

INVESTMENTS AND PENSION OVERSIGHT COMMITTEE
ERB SOLVENCY CONSIDERATIONS
AUGUST 31, 2011

Jan Goodwin, Executive Director



Where are we? ERB Actuarials at a Glance

| | Investment Earnings Assumption | | | | | |
|-----------------------|--------------------------------|-----------------|-----------------|-----------------|-----------------|---------------------------------------|
| | 8% | | | 7.75% | | |
| | <u>06/30/08</u> | <u>06/30/09</u> | <u>06/30/10</u> | <u>06/30/09</u> | <u>06/30/10</u> | <u>06/30/11</u> <u>(estimated)</u> |
| UAAL | \$3.7B | \$4.5B | \$4.9B | \$4.90 | \$5.3B | \$5.9B |
| Funded Ratio | 71.5% | 67.5% | 65.7% | 66.4% | 63.8% | 61.6% |
| Funding Period | 61.4 yrs | 45 yrs | 62.5 yrs | Infinite | Infinite | Infinite |

GASB Standard 27

Amortize funding ratio within 30 years

ERB Board Goal Funded ratio

80%

GASB Standards Are Changing

GASB Exposure Draft: Revises GASB Statement 27, effective date: periods beginning after June 15, 2013

| | GASB 27 | Exposure Draft |
|----------------------------|-----------------------------|--|
| UAAL | Note Disclosure | Employer's Balance Sheet |
| Amortization Period | 30 years | Average remaining service lives (12 – 15 years) |
| Pension Expense | Contractual | Employers proportionate share |
| Discount Rate | Long-term investment return | Based on long-term investment return and 30-year AA/Aa municipal bond index rate |

Bottom line: much more volatility on balance sheet and income statement of the employers

Member Poll – Research & Polling, Inc. November 2010

**Willingness to Support Various Options in Order to
Improve the Financial Soundness of the Fund
(Summary Table)
Total Sample (n=407)
Ranked in Order by Mean Score on a 10-Point Scale**

| | Willing 7-10 | Neutral 5-6 | Unwilling 1-4 | DK/ WS | Mean † |
|--|-------------------------|------------------------|--------------------------|-------------------|---------------|
| Increase member contribution by 0.5% | 58% | 21% | 20% | 1% | 6.4 |
| Calculate final average salary with 7 instead of 5 years | 53% | 20% | 26% | 2% | 6.1 |
| Create multipliers increasing with years of service | 49% | 28% | 20% | 2% | 6.1 |
| Minimum age 60 to receive unreduced benefits for employees with 25 years of service | 47% | 25% | 27% | 1% | 5.9 |
| Minimum age 60 for any retirement benefits | 47% | 19% | 34% | * | 5.7 |
| Increase member contribution by 1.0% | 41% | 23% | 35% | 1% | 5.4 |
| Reduce multiplier to 2.2% for future years of service | 27% | 33% | 38% | 2% | 4.8 |
| Reduce COLA for current workers when they retire | 22% | 30% | 45% | 4% | 4.4 |
| Reduce multiplier to 2.0% for future years of service | 26% | 20% | 51% | 2% | 4.3 |

† The mean score is derived by taking the average score based on the 10-point scale. The *Very Willing* response is assigned a value of 10; the *Very Unwilling* response is assigned a value of 1. The *Don't know/won't say* responses are excluded from the calculation of the mean.

Members were asked to rate their willingness to support nine different options to improve the financial soundness of the fund on a scale of 1 to 10 in which 10 means they are *very willing* to support it and 1 means *not at all willing* to support it. In each case, respondents were told whether the option would have a *moderately positive* or *significantly positive* impact on the fund. They were also informed that depending on their impact, it's possible the Legislature might have to enact more than one of these items.

ERB Plan Design Considerations

At the direction of the Board, the staff is currently working with Gabriel Roeder Smith & Company, our actuarial consultant, to examine the impact of combinations of various plan element changes and assumption factors. The results will then be presented to the Board.

The plan elements being reviewed include:

- Multiplier
- Member/Employer contributions
 - GRS has been asked to look at increasing the member contribution to 9.9% and the employer to 13.9%, consistent with the Board's recommendation last year
- Final Average Salary – 5/7yr or average of entire time
- Minimum Retirement Age
- COLA
- Vesting period to 10 years

Constructing a Solvency Matrix

- The solvency matrix looks at time and funded ratios in order to compare a lot of studies at one time.
- Moving from left to right (the “x” axis) is time
- Moving up (the “y” axis) is the funded ratio

Solvency Matrix

Years and funded ratios:

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|--------------------------------|-----------------|-------------------------------|---------------------------|----------------------|-------------------------------|
| Less than 80% | | | | | |
| 80%-85% | | | | | |
| 85%-90% | | | | | |
| 90%-95% | | | | | |
| 95%-100% | | | | | |
| Greater than 100% | | | | | |

Solvency Matrix

The shaded area illustrates a desired outcome of at least 80% funded in 30 years.

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|------------------------|----------|-----------------------|----------------|---------------|-----------------------|
| Less than 80% | | | | | |
| 80%-85% | | | | | |
| 85%-90% | | | | | |
| 90%-95% | | | | | |
| 95%-100% | | | | | |
| Greater than 100% | | | | | |

Solvency Matrix

The shaded area illustrates a desired outcome of at least 100% funded in 10 years.

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|------------------------|----------|-----------------------|----------------|---------------|-----------------------|
| Less than 80% | | | | | |
| 80%-85% | | | | | |
| 85%-90% | | | | | |
| 90%-95% | | | | | |
| 95%-100% | | | | | |
| Greater than 100% | | | | | |

Solvency Matrix

Let's first look at where the plan is currently:

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|------------------------|----------|-----------------------|----------------|---------------|-----------------------|
| Less than 80% | | | | | B |
| 80%-85% | | | | | |
| 85%-90% | | | | | |
| 90%-95% | | | | | |
| 95%-100% | | | | | |
| Greater than 100% | | | | | |



Solvency Matrix

- To construct the matrix, we used the actual earnings amount for the plan year ending 6/30/2011 (19.55%)
- The assumed employer contribution was set to increase by .5% per year until it reaches 13.90%, and continues at that rate thereafter.
- The assumed member rate increases by .1% per year from the current rate of 9.4% until it reaches 9.9%, and stays at 9.9% thereafter.
- The prior solvency matrix, dated August 12, 2011, included up to 24 studies
- The updated solvency matrix includes 6 new studies, based on a 7 year FAC, 10 year vesting, retain the 2% cola for everybody, minimum retirement ages of 50, 60 & 62, and a benefit multiplier of 2.35% (studies 40-42) or 2.25% (studies 43-45).

Solvency Matrix – schedule of contributions assumed

| Plan year ending | Employer Contribution | Member Contribution |
|------------------|-----------------------|---------------------|
| 2011 | 10.90% | 9.40% |
| 2012 | 9.15% | 11.15% |
| 2013 | 12.40% | 9.40% |
| 2014 | 12.90% | 9.50% |
| 2015 | 13.40% | 9.60% |
| 2016 | 13.90% | 9.70% |
| 2017 | 13.90% | 9.80% |
| 2018 | 13.90% | 9.90% |

Solvency Matrix

All members subject to new plan provisions.

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|------------------------|----------|------------------------------|----------------------|---------------------------------|-----------------------|
| Less than 80% | | 1,2,3,4,6,7,8,9, 10,40-45 | 1,3,6,40-45 | | B |
| 80%-85% | | 5,20 | 2 | 40,41,43 | |
| 85%-90% | | 11 | 7 | 42,44,45 | |
| 90%-95% | | | 4,9 | 6 | |
| 95%-100% | | 21 | 8 | 1,3 | |
| Greater than 100% | | 24 | 5,10,11,20, 21,24 | 2,4,5,7,8,9, 10,11,20, 21,24 | 40-45 |

Solvency Matrix

All active members subject to the new plan provisions; retirees retain the cola.

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|------------------------|----------|----------------------------------|----------------|---------------------------------|-----------------------|
| Less than 80% | | 1,2,3,4,6,7,8,9,10 ,20, 40-45 | 1,3,6,40-45 | | B |
| 80%-85% | | 5,11 | 2,7,9 | 40,41,43 | |
| 85%-90% | | 21 | 8,20 | 42,44,45 | |
| 90%-95% | | 24 | 4,10 | 6 | |
| 95%-100% | | | | 1,3 | |
| Greater than 100% | | | 5,11,21,24 | 2,4,5,7,8,9, 10,11,20, 21,24 | 40-45 |

Solvency Matrix

New hires subject to new plan provisions.

| Years/ Funded Ratio | 7/1/2010 | Less than 10 years | 10 to 20 years | 20 – 30 years | More than 30 years |
|------------------------|----------|-----------------------------------|----------------------------|---------------|-----------------------|
| Less than 80% | | 1,2,3,4,6,7,8,10, 11,20, 21,24 | 1,2,3,4,6,7,8,10, 11,20 | | B |
| 80%-85% | | | 21,24 | | |
| 85%-90% | | | | 1,2,3,4,6, 20 | |
| 90%-95% | | | | 7,8 | |
| 95%-100% | | | | 10 | |
| Greater than 100% | | | | 11,21,24 | |

Prior Solvency Matrix Legend

| | COLA | FAS | Vesting | Min Ret Age | Multiplier |
|-----------|------------|----------|----------|-------------|------------|
| Baseline | 2% | 5 years | 5 years | None | 2.35% |
| Study #1 | 2% | 5 years | 5 years | 60 | 2.35% |
| Study #2 | 2% | 5 years | 5 years | 62 | 2.35% |
| Study #3 | 2% | 7 years | 5 years | 50 | 2.35% |
| Study #4 | 2% | 5 years | 5 years | 50 | 1.75% |
| Study #5 | 2% | 10 years | 10 years | 62 | 1.75% |
| Study #6 | 2%, age 67 | 5 years | 5 years | 50 | 2.35% |
| Study #7 | 1% | 5 years | 5 years | 50 | 2.35% |
| Study #8 | 1% | 5 years | 5 years | 60 | 2.35% |
| Study #9 | 1% | 5 years | 5 years | 50 | 2.20% |
| Study #10 | 1% | 5 years | 5 years | 50 | 2.00% |
| Study #11 | 1% | 7 years | 5 years | 55 | 2.20% |
| Study #20 | 0% | 5 years | 5 years | 50 | 2.35% |
| Study #21 | 0% | 7 years | 10 years | 62 | 1.75% |
| Study #24 | 0% | 10 years | 10 years | 62 | 1.75% |

Updated Solvency Matrix Legend

| Scenarios* | UAAL (in millions) | Funded Ratio | Total ARC (Employer and Member) | Funding Period (Years) |
|--|-----------------------|--------------|------------------------------------|---------------------------|
| Study 40 - 7 year FAS, 10 year vesting, minimum retirement age 55, 2.35% benefit, 2% COLA | | | | |
| 2010 | \$ 5,072 | 65.0% | 23.70% | infinite |
| 2020 | \$ 6,597 | 68.7% | 22.41% | 23.7 |
| 2030 | \$ 5,841 | 79.5% | 18.30% | 11.1 |
| 2040 | \$ (100) | 100.3% | 12.63% | N/A |
| Study 41 - 7 year FAS, 10 year vesting, minimum retirement age 60, 2.35% benefit, 2% COLA | | | | |
| 2010 | \$ 4,976 | 65.5% | 23.29% | 82.2 |
| 2020 | \$ 6,290 | 69.7% | 21.67% | 21.1 |
| 2030 | \$ 4,985 | 82.6% | 17.14% | 8.7 |
| 2040 | \$ (2,241) | 105.6% | 11.04% | N/A |
| Study 42 - 7 year FAS, 10 year vesting, minimum retirement age 62, 2.35% benefit, 2% COLA | | | | |
| 2010 | \$ 4,870 | 65.9% | 22.79% | 61.0 |
| 2020 | \$ 5,942 | 70.9% | 20.89% | 18.7 |
| 2030 | \$ 4,071 | 85.6% | 16.02% | 6.7 |
| 2040 | \$ (4,440) | 111.1% | 9.50% | N/A |

* The current plan provisions assume a member contribution rate of 7.9% in FY2012 and later. Studies 40-45 assume a member contribution rate that phases up to an ultimate contribution rate of 9.9% in 5 years and an ultimate employer contribution rate that phases up to an ultimate contribution rate of 13.9% in 3 years.

Updated Solvency Matrix Legend

| Scenarios* | UAAL (in millions) | Funded Ratio | Total ARC (Employer and Member) | Funding Period (Years) |
|--|-----------------------|--------------|------------------------------------|---------------------------|
| Study 43 - 7 year FAS, 10 year vesting, minimum retirement age 55, 2.25% benefit, 2% COLA | | | | |
| 2010 | \$ 4,986 | 65.4% | 23.30% | 82.5 |
| 2020 | \$ 6,285 | 69.7% | 21.60% | 20.9 |
| 2030 | \$ 4,935 | 82.3% | 17.06% | 8.7 |
| 2040 | \$ (2,417) | 106.4% | 10.81% | N/A |
| Study 44 - 7 year FAS, 10 year vesting, minimum retirement age 60, 2.25% benefit, 2% COLA | | | | |
| 2010 | \$ 4,891 | 65.9% | 22.89% | 64.1 |
| 2020 | \$ 5,982 | 70.8% | 20.88% | 18.8 |
| 2030 | \$ 4,093 | 85.4% | 15.93% | 6.7 |
| 2040 | \$ (4,519) | 111.8% | 9.27% | N/A |
| Study 45 - 7 year FAS, 10 year vesting, minimum retirement age 62, 2.25% benefit, 2% COLA | | | | |
| 2010 | \$ 4,786 | 66.3% | 22.41% | 52.2 |
| 2020 | \$ 5,642 | 72.0% | 20.12% | 16.7 |
| 2030 | \$ 3,202 | 88.4% | 14.85% | 5.0 |
| 2040 | \$ (6,664) | 117.3% | 7.77% | N/A |

* The current plan provisions assume a member contribution rate of 7.9% in FY2012 and later. Studies 40-45 assume a member contribution rate that phases up to an ultimate contribution rate of 9.9% in 5 years and an ultimate employer contribution rate that phases up to an ultimate contribution rate of 13.9% in 3 years.

ERB Board Process

At September 14 and 15 Retreat:

- Will hear from stakeholders and legislators
- Will continue to work on Solvency Matrix with our Actuary

Fall 2011:

- Develop funding goal and length of time to get there
- Recommend plan design changes to achieve funding goal in desired time period