

**Milliman Presentation to:
Employee Trust Funds Board**

**Actuarial Valuation of Duty Disability Plan
as of January 1, 2016**

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Actuarial Valuation of LTDI and ICI Plans

Limitations of Analysis

- We relied on information provided by ETF. If it is inaccurate or incomplete, our results may be affected.
- The valuation uses actuarial assumptions that are individually reasonable and which, in combination, offer our best estimate of anticipated experience.
- To the extent that actual experience varies from the assumptions, the emerging costs of the plan will vary from the projections we have prepared.
- The calculations in this presentation are consistent with our understanding of ETF accounting requirements and goals. Additional determinations may be needed for other purposes.
- Milliman's work product was prepared exclusively for ETF for a specific and limited purpose. It is not for the use or benefit of any third party for any purpose.

Duty Disability Valuation Results

Duty Disability Valuation

Actuarial Accrued Liability (\$000)

	1/1/2015	1/1/2016
Active Lives	\$95,329	\$104,283
Disabled Lives and Survivors	\$352,768	\$418,955
Total	\$448,097	\$523,238

- Primary driver of the increase in Actuarial Accrued Liability is revised mortality assumptions.

Duty Disability Valuation Funded Status (\$000)

	1/1/2015	1/1/2016
Actuarial Accrued Liability	\$448,097	\$523,238
Less: Actuarial Value of Assets	\$592,774	\$603,768
Equals: Unfunded/(Overfunded) Actuarial Accrued Liability	(\$144,677)	(\$80,530)
Funded Ratio	132.3%	115.4%

Duty Disability Valuation

GASB 43 Annual Required Contribution* (ARC) (\$000)

	Fiscal Year End 12/31/2015	Fiscal Year End 12/31/2016
Normal Cost BoY	\$10,983	\$11,962
Amortization of UAAL BoY	(\$7,934)	(\$4,416)
Interest to End of Year	\$220	\$543
Annual Required Contribution	\$3,269	\$8,089

* The ARC is calculated according to GASB 43 requirements. The ETF establishes the employer contribution rate according to its Contribution Policy.

Duty Disability Valuation Long Term Trends (\$000)

Valuation Date	Funded Ratio	ARC	Employer Contribution
1/1/2006	52.1%	\$44,397	\$44,566
1/1/2008	66.1%	\$47,684	\$50,574
1/1/2010	72.7%	\$53,181	\$51,861
1/1/2011	82.8%	\$50,364	\$52,335
1/1/2012	94.2%	\$48,377	\$52,978
1/1/2013	96.7%	\$49,755	\$53,902
1/1/2014	110.6%	\$8,173	\$9,335
1/1/2015	132.0%	\$3,269	\$8,609
1/1/2016	115.4%	\$8,089	TBD

Duty Disability Valuation Assumption Changes (\$000)

Assumption Change	Impact
Revise mortality assumption for disabled members	\$52,420
Revise assumptions for active members	\$145
Change IBNR calculation method	<u>\$6,388</u>
Total Impact of Assumption Changes	\$58,953

- Last year's mortality assumption for disabled members was based on mortality for disabled employees reported in 2012-2014 WRS experience study.

This assumption seemed high according to the results from runoff tests performed by Milliman. Therefore, expected mortality was reduced in this year's valuation.

- The IBNR calculation method was enhanced based on an analysis of incurred claims experience performed by Milliman.
- Assumption changes for active members include revised mortality and other changes from WRS experience study.

Duty Disability Valuation Liability Runoff Study

Margin as % of Initial Liability Study Period: 2012 - 2015		
Segment	Prior Mortality Assumption	New Mortality Assumption
Disabled Members	-0.35%	0.34%
Survivors	1.79%	1.79%

- Runoff studies were performed using Duty Disability claims experience from 2012 – 2015
- The new mortality assumption for disabled members results in positive margins
- The assumed mortality on survivors has not changed because it results in positive margins

Duty Disability Valuation IBNR Development

Annual incurred Claims From 2009 to 2015 As of 1/1/2016			
Disability Year	Incurred Claims	Assumed % of Reported Claims	
		Prior Assumption	New Assumption
2009	\$7,080,106	100%	100%
2010	\$6,955,966	100%	100%
2011	\$6,411,641	100%	100%
2012	\$8,314,722	100%	100%
2013	\$7,116,025	100%	100%
2014	\$2,691,941	100%	38%
2015	\$1,683,755	50%	23%