



November 10, 2009

The Honorable Daniel R. Liljenquist
Senate Chair
Retirement and Independent Entities Committee
Utah State Capitol
Salt Lake City, Utah 84114

Re: Information Requested by Committee for Nov. 12th Meeting

Dear Senator Liljenquist:

At the last meeting of the Retirement and Independent Entities Committee, on September 9th, we told the committee that we would provide long-term projections of key actuarial results under various scenarios. We also said we would project funding requirements if participation is frozen and all future members are covered by some other retirement plan. These projections have been done only for the Public Employees Retirement System (Contributory and Noncontributory) for the State & School Division. The results for the contributory and noncontributory divisions are shown on a combined basis.

Baseline (Exhibit One)

The first projection we will discuss is the baseline. It projects forward the results of the January 1, 2009 actuarial valuation for forty years, assuming the fund will earn 7.75% net of all expenses each year in the future. (The 7.75% return rate is the assumed return used in the actuarial valuations.) This projection also assumes the State of Utah will contribute the actuarially determined contributions each year as set by the Board of Trustees under its current policies.

Exhibit 1, attached, shows the results of this projection. We have shown the results for each of the next five years, and then every fifth year thereafter. Some of the results are shown by fiscal year, including the contribution rate, the contribution amount, and the ARC (Annual Required Contribution in accordance with Governmental Accounting Standards Board Statement No. 25). Other results, such as the unfunded actuarial accrued liability (UAAL), the funded ratio, and the market value of assets (MVA), are shown as of the valuation date that determined the contribution rate (the January 1 occurring eighteen months prior to the beginning of the fiscal year). For example, the January 1, 2009 actuarial valuation is used to determine the contribution rate for the fiscal year beginning July 1, 2010 and ending June 30, 2011 (FY 2011).

Under this baseline projection, as long as the fund is not 110% funded, the contribution rate is the larger of (a) the ARC for the year, or (b) the prior year's contribution. This is because the URS Board of Trustees has a policy, permitted under Utah Code § 49-11-301(5), of not allowing a contribution rate decrease unless the funded ratio is at least 110%. Once the funded ratio reaches 110%, the contribution rate becomes the normal cost. We discuss the calculation of the ARC later.

The employer contribution rates shown on the attached do not include the 1.50% 401(k) contribution or the contribution—0.16% or 0.15%, depending on the year—that goes to PEHP to pay for a lump-sum death benefit. Further, the contribution rates shown exclude the 0.85% which is used to the fund the 3% substantial substitute (3%SS). (The 3%SS is an additional benefit for the closed group of members who were in the system before January 1, 1989. It is funded separately, although it is collected from the State as part of the contributions made for all State employees and teachers.) The rates shown are the weighted average of the rates for Fund 12 (Contributory State & School) and Fund 16 (Noncontributory State & School).

For example, the 13.25% employer rate shown for the fiscal year ending June 30, 2010 (FY 2010) was arrived at as follows:

Calculation of FY 2010 Employer Rates	Contributory State & School	Noncontributory State & School
1. Rate collected for FYE June 30, 2010	15.73%	15.72%
2. Less: 1.50% 401(k) contribution	-0.00%	-1.50%
3. Less: 0.16% for PEHP death benefit	-0.16%	-0.16%
4. Less: 0.85% for 3% Substantial Substitute	-0.85%	-0.85%
5. Net for retirement funds	14.72%	13.21%

Then these rates for the contributory and noncontributory systems were weighted together by projections of the respective payrolls for the two funds—a little less than 2.5% of the combined payroll is for members in the contributory system—producing the 13.25% employer contribution rate shown on the exhibit.

Note that the rate for the contributory system includes the member contribution rate, which we understand is paid by the employer.

As you can see, contribution rates on Exhibit 1 will increase beginning in FY 2011, and continue increasing until reaching a peak of 23.10% in FY 2016 (not shown), after which the rate remains constant at this level until the plan becomes 110% funded. Over the six years from FY 2010 through FY 2016, contribution rates increase 9.85 percentage points (23.10% - 13.25%). As the large investment loss from 2008 is recognized 20% per year over the valuations from Jan. 1, 2009 through Jan. 1, 2013, the funded ratio will decrease to around 70% and the UAAL will increase to about \$6 billion. After that, funded ratios improve steadily and reach 100% in 2037.

Other Investment Scenarios

We were asked to show what would happen under various investment scenarios. While Exhibit 1 projected based on a constant 7.75% market return, Exhibits 2-5 vary this pattern as follows:

- Exhibit 2 assumes a constant return of 6.00% per year

- Exhibit 3 assumes a constant return of 7.00% per year.
- Exhibit 4 simulates a W-shaped recovery by assuming a 15% return in 2009, a -20% return in 2010, and a 15% return in 2011, followed by a constant 7.75% return in all subsequent years
- Exhibit 5 looks at what happens if you earn 8.50% in each year

As you can see, Exhibit 2 shows the contribution rates climbing even higher than under the baseline scenario. Under the 6% return scenario, contributions would rise to 23.68% in FY 2015, but unlike the baseline, would keep rising, reaching a rate of over 26% of pay within 20 years, then staying at that level. The funded ratio under this scenario falls quickly to 68%, then continues to erode, but more slowly, ultimately reaching a low of about 64%. It is frankly comforting that the results are not any worse than this with a 6.00% assumed return for the entire 40-year projection period.

Under the 7% return scenario, contributions would reach a peak of a little less than 24% and the funded ratio would, after falling to just below 70%, slowly increase back to 90%. Exhibit 4 (W-shaped recession) shows the contribution rate peaking at over 27%. Funded ratios have reached over 100% by the end of the projection period. Under the optimistic scenario in Exhibit 5, contribution rates will increase at first, as the 2008 loss is phased into the actuarial value of assets, and will top out at 22.47%. Under the Board's policy, rates would then remain fixed at this level until the fund was 110% funded in 2033. Because of investment gains, the point at which the plan becomes 100% funded is accelerated by eight years (2029 under Scenario 5 vs. 2037 under Scenario 1).

Freezing the Contribution Rates

Next we looked at what would happen if the State chose to permanently freeze its contribution at the level in effect for FY 2010 (13.25%). This result, assuming a constant 7.75% investment return in 2009 and later years, is shown on Exhibit 6. As you can see, the UAAL continues to grow throughout the projection, and by then end of 2048, the assets of the trust fund are exhausted.

Exhibits 6a and 6b examine what would happen if, because of the recession and its impact on the State's revenue, the State froze the FY 2010 contribution rate (13.25%) for either 2 years (FY 2011 and FY 2012, Exhibit 6a) or five years (FY 2011 – 2015, Exhibit 6b). The longer the State defers action, adopting a wait-and-see attitude, the higher the required contributions will eventually become. Under Exhibit 6a, the State freezes the contribution for two years—FY 2011 and FY 2012—at the FY 2010 contribution rate (13.25%), and then in FY 2013, it begins contributing the full requirement. Because of the two-year freeze, the contribution rates will be higher. For example, the FY 2016 contribution rate would be projected to be 0.47% larger because of the delay (23.57% vs. 23.10% under Scenario 1). Further, the increase in FY 2013 would be from 13.25% to 18.37%, or over 5 percentage points! Exhibit 6b shows that freezing the contribution rate the FY 2010 for five years (FY 2011-FY 2015) and then reverting to the calculated rate in FY 2016 would increase the FY 2018 contribution rate by 1.65 percentage points (from 23.10% under Scenario 1 to 24.75% under Scenario 6b), and the increase in FY 2016 when the freeze ended would be almost 11 percentage points (13.25% to 24.20).

Exhibits 7 – 10 show the results if Utah permanently freezes the contribution rate at 13.25% while varying the investment return rates as before. Assets would be exhausted in 2035 assuming a constant 6.00% return, in 2041 assuming a constant 7.00% return, and in 2038 under the W-shaped recovery. Exhibit 10 shows that with a constant 8.50% return, the plan still has assets at the end of the projection period, but the shortfall in contributions results in a falling funded ratio, despite the asset gains being experienced.

Freezing Participation

We were also asked to explain what would happen if the current plan was closed to future members, with all future hires going into a new, less expensive, plan with a different structure. The structure of the new plan could be either a defined contribution plan, such as the State's 401(k) plan, or a new defined benefit plan, or a hybrid. For this analysis, though, we assumed the new vehicle for future hires would cost a total of 8.00% of payroll for the future hires.

Exhibit 11 shows projections of the number of members and the payroll for the two groups: (a) current members remaining in the current defined benefit plan and (b) future hires going to the new plan. For this purpose, we assumed the new plan would become effective for employees hired on or after January 1, 2011. The projection assumes the total number of active members remains unchanged. As you can see, initially, most employees will be members of the current plan, but by 2019, we project that more than half of the employees would be in the new plan. In 25 years, only about 10% of the employees would still be covered in the closed defined benefit plan.

Exhibit 12a shows what would happen to the contributions in the closed plan and the new plan. This assumes that the closed plan would continue to receive the contributions as determined by the Board, and that the plan would earn 7.75% each year. Exhibit 12b shows the projected actuarial information for this scenario.

There are two points that should be noted about this scenario. First, one component of the actuarially determined contribution rate for the closed defined benefit plan has been changed. Once the plan is closed to future members, GASB Statement No. 25 will no longer permit the amortization of the unfunded liability to be determined as a level percentage of increasing payroll, because payroll for the closed group of members will eventually decline and then disappear. Therefore, we have assumed that at that point, the calculation of the contribution rate for the closed defined benefit plan would determine the amortization component of the contribution rate by using a level dollar amortization. This is initially more costly, so the contribution rate would increase. We also assumed the Board would close the amortization period (not allowing the amortization period to be recalculated once it reaches 20 years), since it makes little sense to use an open amortization period for a closed plan.

Second, as you can see, the contribution rate for the closed defined benefit plan increases dramatically in years after FY 2014, ultimately reaching more than 100% of payroll for the remaining participants. This is due to the fact that funding of the UAAL is being spread over a payroll base that declines rapidly. However, it should be borne in mind that these very large contribution rates are only being charged on the small number of remaining members in the closed defined benefit plan.

Overall, the average rate being charged employers reaches 24.37% of combined payroll in FY 2015, but then declines steadily as the proportion of the employees in the new plan increases. In the early years after the freeze, employers may actually pay more. For example, in FY 2015, the combined average employer rate under Scenario 12a (column 7) is 24.37%, while under Scenario 1, the rate is 23.10%. By FY 2019, Scenario 12a is producing savings compared o Scenario 1, and by the end of the projection, the savings over Scenario 1 amounts to 3.72% of payroll each year, which is the difference between the normal cost for the current plan (11.72%) and the cost for new members (8.00%). The reason this option costs more in the early years is entirely due to the GASB 25 requirement that contribution rates be based on a level dollar amortization.

First Variation in Which Future Hires Receive a Substantially Reduced Benefit

Because of the negative consequences of creating a completely separate plan for future hires, we have also looked at a scenario under which future hires remain in the defined benefit plan, but with a substantially reduced benefit. The benefit for future hires could be all defined benefit, or it could be a combination plan in which they receive a small defined benefit plan and a defined contribution plan. Again we have assumed the cost for these benefits for future hires is 8.00% of payroll.

Exhibits 13a and 13b show the results under this scenario. The projections assume that the actuarially determined contribution would be contributed to the defined benefit plan, and that the plan would earn 7.75% each year. Therefore, for future hires, employers would pay (a) 8.00% to cover the cost of their benefits, plus (b) the actuarially-calculated charge to amortize the UAAL. For current members, costs would be similar to what they would have been under the baseline scenario: (a) the 11.72% normal cost, plus (b) the same actuarially-calculated amortization charge.

Note that in this scenario, URS would continue the current practice of computing the amortization of the UAAL as an increasing amount (level percentage of payroll), because all members continue in the defined benefit plan, albeit future hires would have a smaller benefit than current members.

Contributions for current members would increase over time just as under the baseline scenario, and would reach 23.09%. (The fact that this is one basis point less than the 23.10% contribution rate under Scenario 1 is just due to a rounding difference.) However, the employer contributions for future hires would be smaller than the contribution for current members, reflecting the difference between (a) the normal cost for the current defined benefit (11.72%) and (b) the cost for the future hire's benefits (8.00%). So in FY 2020, for example, the employer contributes 19.37% (the sum of the 8.00% required to fund the new member's benefits, plus the 11.37% amortization charge). Over time, the average combined contribution, reflecting the mix of current members and future hires, will at first increase, reaching 22.10% in FY 2016, and then begin a long, slow decrease to 19.48% in 2041, at which point the funded ratio reaches 110%, and the amortization contribution is no longer needed.

Second Variation in Which Future Hires Receive a Substantially Reduced Benefit

Exhibits 14a and 14b look at another variation. Here, we assume the future hires go into a separate defined contribution plan costing 8.00% of payroll. However, in this case, employers would be required to contribute to the closed defined benefit plan an additional 8.00% of payroll. That is, the

employer contribution for these future hires would be 16.00% of pay, with half being used to help defray the UAAL in the closed plan. This contribution rate would be fixed.

For the closed group of members in the current plan, employers would contribute the actuarially-determined contribution, but not less than the prior year's rate. The employer contribution rate for the defined benefit plan members would reflect the known 8.00% being contributed on behalf of the defined contribution membership. It would be based on a closed 25-year amortization period using a level-dollar approach, because the defined benefit plan would be closed.

Under this scenario, the average combined contributions are approximately the same as under Scenario 12, because the total contributions going into the closed defined benefit plan are the same, even though they are distributed differently between the members. For example, in column 9 on Exhibit 12a, the average contribution across both groups in FY 2025 is 19.95%, and it is 19.97% on Exhibit 14a. (The difference is due to rounding.)

GASB ARC and Bonding

Governmental Accounting Standards Board Statement No. 25 (GASB 25) requires that an Annual Required Contribution (ARC) be determined for each defined benefit plan. This is defined as the sum of (a) the employer's normal cost (the normal cost less member contributions), and (b) an amount to amortize the UAAL over a period of not more than 30 years. The amortization charge can be computed as a level amount that does not change from year to year—"level dollar"—or as an increasing amount that tracks expected increases in payroll—"level percent." If level percent amortization is used, then there are two requirements:

1. The expected increase in payroll may not reflect expected increases in the number of members; and
2. The plan must not be closed to new members. If participation is closed, the amortization methodology must be changed to level dollar, which requires larger contributions initially.

The actuarially calculated contribution rate for URS uses level-percent amortization.

There is no requirement that any employer actually contribute the ARC. However, the plan's Comprehensive Annual Financial Report is required to disclose the fact when actual contributions paid during a year are less than the ARC. URS employers have always paid at least the ARC in all years since GASB 25 became effective.

Some of the scenarios discussed above are ones in which, at least in some years, the employer would not have contributed the ARC. For example, under the scenarios shown in Exhibits 6-10, including 6a and 6b, the ARC is not paid in all years. Failure to pay the ARC would probably be looked on as a negative by the bond rating agencies. Scenario 6 would likely be viewed more negatively than Scenario 6a, since under Scenario 6, projections show the funded position deteriorating, while under Scenario 6a, the UAAL is eventually amortized.

We are not experts in how the rating agencies decide what rating to give to a State's bonds, but we know that the agencies do look at the health of the statewide pension systems. However, we also

know that they look at the State's total debt and the costs of paying for the debt, combining pension liabilities and outstanding bonds, on a per capita basis or as a percentage of all taxable income. To the extent that Utah has low non-pension debt, the pension debt may not become a significant issue. Keep in mind in considering this point that unfunded pension liabilities increased for almost all states and municipalities because of the market meltdown, so URS's funded position will still be among the best.

Ways to Handle the Required Contribution Increases

Under the baseline scenario, contribution rates would increase from 13.25% for FY 2010 to 23.10% for FY 2016. This is an increase of 9.85% of payroll. We were asked to discuss some ways—not including tax increases—in which the State might handle this increase.

First, we think that some employer contribution rate increases will be required. We believe that economically, that will mean lower pay increases for active members in the future, as the employers step up to the higher increases. Of course employers might choose to reduce other benefits rather than take-home pay, or they might make do with fewer employees.

However, we do see some approaches that might knock down the 9.85% increase to a more manageable level. Among the tools at the legislature's disposal are these:

1. Eliminate the employer's 1.50% 401(k) contribution.
2. Reduce the benefit package for future hires. For example, the future-hire plan could be modeled along the lines of the Federal Employees Retirement System, which combines a 1.00% defined benefit plan with a thrift savings plan. Utah could have a 1% plan with an age 67 normal retirement age (same as Social Security) for around 5% of payroll (normal cost). This could be supplemented by a 3% defined contribution plan, possibly structured as a 50 cent employer contribution for each dollar contributed by members up to 6.00% of pay. This would ultimately bring the total of contributions required for the current plan members and the future hires down. For example, Exhibit 13a shows a combined average contribution rate in FY 2020 of 21.42%, which is lower than the Exhibit 1 scenario by 1.68% of total payroll (23.10% - 21.42%). As previously noted, savings would eventually increase to 3.72% per year.
3. Modest benefit reductions could be made to current members. For example, the retirement requirements could be phased from 30 years of service to 35 years of service, so that a member who already had 30 years of service would remain eligible for retirement, while a member with 24 but less than 30 years of service would be eligible to retire after 31 years of service, and a member with less than 6 years of service would be eligible to retire after 35 years of service. You could also modify the definition of final average compensation so that it is calculated as a five-year average rather than a three-year average. These changes should be able to generate a savings of at least 1% per year. We recognize that modifying benefits for current members presents the risk of a court challenge, but we are not attorneys and cannot speak to the likelihood that such a change would be overturned by the courts.

4. You could require members to contribute. The bulk of the membership is in one of the noncontributory systems, so this could generate significant savings. However, this is similar in effect to paying for increased employer contributions by giving lower salaries to members. On one hand, it makes the employees' financial support of the system more transparent, but it has the drawback that it increases benefits and liabilities, because non-vested members will be eligible for a refund of their own contributions.

As you can see, it might be reasonable to count on reducing total employer contributions by four or five percent of payroll from such measures, even if the plans are left noncontributory.

There is two other "weapons" that should be discussed, although they are not things the legislature has direct control over.

Amortization Period: In 2009, the URS Board set the amortization period at 25 years. This period is to decrease by one each year until it reaches 20 years, at which point the amortization period would be reset to 20 years. However, the maximum permissible amortization period under GASB 25 is 30 years, so contribution rates could be decreased further by going to a 30-year amortization period. We believe the Board did not want to do this now; they wanted to see first whether we would see a rapid and substantial economic recovery. Increasing the amortization period to 30 years starting at Jan. 1, 2009 would decrease the contribution rate in FY 2016 from 23.10% (under the baseline scenario) to 21.70%, for a savings in that year of 1.40%.

Recovery of Markets: Some observers believe that as the economy works its way out of the recession, we will see a significant market recovery. If this occurs, the increase in the employer contribution rates over the next five years will not need to be as large. However, other observers believe we have already experienced most of any recovery already.

Assumptions and Data

The projections are all based on the January 1, 2009 actuarial valuation, and they use member and financial data gathered for that valuation. The projections assume that there would be no actuarial gains or losses throughout the projection period, other than those due to asset returns. We assumed the number of active members would remain constant. That is, we assume that a cohort of new members joins the plan each year in the future, replacing the active members who terminated, died, or retired during the year. The cohorts of future hires resemble recent hires in terms of their age and sex distribution. Starting pay for each cohort is assumed to increase by 4% over the starting pay for the previous cohort.

Under UC § 49-11-301(5), the URS Board of Trustees has the authority to hold the contribution rate at the level for the prior year if the actuarially-calculated contribution rate is less than the prior year's rate and the funded ratio is under 110%. The Board has done this since this section was added to the Utah Code. For these projections we assumed the contribution would be set equal to the actuarially-calculated rate, but not less than the rate in effect in FY 2010. A minimum contribution equal to the normal cost was also applied once the fund reaches 110% funded.

For projections in which future hires continue to participate in the current plan, the amortization charge was assumed to be calculated each year under the Board's current policy, which is to use a

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25-year period as of January 1, 2009 (for the FY 2011 contribution). For the next five valuations, the period is scheduled to decrease by 1 year each year, until it reaches 20 years in the January 1, 2014 valuation. From that point forward, the period remains at 20 years. However, the Board will not reduce the contribution rate until the funded ratio is 110% or greater. At that point, the contribution rate would be adjusted to the normal cost rate. For projections where the current plan is closed to new members, i.e., in Scenarios 12 and 14, we assumed the Board would modify this policy so that the amortization period decreases by 1 year each year until the UAAL is fully amortized.

J. Christian Conradi is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,



Lewis Ward
Consultant



J. Christian Conradi
Senior Consultant

Enclosures

cc: Mr. Robert V. Newman, Executive Director, URS
Mr. Daniel D. Andersen, Counsel to URS
Mr. Benjamin N. Christensen, Policy Analyst

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Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 1 (Baseline)

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	15.39%	499.0	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	16.23%	541.6	16.23%	2010	11,495.7	2,326.1	85.8%
FY 2013	18.24%	626.7	18.24%	2011	12,168.3	3,366.0	80.6%
FY 2014	20.55%	727.2	20.55%	2012	12,853.3	4,563.3	75.1%
FY 2015	22.75%	829.6	22.75%	2013	13,584.7	5,687.2	70.5%
FY 2020	23.10%	987.7	21.97%	2018	18,238.1	5,969.7	75.3%
FY 2025	23.10%	1,178.0	19.94%	2023	23,638.5	5,679.9	80.6%
FY 2030	23.10%	1,419.4	17.35%	2028	30,118.3	4,679.7	86.6%
FY 2035	23.10%	1,717.7	14.20%	2033	38,514.4	2,494.3	93.9%
FY 2040	23.10%	2,080.5	10.42%	2038	50,007.0	(1,584.2)	103.3%
FY 2045	11.72%	1,281.4	5.89%	2043	66,021.7	(8,609.2)	115.0%
FY 2050	11.72%	1,558.1	4.29%	2048	81,732.4	(13,325.5)	119.5%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 2

Contributions: Calculated under Current Methodology

Investment Returns: 6.0% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	15.39%	499.0	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	16.30%	543.9	16.30%	2010	11,306.8	2,363.9	85.6%
FY 2013	18.49%	635.3	18.49%	2011	11,768.8	3,495.4	79.9%
FY 2014	21.09%	746.3	21.09%	2012	12,220.1	4,840.2	73.6%
FY 2015	23.68%	863.5	23.68%	2013	12,696.5	6,167.6	68.0%
FY 2020	25.30%	1,081.8	25.30%	2018	15,799.5	7,904.8	67.3%
FY 2025	25.81%	1,316.2	25.81%	2023	18,969.3	9,736.5	66.8%
FY 2030	26.06%	1,601.3	26.06%	2028	22,164.1	11,913.8	65.8%
FY 2035	26.12%	1,942.2	26.11%	2033	25,721.9	14,450.5	64.8%
FY 2040	26.12%	2,352.5	26.01%	2038	30,062.6	17,385.6	64.1%
FY 2045	26.12%	2,855.9	25.79%	2043	35,503.3	20,761.8	63.8%
FY 2050	26.12%	3,472.6	25.43%	2048	42,446.2	24,593.8	64.0%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 3

Contributions: Calculated under Current Methodology

Investment Returns: 7.0% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	15.39%	499.0	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	16.26%	542.6	16.26%	2010	11,414.8	2,342.3	85.7%
FY 2013	18.34%	630.1	18.34%	2011	11,996.3	3,421.6	80.3%
FY 2014	20.79%	735.7	20.79%	2012	12,579.4	4,682.7	74.4%
FY 2015	23.15%	844.2	23.15%	2013	13,198.5	5,895.2	69.4%
FY 2020	23.76%	1,015.9	23.46%	2018	17,144.4	6,833.1	71.8%
FY 2025	23.76%	1,211.7	22.74%	2023	21,413.9	7,613.0	74.0%
FY 2030	23.76%	1,460.0	21.76%	2028	26,097.4	8,343.4	76.0%
FY 2035	23.76%	1,766.7	20.55%	2033	31,712.6	8,862.3	78.4%
FY 2040	23.76%	2,139.9	19.07%	2038	38,951.3	8,940.8	81.5%
FY 2045	23.76%	2,597.9	17.31%	2043	48,501.8	8,252.5	85.6%
FY 2050	23.76%	3,158.8	15.23%	2048	61,275.4	6,303.4	90.8%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 4

Contributions: Calculated under Current Methodology

Investment Returns: 15% in 2009, -20% in 2010, 15% in 2011 and 7.75% each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	15.39%	499.0	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	15.93%	531.5	15.93%	2010	12,278.4	2,169.6	86.8%
FY 2013	22.02%	756.5	22.02%	2011	9,633.5	5,321.6	69.4%
FY 2014	22.27%	788.1	22.27%	2012	10,806.1	5,448.0	70.2%
FY 2015	25.39%	925.8	25.39%	2013	11,440.1	7,050.6	63.4%
FY 2020	27.53%	1,177.1	26.08%	2018	15,848.4	8,359.5	65.5%
FY 2025	27.53%	1,403.9	23.28%	2023	21,331.8	7,986.7	72.8%
FY 2030	27.53%	1,691.6	19.71%	2028	28,157.6	6,640.3	80.9%
FY 2035	27.53%	2,047.1	15.37%	2033	37,341.6	3,667.1	91.1%
FY 2040	27.53%	2,479.5	10.15%	2038	50,330.6	(1,907.8)	103.9%
FY 2045	11.72%	1,281.4	4.45%	2043	68,132.9	(10,720.4)	118.7%
FY 2050	11.72%	1,558.1	3.04%	2048	83,977.3	(15,570.3)	122.8%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 5

Contributions: Calculated under Current Methodology

Investment Returns: 8.5% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	15.39%	499.0	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	16.20%	540.5	16.20%	2010	11,576.7	2,309.9	85.9%
FY 2013	18.13%	622.9	18.13%	2011	12,341.6	3,310.1	80.9%
FY 2014	20.32%	719.1	20.32%	2012	13,131.1	4,442.8	75.7%
FY 2015	22.34%	814.6	22.34%	2013	13,979.1	5,476.4	71.6%
FY 2020	22.47%	960.8	20.41%	2018	19,400.7	5,061.2	79.1%
FY 2025	22.47%	1,145.9	16.87%	2023	26,103.8	3,559.6	87.9%
FY 2030	22.47%	1,380.7	12.32%	2028	34,759.9	497.8	98.6%
FY 2035	11.72%	871.5	6.67%	2033	46,699.5	(5,075.3)	112.4%
FY 2040	11.72%	1,055.6	2.47%	2038	60,489.9	(11,256.3)	123.2%
FY 2045	11.72%	1,281.4	0.00%	2043	77,802.6	(19,351.7)	133.7%
FY 2050	11.72%	1,558.1	0.00%	2048	101,735.2	(31,976.8)	146.7%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 6

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 7.75% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.6	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.1	16.23%	2010	11,495.7	2,326.1	85.8%
FY 2013	13.25%	455.2	18.37%	2011	12,097.2	3,437.1	80.2%
FY 2014	13.25%	468.9	20.87%	2012	12,689.1	4,727.4	74.2%
FY 2015	13.25%	483.2	23.36%	2013	13,267.7	6,004.2	68.8%
FY 2020	13.25%	566.5	26.11%	2018	15,829.8	8,378.1	65.4%
FY 2025	13.25%	675.7	28.75%	2023	17,552.2	11,766.3	59.9%
FY 2030	13.25%	814.2	31.71%	2028	18,188.5	16,609.4	52.3%
FY 2035	13.25%	985.2	35.17%	2033	17,463.6	23,545.1	42.6%
FY 2040	13.25%	1,193.4	39.26%	2038	14,926.0	33,496.8	30.8%
FY 2045	13.25%	1,448.7	44.12%	2043	9,609.8	47,802.7	16.7%
FY 2050	13.25%	1,761.5	49.86%	2048	8.1	68,398.9	0.0%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 6a

Contributions: Calculated under Current Methodology - FY 2011 & FY 2012 Contributions Frozen at FY 2010

Investment Returns: 7.75% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.4	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.0	16.23%	2010	11,495.7	2,326.1	85.8%
FY 2013	18.37%	631.1	18.37%	2011	12,097.1	3,437.2	80.2%
FY 2014	20.87%	738.5	20.87%	2012	12,689.0	4,727.6	74.2%
FY 2015	23.19%	845.6	23.19%	2013	13,357.5	5,914.4	69.3%
FY 2020	23.57%	1,007.8	22.39%	2018	17,996.5	6,211.4	74.3%
FY 2025	23.57%	1,202.0	20.27%	2023	23,411.0	5,907.4	79.9%
FY 2030	23.57%	1,448.3	17.57%	2028	29,935.3	4,862.7	86.0%
FY 2035	23.57%	1,752.6	14.29%	2033	38,426.3	2,582.4	93.7%
FY 2040	23.57%	2,122.8	10.35%	2038	50,094.1	(1,671.3)	103.5%
FY 2045	11.72%	1,281.4	6.04%	2043	65,798.3	(8,385.7)	114.6%
FY 2050	11.72%	1,558.1	4.93%	2048	80,586.4	(12,179.4)	117.8%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 6b

Contributions: Calculated under Current Methodology - FY 2011 - 2015 Contributions Frozen at FY 2010 Rate
 Investment Returns: 7.75% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.4	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.0	16.23%	2010	11,495.7	2,326.1	85.8%
FY 2013	13.25%	455.1	18.37%	2011	12,097.1	3,437.2	80.2%
FY 2014	13.25%	468.7	20.87%	2012	12,689.0	4,727.6	74.2%
FY 2015	13.25%	483.0	23.36%	2013	13,267.4	6,004.5	68.8%
FY 2020	24.75%	1,058.3	24.07%	2018	17,019.8	7,188.1	70.3%
FY 2025	24.75%	1,262.1	21.88%	2023	22,302.6	7,015.9	76.1%
FY 2030	24.75%	1,520.8	19.07%	2028	28,695.5	6,102.4	82.5%
FY 2035	24.75%	1,840.4	15.64%	2033	37,071.8	3,936.9	90.4%
FY 2040	24.75%	2,229.1	11.52%	2038	48,666.8	(243.9)	100.5%
FY 2045	11.72%	1,281.4	6.58%	2043	64,989.8	(7,577.3)	113.2%
FY 2050	11.72%	1,558.1	5.06%	2048	80,352.8	(11,945.8)	117.5%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 7

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 6.0% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.6	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.1	16.30%	2010	11,306.8	2,363.9	85.6%
FY 2013	13.25%	455.2	18.62%	2011	11,698.2	3,566.4	79.5%
FY 2014	13.25%	468.9	21.41%	2012	12,057.4	5,004.9	72.7%
FY 2015	13.25%	483.2	24.30%	2013	12,379.4	6,489.3	66.3%
FY 2020	13.25%	566.5	29.76%	2018	13,260.1	10,502.4	56.6%
FY 2025	13.25%	675.7	35.39%	2023	12,524.6	16,355.7	44.2%
FY 2030	13.25%	814.2	41.42%	2028	9,755.7	24,676.4	29.1%
FY 2035	13.25%	985.2	47.89%	2033	4,472.4	36,322.8	11.4%
FY 2040	13.25%	1,193.4	54.01%	2038	-	51,437.4	0.0%
FY 2045	13.25%	1,448.7	59.25%	2043	-	70,122.1	0.0%
FY 2050	13.25%	1,761.5	64.94%	2048	-	95,442.8	0.0%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 8

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 7.0% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.6	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.1	16.26%	2010	11,414.8	2,342.3	85.7%
FY 2013	13.25%	455.2	18.48%	2011	11,925.4	3,492.7	79.9%
FY 2014	13.25%	468.9	21.10%	2012	12,415.8	4,847.1	73.5%
FY 2015	13.25%	483.2	23.77%	2013	12,881.6	6,214.1	67.8%
FY 2020	13.25%	566.5	27.72%	2018	14,684.8	9,316.9	61.5%
FY 2025	13.25%	675.7	31.76%	2023	15,251.9	13,846.3	52.8%
FY 2030	13.25%	814.2	36.24%	2028	14,217.1	20,368.3	41.5%
FY 2035	13.25%	985.2	41.28%	2033	11,147.3	29,683.7	27.6%
FY 2040	13.25%	1,193.4	47.02%	2038	5,384.6	42,931.4	11.3%
FY 2045	13.25%	1,448.7	52.82%	2043	-	60,636.9	0.0%
FY 2050	13.25%	1,761.5	58.11%	2048	-	83,202.9	0.0%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 9

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 15% in 2009, -20% in 2010, 15% in 2011 and 7.75% each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.6	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.1	15.93%	2010	12,278.4	2,169.6	86.8%
FY 2013	13.25%	455.2	22.17%	2011	9,571.9	5,398.7	68.9%
FY 2014	13.25%	468.9	22.57%	2012	10,650.0	5,604.0	69.4%
FY 2015	13.25%	483.2	26.11%	2013	11,070.5	7,419.6	61.5%
FY 2020	13.25%	566.5	31.59%	2018	12,638.6	11,569.3	52.2%
FY 2025	13.25%	675.7	35.46%	2023	12,917.3	16,401.1	44.1%
FY 2030	13.25%	814.2	39.82%	2028	11,456.9	23,341.1	32.9%
FY 2035	13.25%	985.2	44.90%	2033	7,686.5	33,322.1	18.7%
FY 2040	13.25%	1,193.4	50.94%	2038	725.8	47,697.0	1.5%
FY 2045	13.25%	1,448.7	56.23%	2043	-	65,673.4	0.0%
FY 2050	13.25%	1,761.5	62.39%	2048	-	90,867.0	0.0%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 10

Contributions: Frozen at the FY 2010 Rate

Investment Returns: 8.5% in 2009 and each year thereafter

Contributions by Fiscal Year Ending June 30				Actuarial Information at January 1 Valuation Date			
Fiscal Year	Employer Contribution Rate	Employer Contribution (\$ Millions)	GASB ARC	Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FY 2010	13.25%	417.8	13.25%	2008	14,467.3	511.2	96.5%
FY 2011	13.25%	429.6	15.39%	2009	10,930.1	1,893.0	87.8%
FY 2012	13.25%	442.1	16.20%	2010	11,576.7	2,309.9	85.9%
FY 2013	13.25%	455.2	18.27%	2011	12,270.2	3,381.3	80.5%
FY 2014	13.25%	468.9	20.64%	2012	12,966.3	4,606.7	74.8%
FY 2015	13.25%	483.2	22.95%	2013	13,662.2	5,791.3	69.9%
FY 2020	13.25%	566.5	24.42%	2018	17,044.0	7,394.8	69.5%
FY 2025	13.25%	675.7	25.47%	2023	20,093.0	9,501.9	67.6%
FY 2030	13.25%	814.2	26.57%	2028	22,776.8	12,337.7	64.5%
FY 2035	13.25%	985.2	27.88%	2033	25,131.7	16,228.8	60.4%
FY 2040	13.25%	1,193.4	29.52%	2038	27,160.0	21,645.3	55.3%
FY 2045	13.25%	1,448.7	31.56%	2043	28,549.5	29,268.8	49.0%
FY 2050	13.25%	1,761.5	34.08%	2048	28,724.0	40,097.4	41.4%

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory Combined

Projection of Membership and Payroll, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 11

Projections as of January 1 of years shown

Year	Number of Active Members			Covered Payroll (\$ Millions)		
	Closed DB Plan	New Plan for Future Hires	Total	Closed DB Plan	New Plan for Future Hires	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2008	73,190	-	73,190	2,912.53	-	2,912.53
2009	74,903	-	74,903	3,112.99	-	3,112.99
2010	74,903	-	74,903	3,195.94	-	3,195.94
2011	74,903	-	74,903	3,288.29	-	3,288.29
2012	66,873	8,030	74,903	3,138.95	246.21	3,385.15
2013	60,517	14,386	74,903	3,014.87	471.35	3,486.23
2018	39,214	35,689	74,903	2,509.70	1,558.77	4,068.47
2023	24,982	49,921	74,903	2,004.12	2,824.15	4,828.27
2028	15,235	59,668	74,903	1,517.23	4,288.94	5,806.18
2033	8,377	66,526	74,903	1,028.74	5,989.49	7,018.23
2038	3,581	71,322	74,903	535.29	7,965.19	8,500.49
2043	672	74,231	74,903	116.51	10,195.10	10,311.61
2048	66	74,837	74,903	12.48	12,521.11	12,533.59

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 12a (Freeze Participation)

Contributions: Calculated under Closed Amortization Period and Level Dollar Payment

Investment Returns: 7.75% in 2009 and each year thereafter

Fiscal Year	Current DB Plan, Closed		New Plan for Future Hires		Total	
	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution (\$ Millions)	Average Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)
FY 2010	13.25%	417.82	NA	-	417.82	13.25%
FY 2011	15.39%	498.96	NA	-	498.96	15.39%
FY 2012	18.26%	586.81	8.00%	9.85	596.65	17.88%
FY 2013	20.90%	643.22	8.00%	28.70	671.92	19.56%
FY 2014	24.82%	734.60	8.00%	46.33	780.93	22.07%
FY 2015	28.92%	825.11	8.00%	63.45	888.55	24.37%
FY 2020	33.97%	801.14	8.00%	153.41	954.55	22.32%
FY 2025	40.82%	757.96	8.00%	259.41	1,017.37	19.95%
FY 2030	53.33%	730.90	8.00%	381.93	1,112.83	18.11%
FY 2035	103.75%	919.78	8.00%	523.94	1,443.72	19.42%
FY 2040	11.72%	45.12	8.00%	689.72	734.84	8.16%
FY 2045	11.72%	7.62	8.00%	869.50	877.12	8.02%
FY 2050	11.72%	0.71	8.00%	1,063.09	1,063.80	8.00%

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory

Projection of Key Actuarial Results,
Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 12b (Freeze Participation)

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

Actuarial Information at January 1 Valuation Date			
Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)
2008	14,467.30	511.22	96.5%
2009	10,930.11	1,892.96	87.8%
2010	11,495.75	2,326.08	85.8%
2011	12,225.32	3,308.98	80.9%
2012	12,978.66	4,429.15	75.8%
2013	13,745.06	5,480.24	71.5%
2018	18,290.08	5,199.37	77.9%
2023	22,470.10	4,361.64	83.7%
2028	25,874.46	3,043.81	89.5%
2033	28,587.47	909.45	96.9%
2038	29,746.17	(1,344.97)	104.7%
2043	27,416.08	(1,953.44)	107.7%
2048	24,382.59	(2,837.18)	113.2%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 13a (Reduced Benefit for New Hires)

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

Fiscal Year	Current DB Plan, Closed		Amortization Payment - Future Hires		New Plan for Future Hires		Total	
	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution (\$ Millions)	Average Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FY 2010	13.25%	417.82	NA	-	NA	-	417.82	13.25%
FY 2011	15.39%	498.96	NA	-	NA	-	498.96	15.39%
FY 2012	16.23%	521.57	4.51%	5.55	8.00%	9.85	536.97	16.09%
FY 2013	18.24%	561.23	6.52%	23.39	8.00%	28.70	613.32	17.85%
FY 2014	20.54%	607.90	8.82%	51.08	8.00%	46.33	705.31	19.93%
FY 2015	22.73%	648.56	11.01%	87.32	8.00%	63.45	799.34	21.92%
FY 2020	23.09%	544.50	11.37%	218.03	8.00%	153.41	915.94	21.42%
FY 2025	23.09%	428.78	11.37%	368.68	8.00%	259.41	1,056.87	20.72%
FY 2030	23.09%	316.45	11.37%	542.82	8.00%	381.93	1,241.20	20.20%
FY 2035	23.09%	204.70	11.37%	744.65	8.00%	523.94	1,473.30	19.81%
FY 2040	23.09%	88.90	11.37%	980.26	8.00%	689.72	1,758.87	19.53%
FY 2045	11.72%	7.62	0.00%	-	8.00%	869.50	877.12	8.02%
FY 2050	11.72%	0.71	0.00%	-	8.00%	1,063.09	1,063.80	8.00%

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory

Projection of Key Actuarial Results,
Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 13b (Reduced Benefit for New Hires)

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

Actuarial Information at January 1 Valuation Date			
Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)
2008	14,467.30	511.22	96.5%
2009	10,930.11	1,892.96	87.8%
2010	11,495.75	2,326.08	85.8%
2011	12,168.34	3,365.97	80.6%
2012	12,853.28	4,554.54	75.1%
2013	13,547.53	5,677.78	70.5%
2018	17,530.94	5,958.51	74.6%
2023	21,165.44	5,666.30	78.9%
2028	24,255.25	4,663.02	83.9%
2033	27,023.05	2,473.88	91.6%
2038	30,010.45	(1,609.24)	105.7%
2043	32,324.12	(6,861.48)	126.9%
2048	31,511.03	(9,965.62)	146.3%

Utah Retirement System - State & School Divisions, Contributory & Noncontributory Combined

Projection of Key Actuarial Results, Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 14a (Reduced Benefit for New Hires)

Contributions: Calculated under Closed Amortization Period and Level Dollar Payment

Investment Returns: 7.75% in 2009 and each year thereafter

Fiscal Year	Current DB Plan, Closed		8% Amortization Payment - Future Hires		New Plan for Future Hires		Total	
	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution Rate	Employer Contribution (\$ Millions)	Employer Contribution (\$ Millions)	Average Contribution Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FY 2010	13.25%	417.82	NA	-	NA	-	417.82	13.25%
FY 2011	15.39%	498.96	NA	-	NA	-	498.96	15.39%
FY 2012	17.95%	576.96	8.00%	9.85	8.00%	9.85	596.65	17.88%
FY 2013	19.97%	614.52	8.00%	28.70	8.00%	28.70	671.92	19.56%
FY 2014	23.27%	688.73	8.00%	46.33	8.00%	46.33	781.39	22.08%
FY 2015	26.71%	762.14	8.00%	63.45	8.00%	63.45	889.04	24.38%
FY 2020	27.49%	648.35	8.00%	153.41	8.00%	153.41	955.17	22.34%
FY 2025	26.90%	499.52	8.00%	259.41	8.00%	259.41	1,018.34	19.97%
FY 2030	25.59%	350.68	8.00%	381.93	8.00%	381.93	1,114.54	18.14%
FY 2035	45.53%	403.61	8.00%	523.94	8.00%	523.94	1,451.50	19.52%
FY 2040	11.72%	45.12	0.00%	-	8.00%	689.72	734.84	8.16%
FY 2045	11.72%	7.62	0.00%	-	8.00%	869.50	877.12	8.02%
FY 2050	11.72%	0.71	0.00%	-	8.00%	1,063.09	1,063.80	8.00%

Utah Retirement System -
State & School Divisions, Contributory & Noncontributory

Projection of Key Actuarial Results,
Based on Jan. 1, 2009 Actuarial Valuation

Exhibit 14b (Reduced Benefit for New Hires)

Contributions: Calculated under Current Methodology

Investment Returns: 7.75% in 2009 and each year thereafter

Actuarial Information at January 1 Valuation Date			
Year	Market Value of Assets (\$ Millions)	Unfunded Actuarial Accrued Liability (\$ Millions)	Funded Ratio
(1)	(2)	(3)	(4)
2008	14,467.30	511.22	96.5%
2009	10,930.11	1,892.96	87.8%
2010	11,495.75	2,326.08	85.8%
2011	12,225.32	3,308.98	80.9%
2012	12,973.43	4,434.39	75.8%
2013	13,739.68	5,485.63	71.5%
2018	18,283.94	5,205.51	77.8%
2023	22,462.32	4,369.42	83.7%
2028	25,865.31	3,052.96	89.4%
2033	28,578.81	918.12	96.9%
2038	29,778.68	(1,377.48)	104.9%
2043	27,463.28	(2,000.65)	107.9%
2048	24,451.16	(2,905.74)	113.5%