South Dakota Department of Labor

Retirement Plan Discussion

Deloitte Consulting LLP

June 2, 2016

July 1, 2015
Retirement Plan Valuation Results

July 1, 2015 Retirement Plan Valuation Results

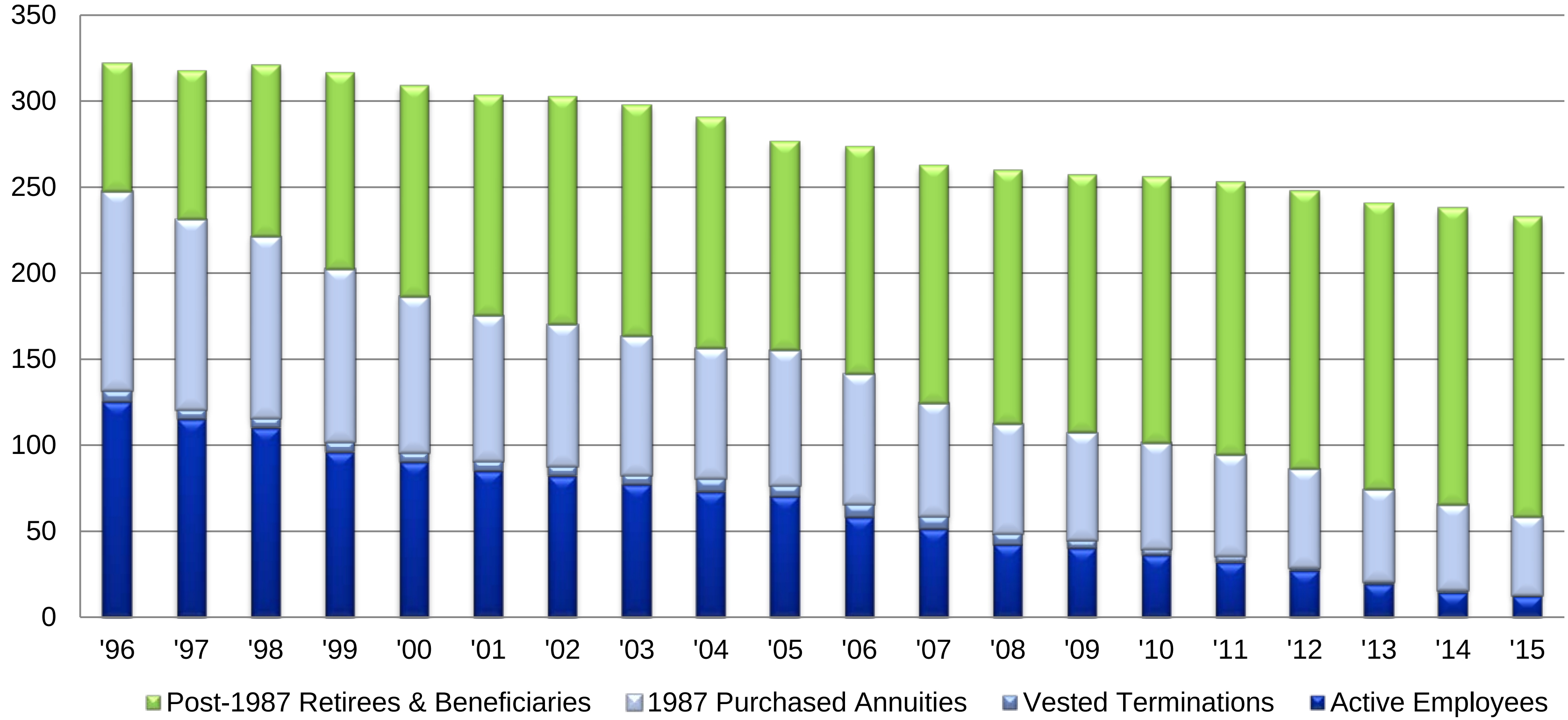
	Actuarial Liability	Market Value of Assets	Unfunded Actuarial Liability	Change in Unfunded Actuarial Liability
Amounts disclosed as of July 1, 2014	$62.3	$63.5	($1.2)	
Expected amounts as of July 1, 2015	$61.8	$63.0	($1.2)	$0.0
Change due to investment return	$61.8	$60.7	$1.1	($2.3)
Change due to mortality assumption	$60.3	$60.7	($0.4)	$1.5
Change due to COLA assumptions	$59.9	$60.7	($0.8)	$0.4

Mortality Assumption Update

- The Retirement Plan Experience Committee (“RPEC”) of the Society of Actuaries released a Mortality Improvement Scale MP-2015 as an update to Scale MP-2014 currently used for funding, accounting and lump sum calculations
  - The MP-2015 scale includes two additional years (2010 and 2011) of Social Security Administration experience compared to the experience considered in the development of Scale MP-2014, and therefore incorporates the most current available information from the Social Security Administration
  - The base RP-2014 mortality rates implicitly reflect Scale MP-2014 assumptions for years 2007 through 2014 as such, the RP-2014 tables have been adjusted back to 2006 with scale MP-2014 before reflecting the update mortality improvement rates of Scale MP-2015.
- Section 8.3 of the Society of Actuaries’ Retirement Plans Experience Committee (“RPEC”) Response to Comments suggests the RP-2014 mortality table projected generationally using Scale MP-2015 as the new generally recommended mortality table
- Final version of tables was released on October 8, 2015

July 1, 2015 Retirement Plan Valuation Results

Plan Participation – History



Demographic Information as of 7/1/2015	Post 1987 Retirees & Beneficiaries	1987 Purchased Annuities	Vested Terminations	Active Employees
Counts	175	45	1	12
Average Age	71.5	85.9	55.4	61.9

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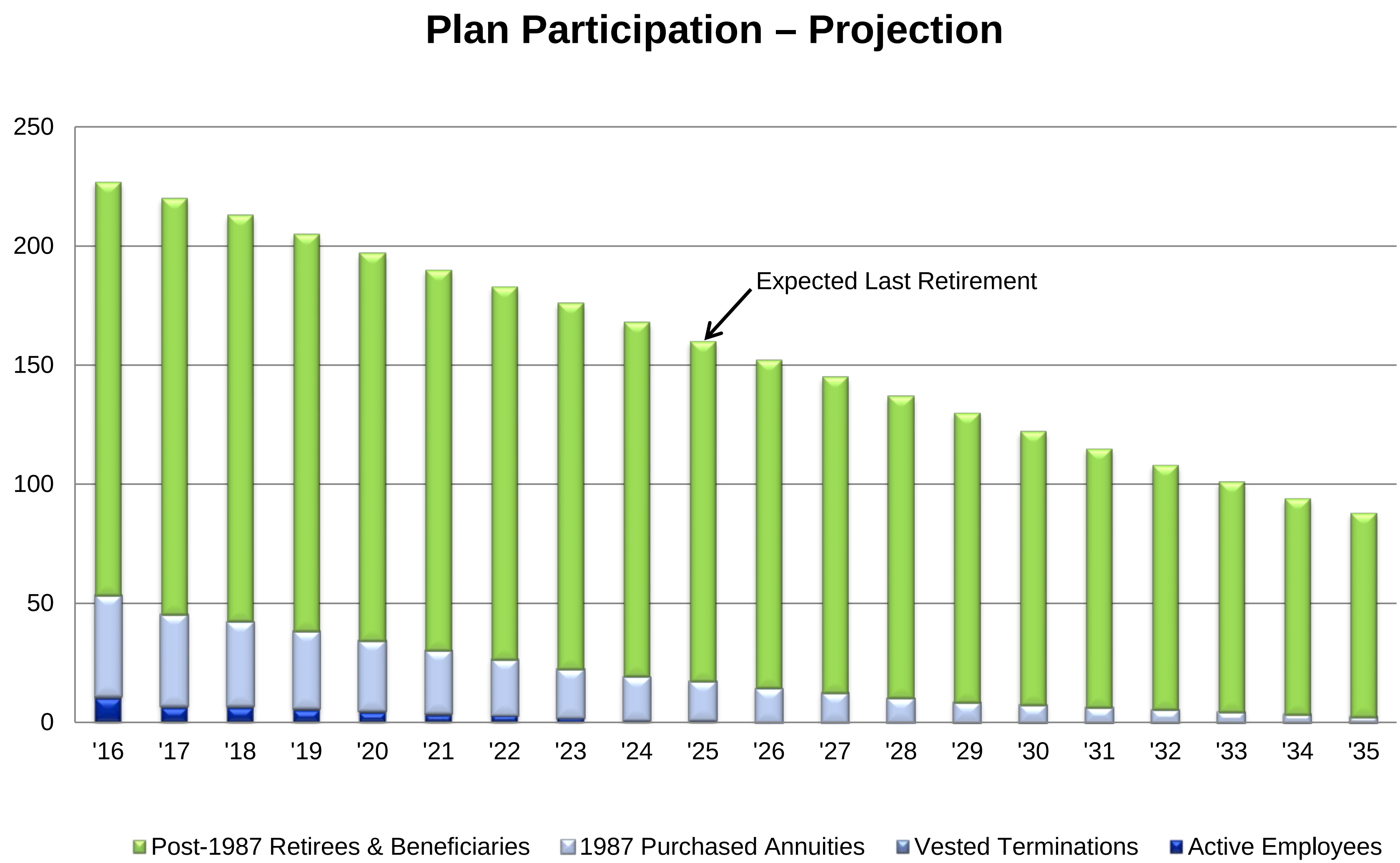

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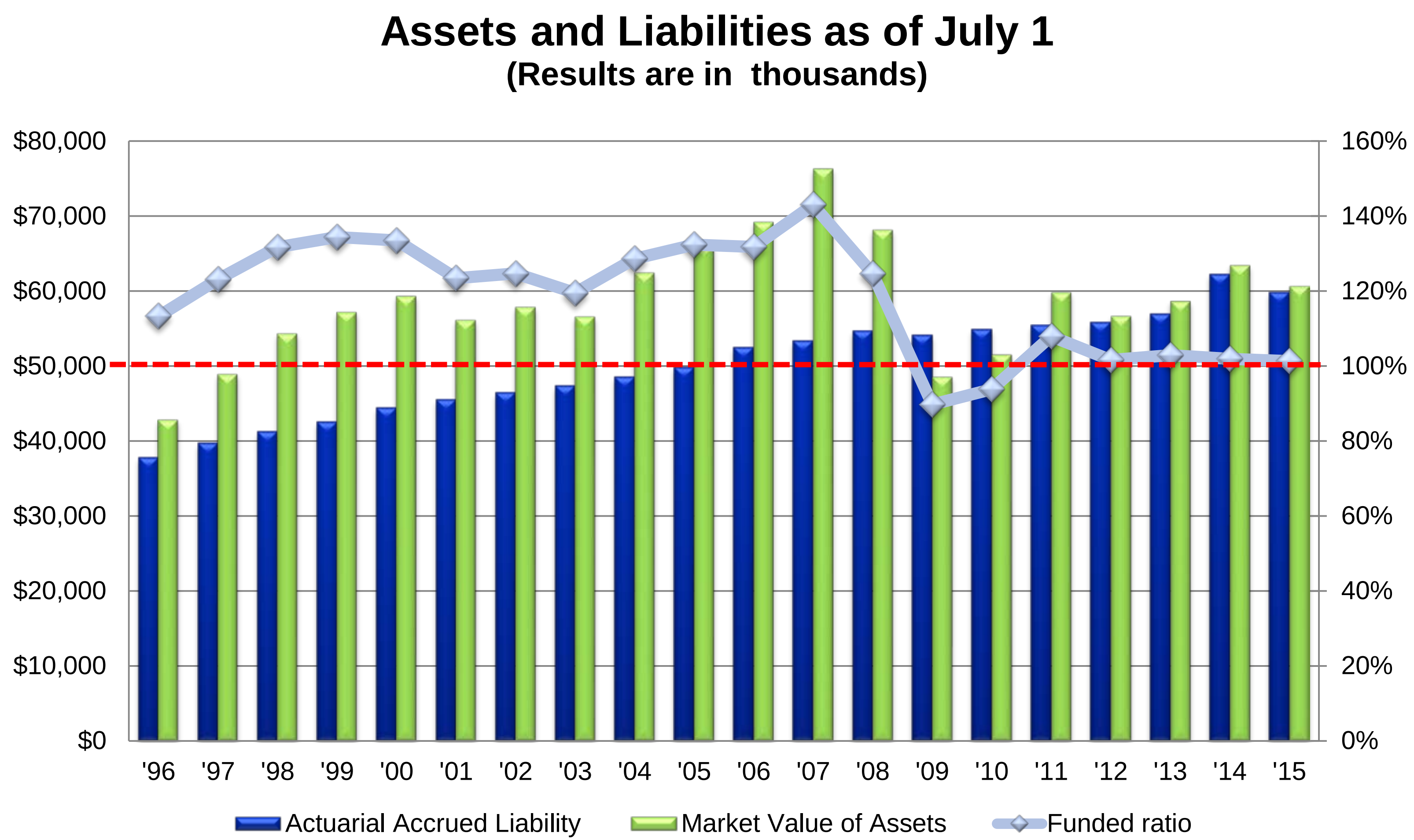


10% of the 2015 Actuarial Accrued Liability was attributable to active employees.

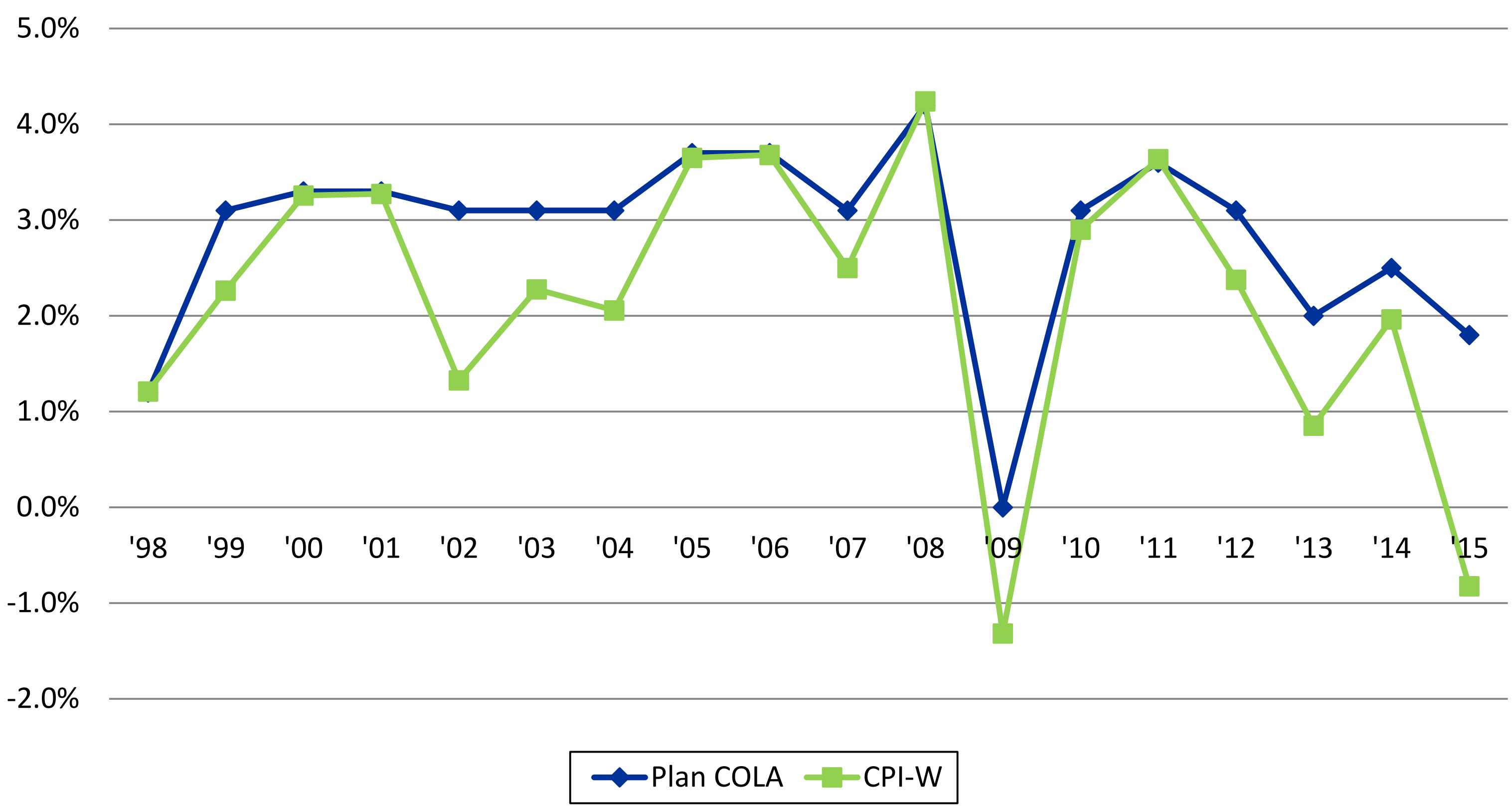
Determination of Cost of Living Adjustment for July 1, 2016

The average asset value during April 2016 was **$56,085,973** which provides for a 1.3% COLA to be paid on July 1, 2016 if approved by the Board

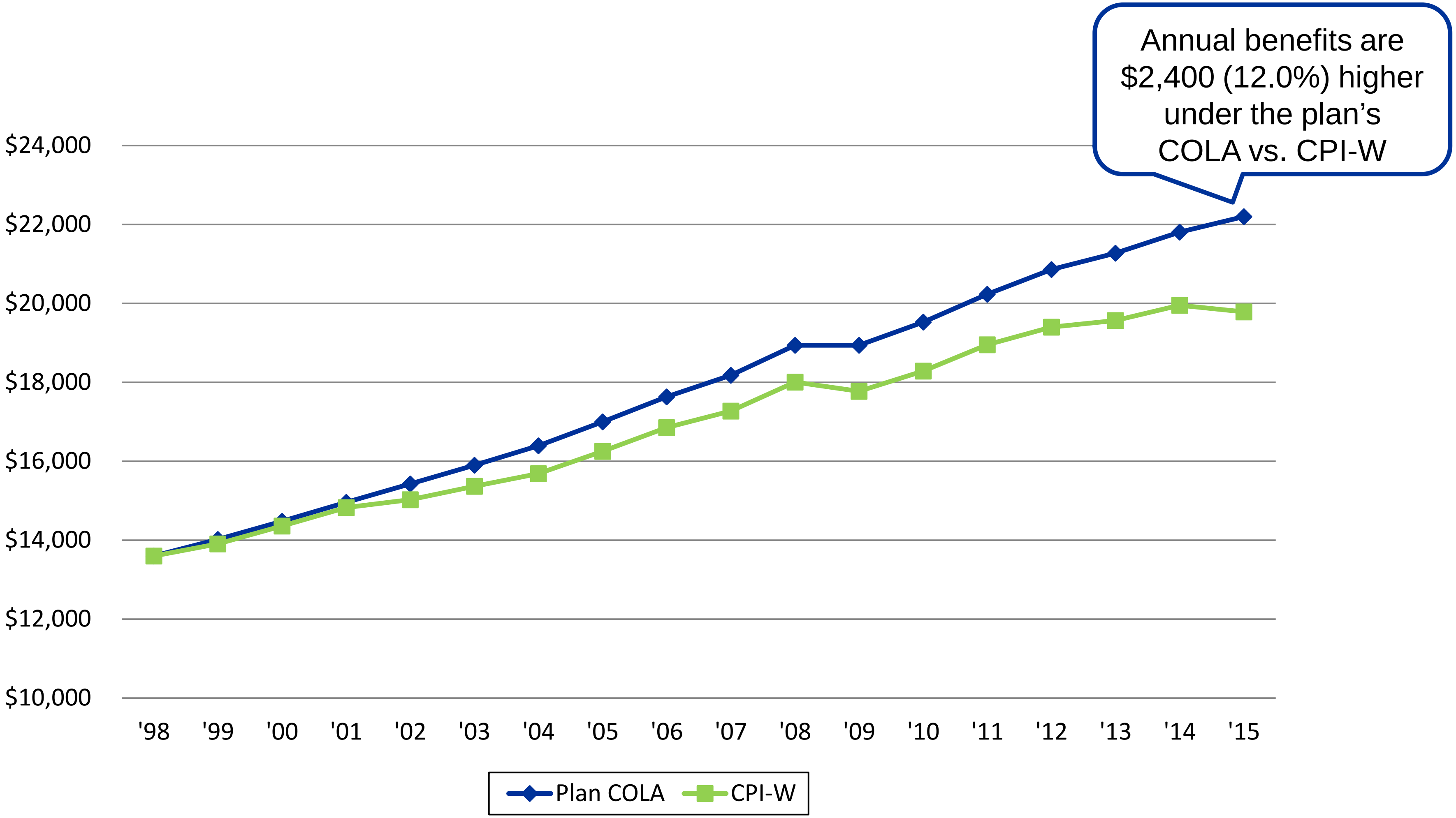
Present Value of Future Benefits for Related Cost of Living Adjustments as of April 15, 2016

COLA	PVFB	COLA	PVFB	COLA	PVFB
0.1%	$49,854,000	1.3%	$56,079,000	2.5%	$63,537,000
0.2%	$50,332,000	1.4%	$56,650,000	2.6%	$64,224,000
0.3%	$50,817,000	1.5%	$57,229,000	2.7%	$64,921,000
0.4%	$51,309,000	1.6%	$57,817,000	2.8%	$65,630,000
0.5%	$51,809,000	1.7%	$58,414,000	2.9%	$66,351,000
0.6%	$52,315,000	1.8%	$59,020,000	3.0%	$67,083,000
0.7%	$52,829,000	1.9%	$59,636,000	3.1%	$67,826,000
0.8%	$53,351,000	2.0%	$60,261,000	3.2%	$68,582,000
0.9%	$53,881,000	2.1%	$60,896,000	3.3%	$69,351,000
1.0%	$54,418,000	2.2%	$61,541,000	3.4%	$70,132,000
1.1%	$54,963,000	2.3%	$62,196,000	3.5%	$70,926,000
1.2%	$55,517,000	2.4%	$62,861,000		

Comparison of Actual COLA Rates to Inflation (CPI-W)



Sample Annual Benefit for pre-1999 Retiree*
Comparing Actual COLA paid to Inflation (CPI-W)



*Sample retiree with $22,200 annual benefit as of July 1, 2015

Stochastic Analysis of Assets and Projection of Purchasable COLA

Stochastic Analysis and COLA Projection – Assumptions

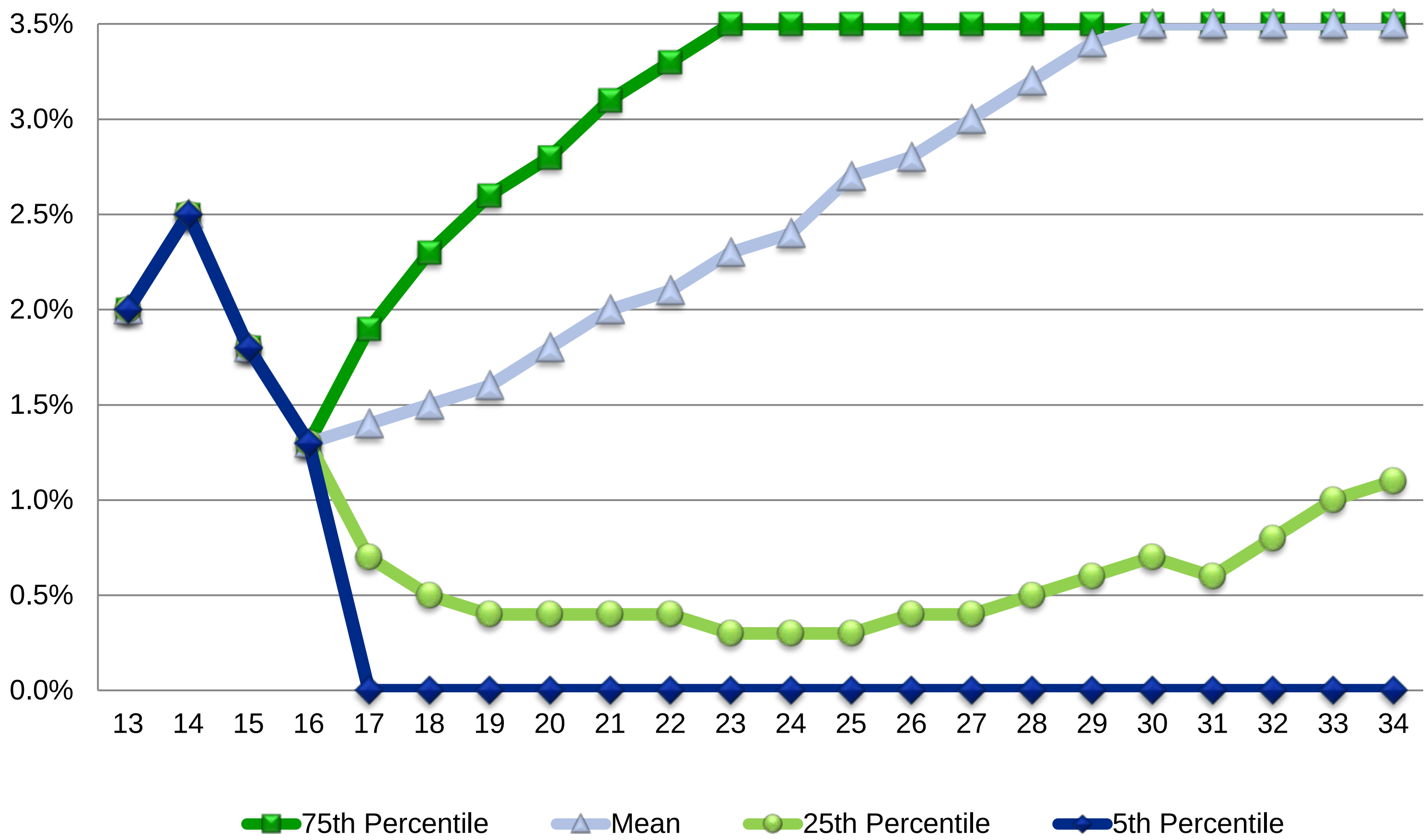
Data Underlying Projections

- All projections throughout our analysis are based on assumptions, data, plan provisions, and methods used in the July 1, 2015 actuarial valuation except the starting asset value
- The starting asset value is based on the actual average assets for April 2016 of $56.1 million

"Stochastic" Funded Ratio Projections (see appendix for methodology)

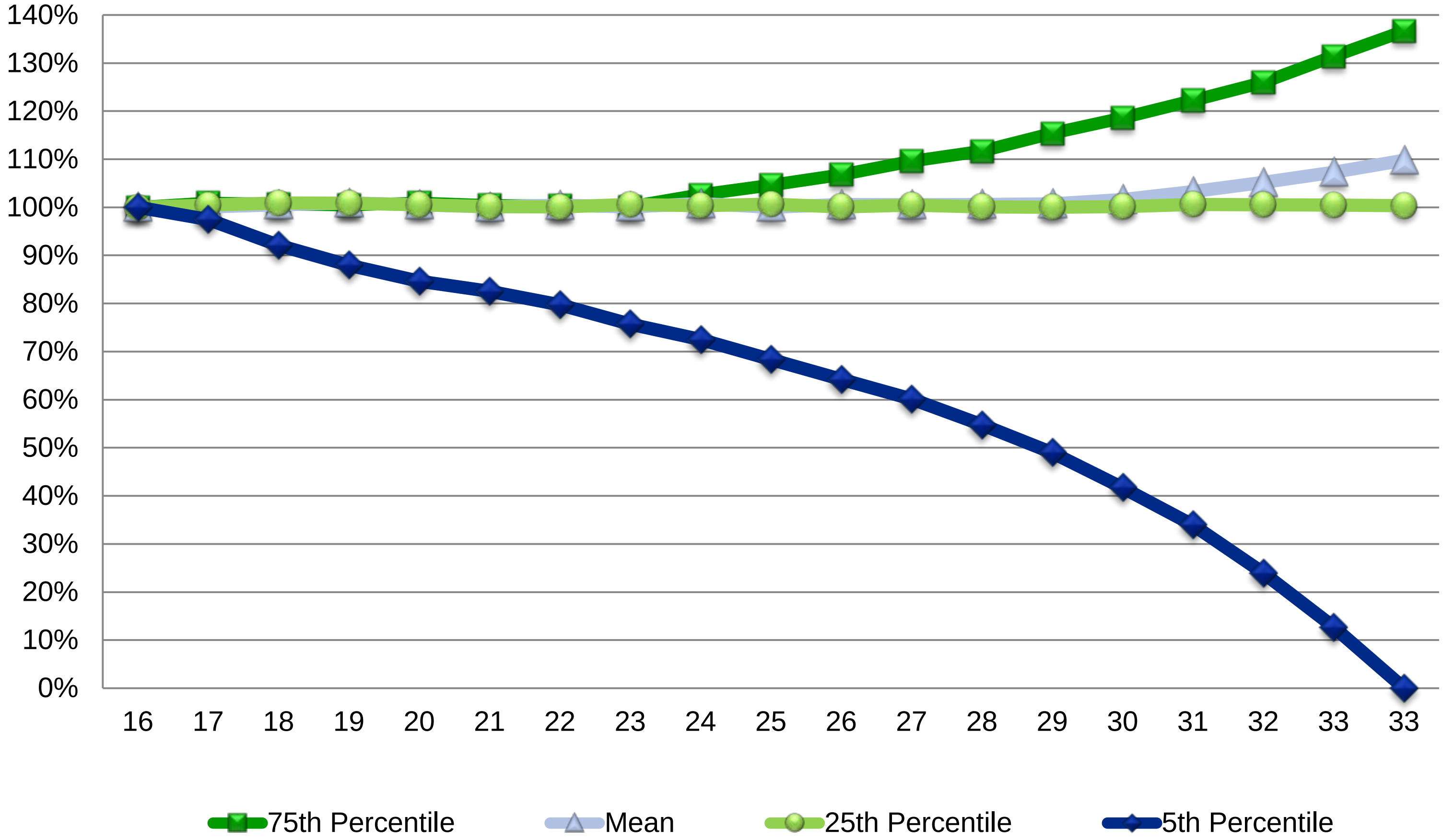
- Our analysis are based on plan assets and liabilities projected as of April 15 of each year
- The expected assets (mean) is shown along with the 75th, 25th, and 5th percentiles
- The 5th percentile means that out of 100 scenarios, the five worst cases are at or below the projected funded ratio shown by the 5th percentile line

Settlement with Purchasable COLA up to a Maximum of 3.5%*



*Assumes liabilities are settled at 5.0%

Funded Ratio after Settlement with Purchasable COLA up to a Maximum of 3.5%*



*Assumes liabilities are settled at 5.0%

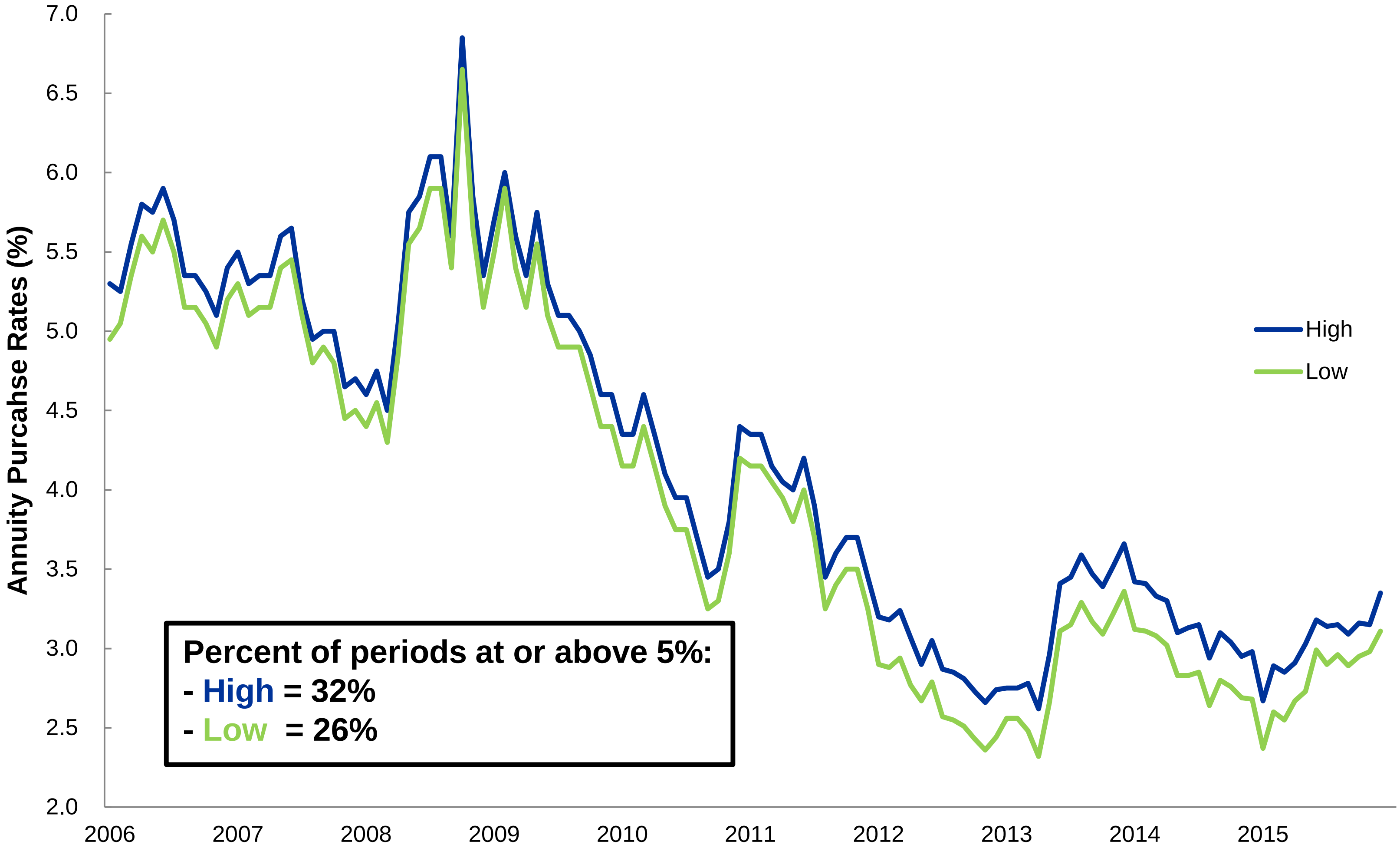
Settlement – Surplus/(Shortfall) in $Millions after COLA Purchase*

Year	75th	Mean	25th	5th
2016	-	-	-	-
2017	-	-	-	($1.2)
2018	-	-	-	($3.6)
2019	-	-	-	($5.3)
2020	-	-	-	($6.4)
2021	-	-	-	($6.9)
2022	-	-	-	($7.6)
2023	$0.1	-	-	($8.6)
2024	$1.4	-	-	($9.2)
2025	$2.4	-	-	($9.9)

Year	75th	Mean	25th	5th
2026	$3.4	-	-	($10.5)
2027	$4.7	-	-	($10.9)
2028	$5.4	-	-	($11.5)
2029	$6.8	-	-	($12.1)
2030	$7.8	$0.6	-	($12.8)
2031	$8.9	$1.2	-	($13.3)
2032	$9.8	$1.8	-	($14.1)
2033	$11.1	$2.3	-	($14.8)
2034	$12.2	$2.9	-	($15.5)

*Assumes liabilities are settled at 5.0%

10-year History of Biweekly Ranges of Annuity Purchase Rates*



*Source for pre-2012 data (Brentwood) and post 2012 data (Aon)

Based on information as of March 31, 2016, estimated annuity settlement rate for the plan range from 3.0% to 3.6%. The estimated price of settling the plan is approximately $60.5 – $64 million.

Appendix

Investment Policy

Asset Class	Current: 40% Fixed Income
U.S. Core Fixed Income	36.0%
High Yield Bonds	4.0%
U.S. Equity	37.5%
International Equity	10.0%
Emerging Markets Equity	2.5%
Real Assets & Property	10.0%
Total Asset Mix (FI / EQ / Real Estate)	**40 / 50 / 10**
Expected Annual Return	**6.23%**
Expected Risk (Std. Dev.)	**9.58%**

Expected annual returns and risk along with current asset allocation was provided by the plan's investment advisor – Principal. Asset allocation for alternative portfolios assumed to maintain a consistent split among asset classes for fixed income and equities.

Assumptions – Capital Market Expectations

Asset Class	Geometric Return	Arithmetic Return	Expected Risk
U.S. Core Fixed Income	3.50%	3.60%	5.00%
High Yield Bonds	6.35%	6.80%	10.00%
U.S. Equity	6.50%	7.80%	17.00%
International Equity	6.70%	8.25%	18.65%
Emerging Markets Equity	6.50%	9.45%	26.00%
Real Assets & Property	6.40%	6.75%	8.40%

Methodology for Stochastic Forecasting

- Principal provided the following information for each asset class in February 2016:
  – Mean geometric returns, mean arithmetic returns and standard deviations
  – Correlation coefficients
- Analyzed 20 projection years (2016 – 2035)
- Ran 5,000 simulations of projections per asset portfolio per projection year based on the calculated arithmetic expected return and standard deviation for each asset portfolio assuming a normal distribution
- The expected long-term rate of return for any simulation regresses to the mean
- Determined 5th through 95th percentiles of Market Value of Assets, Actuarial Accrued Liability, and Funded Ratio for 2016 – 2035 based on the results of 5,000 simulations per year

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