of $250-$500 per month depending on the number of eligible survivors. Also, for participants who die with 20 or more years of service, the minimum survivor benefit would range from 29% of Final Average Earnings (FAE) for 20 years of service to 60% of FAE for 29 or more years of service.

The 1.1% increase in the Law Enforcement member contribution rate would increase the rate from 9.0% to 10.1%.

Proposed Creation of PERS Defined Contribution Plan

HB 628 and SB 277 would permit the PERS Board to implement an optional PERS DC Plan. All members on or after the date the PERS DC Plan is established would be eligible to elect to become members in this optional plan. Under the PERS DC Plan, benefits would be based solely on the amounts accumulated under the members' DC account(s).

Each year the full member contribution would be credited to their individual account in the PERS DC Plan as would a portion of the employer contribution made on their behalf. The portion of the employer contribution credited to the member's individual account will be the excess, if any, of the employer contribution rate above the contribution rate determined by the PERS actuary necessary to mitigate any negative financial impact on the PERS DB Program of members electing to join the PERS DC Plan.

Background

In our Study of the Ohio Public Retirement Systems of July 29, 1998, we recommended that the ORSC and the Ohio Retirement Systems develop policies to deal with the dramatically improved funded status of retirement systems due to the very favorable investment environment of the recent past. Most systems have seen significant reductions in their Unfunded Actuarial Liabilities, "UAL", for pension benefits. As a result of this development, members and employers no longer need to contribute at the rates required in the past to amortize existing UALs and it would be helpful to have a policy regarding how future contribution rates should be set. Moreover, a policy could address the level of possible benefit improvements and amortization schedules (funding periods) for increases in pension UALs which might arise either due to benefit increases or unfavorable actuarial experience. Such a policy could set forth how to balance these factors and establish acceptable trade-offs.

The current statute requires PERS to provide statutorily established pension, disability and survivor benefits. There are three sources of financing for these benefits:

- contributions from members,
- contributions from employers, and
- investment income.

The Board is also authorized to set contribution rates within statutorily established limits to pay for those benefits. Employers in the State and Local Government Divisions contribute up to 14% of payroll (the current employer contribution rates are 13.31% and 13.55% for the State and Local Government Divisions, respectively) and State and Local Government Division members contribute up to 10% of their salaries (the current member contribution rate is 8.5% for both divisions). The current rates for the Law Enforcement Division are 9.0% for members and 16.70% for Employers – there is no maximum on these rates in the LE Division. The Board is also authorized to provide health insurance benefits in the event the financial resources are available to do so. The system must be managed so that the funding period for the unfunded actuarial accrued pension liabilities is not more than 30 years as recommended by the ORSC and adopted in SB 82.

Hence when investment returns are more favorable than expected, either contribution rates could be reduced and/or benefits could be increased. In the absence of a funding policy, there may be an expectation among either members or employers that contribution rates will be reduced when experience becomes more favorable than previously assumed. Alternatively there may be an expectation that the contribution rates will remain unchanged and the benefits will be improved within the limits of the available financing.

Absent a funding policy which addresses these issues, it is not clear how proposed benefit increases, such as those provided by these bills should be viewed. Perhaps members or employers view the current statutory maximum rates as being "temporary" in that they will be reduced when the actuarial accrued pension liabilities become fully funded. (In fact, the PERS Board recently announced a "temporary" rate reduction for employers.) If either members or employers have this understanding, then they may reasonably be expecting that any future favorable experience will be used to fund the current actuarial accrued pension liabilities thereby advancing the date when the contribution rates could be reduced by the Board.

Our point in raising this issue is not to assert what the various stakeholders (members and employers) in PERS view as appropriate policy because we are not in a position to know. But it seems important to raise this issue as part of the consideration of this Bill. There is at least one reference in the Ohio Revised Code that indicates that the portion of the employer contribution required to fund the actuarial accrued pension liability would cease at the point when the system is fully funded. (The employers are responsible for contributing to amortize the unfunded liabilities.) This is contained in the provisions of the Alternative Retirement Plan provisions set

forth in §3305 that establishes the Supplemental Contribution payable on account of higher education employees who elect to join an ARP. (See §3305.06(E)) In the case of PERS, Supplemental Contributions are no longer payable because the system is currently fully funded.

We believe that there are several questions which merit consideration by the ORSC in its review of this legislation. They are:

- Who should benefit from (pay for) either anticipated or unanticipated favorable (unfavorable) experience?

- What priority should be assigned to maintaining the current level of support of health insurance provided to PERS retirees relative to improved pension, disability or survivor benefits?

The enactment of HB 628 and SB 277 would serve to increase the actuarial pension liabilities of PERS and hence will defer the date when contributions to amortize unfunded actuarial accrued pension liabilities can be reduced or eliminated. Moreover, it will increase the future financial resources allocated to pension, disability and survivor benefits and hence reduce the resources available to support health insurance. Since the health insurance benefits receive favorable tax treatment in that they do not represent taxable income to retirees and are intended to replace Medicare for some retirees, the ability to continue to finance the current level of health insurance benefits may be a particularly important consideration.

It is worth noting that similar issues arose in connection with proposals for improved benefits for STRS and will arise with similar proposals for the other Ohio Retirement Systems. These are not issues unique to PERS.

In discussing the specific provisions of this Bill, we will first address the PERS DB Plan changes and then address the proposed alternative PERS DC Plan.

PERS DB Program

Policy regarding COLAs

Under the proposed Package 1B, retirees would receive a fixed 3% cost-of-living adjustment effective each July 1st without regard to the actual rate of inflation. This would represent a change to the current cost-of-living adjustment formula that currently applies to all Ohio Retirement Systems (except that the effective dates are slightly different for the Highway Patrol Retirement System). All systems currently provide cost-of-living adjustments equal to the lesser of:

(a) the actual rate of increase in the CPI-W index during the most recent calendar year; or,

(b) 3%.

(Under current law, an adjustment is made in the event that the cost-of-living adjustment made in a prior year was limited by the 3% maximum if actual inflation falls below 3% during a subsequent year.)

A similar proposal was made in 1998 in HB 194 with respect to the Police and Firemen's Disability and Pension Fund.

Effect of Modifying the Cost-of-Living Adjustment Provision

The exact operation of the current provision is quite complex due to two factors. They are:

(1) years during which the CPI-W index declines (deflation) are ignored since neither benefits or "banks" are reduced; and,

(2) years during which inflation exceeds the 3% limit results in the creation of a "bank" which can be drawn on to increase the COLA otherwise payable during years when the rate of inflation falls short of 3%.

The current cost-of-living formula provides an adjustment less than full inflation when inflation exceeds 3% and may provide more than the current rate of inflation when inflation falls below 3%. To illustrate this effect, we have indicated on the attached Exhibit A a summary of the cost-of-living increases which would have been provided to a 1933 retiree under the current formula if the current cost-of-living adjustment formula had been applicable. We picked this year of retirement because the inflation averaged 3.0% over the subsequent 30 years and that period included years with deflation (negative inflation).

Exhibit B summarizes the results of similar calculations for hypothetical retirees since the creation of the CPI-W index in 1913. We have based these calculations on both an assumed life expectancy of 30 years and 40 years. These results compare the actual average cost-of-living adjustment that would have been provided under the current cost-of-living adjustment formula with the actual average rate of inflation during the historical periods.

As indicated on those exhibits, the current formula would have generally provided adjustments in excess of inflation when inflation averaged 2% or lower and less than actual price inflation when inflation averaged 2-1/2% or higher. Increasing the COLA adjustment to a fixed 3% would further increase the over-adjustment when inflation is relatively low and only slightly make up the shortfall when inflation is high. This suggests that the Legislature might prefer to consider Special Ad Hoc cost-of-living adjustments in circumstances when the current formula

provides inadequate COLA adjustments, i.e., when inflation is high, rather than a fixed COLA to all retirees even when inflation is low.

An alternative way of analyzing the current formula is to mathematically model the level of cost-of-living adjustments provided based on historical statistics regarding the variability in the rate of inflation from year to year (i.e., inflation's standard deviation) and the relationship of current inflation to inflation in the preceding year (i.e., inflation's serial correlation). A summary of such projections is indicated in the table below.

Estimated Average Cost-of-Living Adjustments Provided Under
Alternative Assumptions Regarding Average Inflation

Assumed Average Future Price Inflation	Estimated Average Cost-of-Living Adjustment Under Current Formula
2.0%	2.2%
2.5%	2.4%
3.0%	2.6%
3.5%	2.7%
4.0%	2.8%

As indicated above, the level of cost-of-living adjustments provided by the current formula can be expected to average within a relatively narrow range of between 2.2% and 2.8% if future price inflation averages between 2% and 4% per year. Thus the current cost-of-living adjustment formula can be expected to pay less than 3% per year in cost-of-living adjustments to retirees when inflation averages even as much as 4%.

Accordingly, a change in the statute to provide for fixed 3% cost-of-living adjustments without regard to the actual rate of inflation will serve to increase actual costs over time under PERS (and the other Ohio Retirement Systems if subsequent legislation extended this provision to them also). The fact that the actuarial assumptions assume that a 3% COLA will be paid each year does not mean that increasing the COLA adjustments to 3% will have no cost. To the extent that future benefit payments under a fixed 3% COLA would exceed payments under current law, the provision will increase long-term costs. Thus, we do not believe that it is appropriate to represent a fixed 3% cost-of-living adjustment as having no cost even though the current actuarial assumption anticipates that a 3% COLA will be paid each year.

Simple vs. Compounded COLA Adjustments

Under current law, COLA adjustments are made on what is called a "simple" basis. This means that the additional COLA benefit is calculated by applying the COLA rate to the initial benefit at

retirement instead of the retirees' current benefit (the initial benefit plus all COLA adjustments made to date). Since the rate of CPI increase is calculated on a "compounded" basis, applying the COLA rate in the way required by current law has the effect of providing less than a full adjustment for inflation even when the rate of inflation is less than the 3% cap. Moreover it provides less than a 3% increase in a retirees' current income after they have been retired for a number of years.

If the legislature wishes to improve the COLA provisions in PERS (or any of the other Ohio Retirement Systems), it would seem to us to be more equitable to change to a compounded COLA adjustment. This would benefit retirees whose pensions have already been eroded significantly by past inflation the most. In contrast, the Package 1B proposal would increase the COLA adjustment the most for recent retirees who have received close to a full inflation adjustment while inflation has been below 3% by increasing their COLAs to a fixed rate of 3% which exceeds the effect of inflation on their pensions. Providing an excessive COLA adjustment to some retirees while providing less than a full adjustment to others who have been retired longer seems inequitable.

The additional costs associated with changing from a Simple to a Compounded COLA would be approximately 40% more than the added cost of increasing the current Simple COLA to a flat 3% COLA if the rate of CPI increases in the future averaged 2.5%. (As a frame of reference for this, the quarterly survey of professional forecasters conducted by the Federal Reserve Bank of Philadelphia indicates that the middle range of forecast inflation over the next 10 years is 2.25% to 2.65%.)

<u>Policy with respect to the recalculation of Retirees' Benefits</u>

Package 1B contains a provision requiring PERS to recalculate all benefits granted prior to the effective date of the bill in accordance with the new benefit improvements effective with the new bill. Senate Bill 190 contains a similar provision for retirees from STRS with the exception that the recalculation would be based on benefits prior to SB 190 and *not* take into account the benefit improvements for active members effective in SB 190. The ORSC and the Legislature may want to consider if a similar approach to recalculating benefits for retirees should be applied across all systems.

Package 1B contains the recalculation provisions from HB 628 and the provision to allow full retirement benefits to members of the PERS Law Enforcement Division who retire on or after age 48 with 25 years of law enforcement service. It is not clear how the recalculation provision would be applied to the payment of unreduced retirement benefits to previously retired law enforcement members who had their benefits actuarially reduced because they retired prior to age 52 but after completing 25 years of service. This should probably be clarified in the Bill.

Health Insurance

The health insurance benefits provided by PERS are well funded in that the December 31, 1998 Financial Report indicates that the assets allocated to provide post-employment healthcare exceeded 22 times the cost of providing healthcare benefits in 1998. While PERS has discontinued funding healthcare benefits on an actuarial funding basis, the funded status of these benefits indicates that there is no reason to anticipate PERS to have difficulty supporting these important benefits over the near term.

Financial Status

The table below summarizes the funded status of the pension benefits of the State, Local Government and Law Enforcement Divisions of PERS as reported in the corrected Actuarial Valuation for Active and Inactive Members and the Actuarial Valuation for Retired Members as of December 31, 1998.

($ amounts in millions)

	State Division	Local Government Division	Law Enforcement Division
UAL (Surplus) – Active Members	($442.3)	($223.2)	$19.5
UAL (Surplus) – Retired Members	(15.3)	(95.5)	(23.1)
Total UAL (Surplus)	(457.6)	(318.7)	(3.6)

Therefore, on a combined basis, the accrued liabilities for basic retirement benefits as of December 31, 1998 for all three PERS Divisions were fully funded (the funding period is 0 years), based on the assumptions and methods used by the PERS actuary. For purposes of determining whether proposed legislation can be enacted within the limitations on the funding period established by Senate Bill 82, we believe it is appropriate that the funding period for each Ohio Retirement System be calculated on a combined basis including all members (active, inactives and retired). Presenting results on a combined basis was also recommended in the December 1999 audit of PERS. The other four Ohio Retirement Systems calculate their funding period on this basis.

The funding period for Package 1B was calculated reflecting the investment gains which were deferred as of December 31, 1998 and scheduled to be recognized during 1999. For all divisions of PERS, these gains totaled $1.3 billion. This is not the normal way that the funding period has been calculated under Senate Bill 82's requirement that each Ohio Retirement System have a funding period of 30-years or less. If these deferred investment gains had not been reflected in

the calculation, Package 1B would not have satisfied the 30-year funding requirement of SB 82 for the LE Division, but would have satisfied this requirement for the State and Local Government Divisions.

While no explanation was provided with the actuarial note, this unusual arrangement appears to be justified in light of the significant additional investment gains generated prior to December 31, 1998 that are scheduled to be recognized in 2000 or later years. For all Divisions of PERS, an additional $1.3 billion and $0.7 billion are scheduled to be recognized in 2000 and 2001, respectively. In addition, based on favorable investment results in 1999, additional investment gains are expected to be available in PERS. Since PERS has recently been audited and its actuarial assumptions and methods are somewhat conservative, we do not have reason to expect that there will be offsetting losses from other sources (e.g., demographic or salary growth experience) which would materially change the actuarial status of the three divisions in an adverse way.

In light of the above, we do not object to the allocation of the deferred investment gains to partially fund these benefit improvements.

Actuarial Cost Statement

The figures from the actuarial cost statement for Package 1B, dated March 23, 2000, prepared by the PERS actuary, Gabriel, Roeder, Smith & Company, are summarized below for each of the three Divisions.

In discussing the changes contained in proposed Package 1B, we will first discuss the State and Local Government Divisions of PERS since the changes affecting those divisions are identical and then discuss the changes affecting the Law Enforcement Division.

State and Local Government Divisions

The table below summarizes the effect on the actuarial costs of Package 1B on the State and Local Government Divisions of PERS.

($ amounts in millions)

	Revised 12/31/1998 Actuarial Valuation – Current Law	Effect of Package 1B	Estimated Actuarial Valuation as of 12/31/1998 as if Package 1B had been enacted as of that date
State Division			
Employer Normal Cost	6.21%	1.43%	7.64%
Unfunded Actuarial Liabilities (Surplus)	($457.6)	$1,033.3	$575.7
1999 Scheduled Investment Gains	($412.0)	0.0	($412.0)
Adjusted UAAL (Surplus)	($869.6)	$1,033.3	$163.7
Funding Period for Adjusted UAAL	N/A	N/A	4 years
Member Contribution Rate	8.50%	0.00%	8.50%
Employer Rate during temporary roll-back	10.65%	0.00%	10.65%
Employer Rate thereafter	13.31%	0.00%	13.31%
Local Government Division			
Employer Normal Cost	6.17%	1.48%	7.65%
Unfunded Actuarial Liabilities (Surplus)	($318.7)	$1,484.2	$1,165.5
1999 Scheduled Investment Gains	($583.0)	$0.0	($583.0)
Adjusted UAAL (Surplus)	($901.7)	$1,484.2	$582.5
Funding Period for Adjusted UAAL	N/A	N/A	8 years
Member Contribution Rate	8.50%	0.00%	8.50%
Employer Rate during temporary roll-back	10.84%	0.00%	10.84%
Employer Rate thereafter	13.55%	0.00%	13.55%

The UALs and funding periods shown above differ from the figures shown in the Actuarial Cost Statement of March 23, 2000 because the UALs for the State and Local Government Divisions of PERS were not shown on a combined basis in that statement. In the above table we have combined the UAL for retired members with the UAL for active and inactive members so the funding period can be shown on a consolidated basis.

If House Bill 628 were enacted without including the provisions of Senate Bill 144 for the State and Local Government Divisions, the employer normal cost rates would increase by 0.50% and 0.48%, respectively for the State and Local Government Divisions of PERS. Moreover, the accrued liabilities would increase by $941 million and $1,320 million, respectively, and the composite funding periods would be 1 and 3 years, respectively (including the recognition of the 1999 scheduled investment gains).

Law Enforcement Division

The table below summarizes the effect on the actuarial costs of Package 1B on the Law Enforcement Division of PERS.

($ amounts in millions)

	Revised 12/31/1998 Actuarial Valuation – Current Law	Effect of Package 1B	Estimated Actuarial Valuation as of 12/31/1998 as if Package 1B had been enacted as of that date
Law Enforcement Division			
Employer Normal Cost	10.93%	0.40%	11.33%
Unfunded Actuarial Liabilities (Surplus)	($3.6)	$93.6	$90.0
1999 Scheduled Investment Gains	($34.0)	$0.0	($34.0)
Adjusted UAL (Surplus)	($37.6)	$93.6	$56.0
Funding Period for Adjusted UAL	N/A	N/A	27 years
Member Contribution Rate	9.00%	1.10%	10.10%
Employer Rate during temporary roll-back	15.70%	0.00%	15.70%
Employer Rate thereafter	16.70%	0.00%	16.70%

The actuarial cost statement, dated March 23, 2000, indicated that the funding period was determined after the release of the Annuity and Pension Reserve and Survivor Benefit Fund contingency reserves in the LE Division. The implication of releasing the contingency reserves is that the funding period for the LE Division of 27 years was determined on a composite basis including both retired members and active and inactive members. As noted previously, we agree with that approach.

If House Bill 628 were enacted without the provisions of Senate Bill 93 for the Law Enforcement Division, the employer normal cost rate would increase by 0.39% and the accrued liabilities would increase by $41 million. The composite funding period would be 1 year including the recognition of the 1999 scheduled investment gains.

Senate Bill 144

As indicated earlier, Package 1B does not include the benefit improvements contained in Senate Bill 144 for the LE Division. If SB 144 were added to the Package 1B improvements for the LE Division without any *additional* increases in contribution rates, such a modified Package 1B would violate the requirements of SB 82 for the LE Division as the funding period would exceed 30 years.

Actuarial Basis

These estimates were based on the revised results of the December 31, 1998 Actuarial Valuations, the supplemental actuarial cost statement dated March 23, 2000 on Package 1B, the supplemental actuarial cost statement dated March 31, 2000 on House Bill 628, and the supplemental actuarial cost statement dated October 8, 1999 on Senate Bill 144. We reviewed the supplemental actuarial cost statements prepared by GRS and they appear to be reasonable.

The PERS December 31, 1998 Actuarial Valuation was recently audited by The Segal Company. That audit generally was able to validate the figures presented in the report, with the exception of the value of projected benefits payable under the Law Enforcement Division. The revised figures as of December 31, 1998 used in preparing this analysis were prepared subsequent to the audit to correct the discrepancy.

Reasonableness of Actuarial Assumptions

We did a general review for reasonableness of the actuarial assumptions used by GRS for purposes of these calculations. Our conclusion is that they appear to be reasonable with a somewhat conservative bias.

The Segal Company had also reviewed the actuarial assumptions and found them to be "reasonable and consistent with actuarial experience and with generally accepted actuarial principles and practices."

Alternative Defined Contribution Program – "PERS DC Plan"

Two aspects of the PERS DC Plan merit discussion. The first of these relates to the amount of the Supplemental Contribution. The second relates to the duration of the Supplemental Contribution.

Supplemental Contribution

PERS would have its actuary determine the portion of the employer contribution otherwise payable to the DC plan that would be transferred to the DB program to mitigate any negative financial impact on the PERS DB program. This is a reasonable approach and will allow this rate to reflect actual election patterns and any differences in the populations of members choosing to join each program.

How Long Must the Supplemental Contribution be Paid?

The Supplemental Contribution Rate will be payable until the unfunded actuarial accrued pension liability for all benefits, except health care benefits and benefit increases granted to members and former members participating in the PERS DB Program after the enactment of this bill, are fully funded. We understand that this provision will allow the Supplemental Contribution to continue, or resume, to amortize any actuarial losses that may arise in the future.

Please let us know if you have any questions or if you need any additional information.

Sincerely,

Katherine A. Dill William A. Reimert

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Enclosures