

Actuarial Information / Valuations 101

Kerry Worgan, FSA, FCIA, MAAA, Supervising Pension Actuary

Julian Robinson, FSA, EA, MAAA, Senior Pension Actuary

February 2018



Today's Topics

- Actuarial Report Highlights
 - Non pooled plans
 - Pooled plans
- Paying down the Unfunded Accrued Liability
- Amortization Policy Update
- Experience Study Impact on Valuation Results

Actuarial Report Highlights

Non Pooled Plans

Non-Pooled Report – Common Questions

- What are my required contributions?
- Is my plan in good shape?
- Why did my required contributions change?
- Where are my required contributions headed?
- Where are my PEPRA members?
- What additional information is available in the reports?

Non-Pooled Plans

- What are my required contributions? - Cover page

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability	Employee PEPRA Rate
2018-19	9.844%	\$4,678,487	6.75%
<i>Projected Results</i>			
2019-20	10.3%	\$5,769,000	TBD
2020-21	11.2%	\$6,557,000	TBD

- Rates do not reflect any cost sharing information
- FY 2019-20 and FY 2020-21 projections reflect
 - Phase in of discount rate to 7.25% and ultimately 7.00%
 - Don't reflect the FY 2016-17 asset gain of 4%

Non-Pooled Plans

- What are my required contributions? – Page 4

Required Contributions

	Fiscal Year
Required Employer Contribution	2018-19
Employer Normal Cost Rate	9.844%
<i>Plus Either</i>	
1) Monthly Employer Dollar UAL Payment	\$ 389,874
<i>Or</i>	
2) Annual UAL Prepayment Option	\$ 4,514,959
Required PEPPRA Member Contribution Rate	6.75%
<i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).</i>	
<i>Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31). Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.</i>	
<i>§20572 of the Public Employees' Retirement Law assesses interest at an annual rate of 10 percent if a contracting agency fails to remit the required contributions when due.</i>	
<i>For additional detail regarding the determination of the required contribution for PEPPRA members, see Appendix D. Required member contributions for Classic members can be found in Appendix B.</i>	

Non-Pooled Plans

- Employer Contribution comprised of 2 components
 1. Normal Cost Rate (% of Payroll)
 2. UAL \$ Amount
- Annual UAL Prepayment Option
 - Only for UAL \$ Amount component
 - Normal Cost Rate must be paid regularly throughout the year

Non-Pooled Plans

- Is my plan in good shape? – Page 5

Plan's Funded Status

	June 30, 2015	June 30, 2016
1. Present Value of Projected Benefits	\$ 281,894,594	\$ 298,987,967
2. Entry Age Normal Accrued Liability	255,395,290	268,433,783
3. Market Value of Assets (MVA)	\$ 195,317,702	\$ 189,131,190
4. Unfunded Accrued Liability (UAL) [(2) – (3)]	\$ 60,077,588	\$ 79,302,593
5. Funded Ratio [(3) / (2)]	76.5%	70.5%

- Unfunded Liability = UAL = Unfunded Accrued Liability
- Funded Ratio is one indicator of the plan's health
- Information as of June 30, 2016

Non-Pooled Plans

- Why did my required contributions change? Page 14

(Gain)/Loss Analysis 6/30/15 – 6/30/16

1. Total (Gain)/Loss for the Year

a) Unfunded Accrued Liability (UAL) as of 6/30/15	\$	60,077,588
b) Expected Payment on the UAL during 2015-16		2,628,098
c) Interest through 6/30/16 $[(.075 \times (1a) - ((1.075)^{1/2} - 1) \times (1b)]$		4,409,047
d) Expected UAL before all other changes $[(1a) - (1b) + (1c)]$		61,858,537
e) Change due to plan changes		0
f) Change due to assumption change		3,770,250
g) Expected UAL after all other changes $[(1d) + (1e) + (1f)]$		65,628,787
h) Actual UAL as of 6/30/16		79,302,593
i) Total (Gain)/Loss for 2015-16 $[(1h) - (1g)]$	\$	13,673,806

2. Contribution (Gain)/Loss for the Year

g) Contribution (Gain)/Loss $[(2e) - (2f)]$	\$	(152,532)
---	----	-----------

3. Asset (Gain)/Loss for the Year

j) Asset (Gain)/Loss $[(3h) - (3i)]$	\$	13,518,105
--------------------------------------	----	------------

4. Liability (Gain)/Loss for the Year

d) Liability (Gain)/Loss $[(4a) - (4b) - (4c)]$	\$	308,233
---	----	---------

- Expected liability and asset values compared with actual values
- Explains changes to the UAL amount

Non-Pooled Plans

- Why did my required contributions change? – Page 15

Schedule of Amortization Bases

Reason for Base	Date Established	Amortization Period	Balance 6/30/16	Expected Payment 2016-17	Balance 6/30/17	Expected Payment 2017-18	Balance 6/30/18	Scheduled Payment for 2018-19
ASSUMPTION CHANGE	06/30/03	7	\$5,902,717	\$801,964	\$5,507,032	\$826,023	\$5,057,235	\$845,206
METHOD CHANGE	06/30/04	8	\$(534,341)	\$(66,653)	\$(504,682)	\$(68,653)	\$(470,762)	\$(70,214)
BENEFIT CHANGE	06/30/06	10	\$772,819	\$83,564	\$743,224	\$86,071	\$708,848	\$87,944
GOLDEN HANDSHAKE	06/30/09	13	\$143,683	\$13,171	\$140,632	\$13,567	\$136,945	\$13,842
ASSUMPTION CHANGE	06/30/09	13	\$4,054,491	\$371,673	\$3,968,375	\$382,823	\$3,864,354	\$390,601
SPECIAL (GAIN)/LOSS	06/30/09	23	\$4,086,554	\$270,099	\$4,108,056	\$278,201	\$4,122,748	\$282,636
SPECIAL (GAIN)/LOSS	06/30/10	24	\$(2,806,680)	\$(181,533)	\$(2,825,565)	\$(186,979)	\$(2,840,199)	\$(189,885)
ASSUMPTION CHANGE	06/30/11	15	\$4,961,598	\$416,830	\$4,895,589	\$429,335	\$4,811,753	\$437,657
SPECIAL (GAIN)/LOSS	06/30/11	25	\$(2,519,472)	\$(159,680)	\$(2,539,820)	\$(164,470)	\$(2,556,704)	\$(166,962)
PAYMENT (GAIN)/LOSS	06/30/12	26	\$1,820,440	\$113,195	\$1,837,403	\$116,591	\$1,852,097	\$118,313
(GAIN)/LOSS	06/30/12	26	\$9,584,362	\$595,958	\$9,673,666	\$613,836	\$9,751,030	\$622,902
(GAIN)/LOSS	06/30/13	27	\$30,411,981	\$830,952	\$31,793,816	\$1,283,821	\$32,808,290	\$1,737,544
ASSUMPTION CHANGE	06/30/14	18	\$12,001,488	\$228,601	\$12,649,717	\$470,917	\$13,094,660	\$719,540
(GAIN)/LOSS	06/30/14	28	\$(20,107,725)	\$(282,816)	\$(21,297,610)	\$(582,601)	\$(22,264,607)	\$(886,498)
(GAIN)/LOSS	06/30/15	29	\$14,086,623	\$8,042	\$15,117,178	\$212,871	\$16,011,489	\$431,543
ASSUMPTION CHANGE	06/30/16	20	\$3,770,250	\$(114,099)	\$4,166,537	\$(117,522)	\$4,595,598	\$86,621
(GAIN)/LOSS	06/30/16	30	\$13,673,805	\$52,849	\$14,627,485	\$0	\$15,706,262	\$217,697
TOTAL			\$79,302,593	\$2,982,117	\$82,061,032	\$3,593,831	\$84,389,037	\$4,678,487

Non-Pooled Plans

- Where are my required contributions headed? – Page 5

Projected Employer Contributions

	Required Contribution	Projected Future Employer Contributions (Assumes 7.375% Return for Fiscal Year 2016-17)					
Fiscal Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Normal Cost %	9.844%	10.3%	11.2%	11.2%	11.2%	11.2%	11.2%
UAL Payment	4,678,487	5,769,000	6,557,000	7,578,000	8,423,000	8,974,000	9,447,000
Total as a % of Payroll*	26.6%	30.3%	33.3%	36.0%	38.0%	38.9%	39.5%
Projected Payroll	27,955,538	28,794,203	29,658,029	30,547,770	31,464,203	32,408,129	33,380,373

*Illustrative only and based on the projected payroll shown.

- Assumes expected return for FY2016-17 and thereafter
- No demographic gains or losses after 6/30/16 included
- Total as % of Payroll for illustration purposes only

Discount Rate Change

- On December 21, 2016 the CalPERS Board adopted a 7% discount rate with a 3-year phase-in
 - 7.375% to be used 6/30/2016
 - 7.25% to be used 6/30/2017
 - 7.00% to be used 6/30/2018
- Affects all non-pooled and pooled actuarial valuations
- Lower discount rates result in higher accrued liabilities and normal costs
- Full impact of 7.00% discount rate will take 7 years due to phase-in procedures

Other Assumption Changes

- Effective for June 30, 2017 valuation
 - Inflation assumption 2.625% (2.50% for 6/30/18)
 - Payroll growth 2.875% (2.75% for 6/30/18)
 - Updated demographic assumptions
 - Mortality rates
 - Early Retirement rates

Non-Pooled Plans

- Where are my PEPRA members?
 - Non pooled plans include PEPRA members
 - Non pooled plans require the same **employer** rate for all members in the plan
 - Non pooled plans require differing **employee** rates
 - Classic member rate is set by statute
 - PEPRA member rate can be found in Appendix D

DEVELOPMENT OF PEPRA MEMBER CONTRIBUTION RATE

Rate Plan Identifier	Plan	Basis for Current Rate		Rates Effective July 1, 2018			
		Total Normal Cost	Member Rate	Total Normal Cost	Change	Change Needed	Member Rate
	Miscellaneous PEPRA	13.300%	6.750%	13.969%	0.669%	No	6.750%

Normal Cost Additional Information

- Normal Cost Rate for Each Group/Tier
 - Available in June 30, 2017 report
 - Classic formulas
 - PEPRA formulas

Non-Pooled Plans

- Additional information – Page 22

Analysis of Discount Rate Sensitivity

Sensitivity Analysis				
As of June 30, 2016	Plan's Normal Cost	Accrued Liability	Unfunded Accrued Liability	Funded Status
7.375% (current discount rate)	16.798%	\$268,433,783	\$79,302,593	70.5%
6.0%	22.675%	\$316,305,141	\$127,173,951	59.8%
7.0%	18.186%	\$280,281,894	\$91,150,704	67.5%
8.0%	14.774%	\$250,410,540	\$61,279,350	75.5%

- Highly sensitive to the discount rate

Non-Pooled Plans

- Additional Information – Page 24

Hypothetical Termination Liability

Market Value of Assets (MVA)	Hypothetical Termination Liability ^{1,2} @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability ^{1,2} @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
\$189,131,190	\$489,745,495	38.6%	\$300,614,305	\$425,019,414	44.5%	\$235,888,224

- Highly sensitive to the discount rate

Non-Pooled Plans

- Additional Information – Appendices
 - Appendix A
 - Assumptions and methods used in rate setting
 - Appendix B
 - Descriptions of all benefit provisions offered
 - Appendix C
 - Participant Data
 - Demographic information for the plan as of valuation date

Non-Pooled Plans

- Additional Information – Appendices
 - Appendix D
 - Normal Cost by Group
 - PEPRA Member Rate Information
 - Appendix E
 - Glossary of Actuarial Terms

Actuarial Report Highlights

Pooled Plans

Pooled Report – Common Questions

- What is the difference between “pooled” and “non-pooled” plans?
- What are my required contributions?
- What is my UAL?
- Where are my required contributions headed?
- Where are my PEPRA members?
- What additional information is available in the reports?

Pooled Plans

- Difference between pooled and non-pooled plans
 - Plans with less than 100 active members are combined into Risk Pools
 - Miscellaneous Risk Pool
 - Safety Risk Pool
 - Risk Pools aggregate experience of all plans for setting normal cost and actuarial gains/losses
 - Plans are allocated pieces of the pool's gains/losses each year
 - Allocation based on plan's proportionate share of the pool's total liability

Pooled Plans

Difference between pooled and non-pooled plans

- Actuarial Valuation Reports
 - Section 1 - Plan specific information
 - Contribution rate
 - Unfunded liability
 - Plan specific projections
 - Section 2 – Risk Pool information
 - UAL of Risk Pool
 - Normal Cost Rates for different benefit levels
 - Surcharges for optional benefits

Pooled Plans – Section 1

- What are my required contributions? - Cover page

Required Contribution

Fiscal Year	Employer Normal Cost Rate	Employer Payment of Unfunded Liability
2018-19	10.609%	\$70,173
<i>Projected Results</i>		
2019-20	11.1%	\$81,000
2020-21	12.1%	\$89,000

- Rates do not reflect any cost sharing arrangements
- FY 2019-20 and FY 2020-21 projections reflect
 - Phase in of discount rate to 7.25% and ultimately 7.00%
 - Don't reflect the FY 2016-17 asset gain due to 11.2% return
 - Expiring side funds (if applicable)

Pooled Plans – Section 1

- What are my required contributions? – Page 4

Required Employer Contribution

		Fiscal Year
Required Employer Contribution		2018-19
Employer Normal Cost Rate		10.609%
<i>Plus Either</i>		
1) Monthly Employer Dollar UAL Payment	\$	5,847.78
<i>Or</i>		
2) Annual Lump Sum Prepayment Option	\$	67,721
<i>The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly in dollars).</i>		
<i>Only the UAL portion of the employer contribution can be prepaid (which must be received in full no later than July 31). Plan Normal Cost contributions will be made as part of the payroll reporting process. If there is contractual cost sharing or other change, this amount will change.</i>		
<i>§ 20572 of the Public Employees' Retirement Law assesses interest at an annual rate of 10 percent if a contracting agency fails to remit the required contributions when due.</i>		

Pooled Plans – Section 1

- Is my plan in good shape? – Page 5

Plan's Funded Status

		June 30, 2015		June 30, 2016
1. Present Value of Projected Benefits (PVB)	\$	3,163,294	\$	3,131,079
2. Entry Age Normal Accrued Liability (AL)		2,748,225		2,847,210
3. Plan's Market Value of Assets (MVA)		1,993,298		1,923,001
4. Unfunded Accrued Liability (UAL) [(2) - (3)]		754,927		924,209
5. Funded Ratio [(3) / (2)]		72.5%		67.5%

- Unfunded Liability = UAL = Unfunded Accrued Liability
- Funded Ratio is one indicator of the plan's health
- Information as of June 30, 2016

Pooled Plans – Section 1

- What is my UAL? – Page 8

Schedule of Plan's Side Fund and Other Amortization Bases

Reason for Base	Date Established	Amortization Period	Balance 6/30/16	Payment 2016-17	Balance 6/30/17	Payment 2017-18	Amounts for Fiscal 2018-19	
							Balance 6/30/18	Scheduled Payment for 2018-19
SIDE FUND	2013 or Prior	4	\$112,180	\$21,515	\$98,159	\$22,160	\$82,436	\$22,706
SHARE OF PRE-2013 POOL UAL	06/30/13	18	\$326,833	\$24,678	\$325,365	\$25,418	\$323,022	\$25,876
ASSET (GAIN)/LOSS	06/30/13	27	\$282,973	\$7,732	\$295,830	\$11,946	\$305,269	\$16,167
NON-ASSET (GAIN)/LOSS	06/30/13	27	\$(2,775)	\$(76)	\$(2,901)	\$(117)	\$(2,994)	\$(159)
ASSET (GAIN)/LOSS	06/30/14	28	\$(203,566)	\$(2,863)	\$(215,612)	\$(5,898)	\$(225,402)	\$(8,975)
NON-ASSET (GAIN)/LOSS	06/30/14	28	\$243	\$3	\$258	\$7	\$270	\$11
ASSUMPTION CHANGE	06/30/14	18	\$140,456	\$2,675	\$148,043	\$5,511	\$153,251	\$8,421
ASSET (GAIN)/LOSS	06/30/15	29	\$116,988	\$0	\$125,616	\$1,769	\$133,047	\$3,586
NON-ASSET (GAIN)/LOSS	06/30/15	29	\$(10,429)	\$0	\$(11,198)	\$(158)	\$(11,860)	\$(320)
ASSET (GAIN)/LOSS	06/30/16	30	\$136,340	\$0	\$146,395	\$0	\$157,192	\$2,179
NON-ASSET (GAIN)/LOSS	06/30/16	30	\$(18,364)	\$0	\$(19,718)	\$0	\$(21,172)	\$(293)
ASSUMPTION CHANGE	06/30/16	20	\$43,329	\$(788)	\$47,342	\$(812)	\$51,675	\$974
TOTAL			\$924,208	\$52,876	\$937,579	\$59,826	\$944,734	\$70,173

- Side Fund has been incorporated
- Share of pre-2013 Pool UAL is the allocation of the pool's UAL
- Employers can pay off any portion of the UAL

Pooled Plans – Section 1

- Where are my contributions headed? – Page 5

Projected Employer Contributions

	Required Contribution	Projected Future Employer Contributions (Assumes 7.375% Return for Fiscal Year 2016-17)					
Fiscal Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Normal Cost %	10.609%	11.1%	12.1%	12.1%	12.1%	12.1%	12.1%
UAL Payment	\$70,173	\$81,000	\$89,000	\$100,000	\$84,000	\$90,000	\$95,000

- Assumes expected investment returns
- No demographic gains or losses after 6/30/16 included

Pooled Plans – Section 1

- Where are my PEPRA members?
 - Separate Classic and PEPRA pooled plan reports produced
 - Pooled plans require different **employer** contributions for Classic and PEPRA members
 - Pooled plans also require different **employee** rates
 - Normal cost rate for the group is on page 4

Pooled Plans – Section 1

- Additional Information – Page 15

Analysis of Discount Rate Sensitivity

Sensitivity Analysis				
As of June 30, 2016	Plan's Total Normal Cost	Accrued Liability	Unfunded Accrued Liability	Funded Status
7.375% (current discount rate)	18.557%	\$2,847,210	\$924,209	67.5%
6.0%	25.067%	\$3,297,222	\$1,374,221	58.3%
7.0%	20.097%	\$2,959,216	\$1,036,215	65.0%
8.0%	16.310%	\$2,675,773	\$752,772	71.9%

- Highly sensitive to the discount rate

Pooled Plans – Section 1

- Additional Information – Page 17

Hypothetical Termination Liability

Market Value of Assets (MVA)	Hypothetical Termination Liability^{1,2} @ 1.75%	Funded Status	Unfunded Termination Liability @ 1.75%	Hypothetical Termination Liability^{1,2} @ 3.00%	Funded Status	Unfunded Termination Liability @ 3.00%
\$1,923,001	\$5,349,574	36.0%	\$3,426,573	\$4,738,292	40.6%	\$2,815,290

- Highly sensitive to the discount rate

Pooled Plans – Section 2

- Available on CalPERS online
 - www.calpers.ca.gov in the Forms and Publications section
- Has pool specific information
 - Normal Cost Rates by formula
 - Funded status
 - Asset information
 - Gain/Loss Analysis

Pooled Plans – Section 2

- Appendices
 - Appendix A - Actuarial Methods and Assumptions
 - Appendix B - Principal Plan Provision
 - Appendix C - Optional Benefit Information
 - Appendix D - Participant Data
 - Appendix E - Glossary

Paying Down the Unfunded Accrued Liability (UAL)

Paying Down the UAL

What is the Unfunded Accrued Liability (UAL)

- $UAL = \text{Accrued Liability} - \text{Market Value of Plan Assets}$
- Agencies required to make minimum annual payments on the UAL
- Many Agencies are electing to make additional discretionary payments to save interest

Paying Down the UAL

Additional Discretionary Payments

Fiscal Year	Number	Amount
2015-16	202	\$143,763,000
2016-17	243	\$228,445,000
2017-18 YTD (~6 mth)	213	\$223,367,000

Paying Down the UAL

Accelerated Funding

- Multiple ways to do it
 - Fresh start over a reduced period
 - Additional Discretionary Payment (ADP) on an ad hoc basis

Paying Down the UAL

Accelerated Funding (cont'd)

- Fresh Start
 - Must pay off bases faster than existing schedule
 - Creates new higher Minimum UAL payment
 - Significant long-term savings
 - Inflexible

Paying Down the UAL

Accelerated Funding (cont'd)

- Ad hoc basis – Employer Option
 - Short-term Savings : Apply to Shortest Base
 - Long-term Savings : Apply to Longest Base
 - Flexible

Paying Down the UAL

Amortization Schedules

Page 11 of Report for Pooled
Page 17 for Non-Pooled

	<u>Current Amortization Schedule*</u>		<u>Alternate Schedules</u>			
			<u>20 Year Amortization</u>		<u>15 Year Amortization</u>	
<u>Date</u>	<u>Balance</u>	<u>Payment</u>	<u>Balance</u>	<u>Payment</u>	<u>Balance</u>	<u>Payment</u>
6/30/2018	73,756,921	4,878,299	73,756,921	5,513,514	73,756,921	6,708,623
6/30/2019	74,141,508	5,600,449	73,483,286	5,678,919	72,244,891	6,909,881
6/30/2020	73,806,152	6,058,957	73,018,074	5,849,287	70,412,801	7,117,178
6/30/2021	72,970,949	6,569,013	72,342,014	6,024,765	68,230,790	7,330,693
6/30/2022	71,545,620	6,997,645	71,434,261	6,205,508	65,666,607	7,550,614
6/30/2023	69,571,014	7,207,574	70,272,272	6,391,673	62,685,429	7,777,132
6/30/2024	67,233,249	7,423,799	68,831,678	6,583,424	59,249,666	8,010,446
6/30/2025	64,499,020	6,882,890	67,086,145	6,780,926	55,318,752	8,250,760
6/30/2026	62,123,642	7,141,073	65,007,223	6,984,354	50,848,916	8,498,282
6/30/2027	59,305,542	6,788,361	62,564,185	7,193,885	45,792,941	8,753,231
6/30/2028	56,645,096	6,992,010	59,723,853	7,409,701	40,099,905	9,015,828
6/30/2029	53,577,416	7,201,770	56,450,413	7,631,992	33,714,901	9,286,303
6/30/2044	3,247,088	1,526,483				
6/30/2045	1,904,790	886,492				
6/30/2046	1,126,670	859,264				
6/30/2047	319,375	330,943				
Totals	157,208,707			148,150,176		124,773,094
Interest Paid	83,451,786			74,393,255		51,016,173
Estimated Savings				9,058,531		32,435,613

Paying Down the UAL

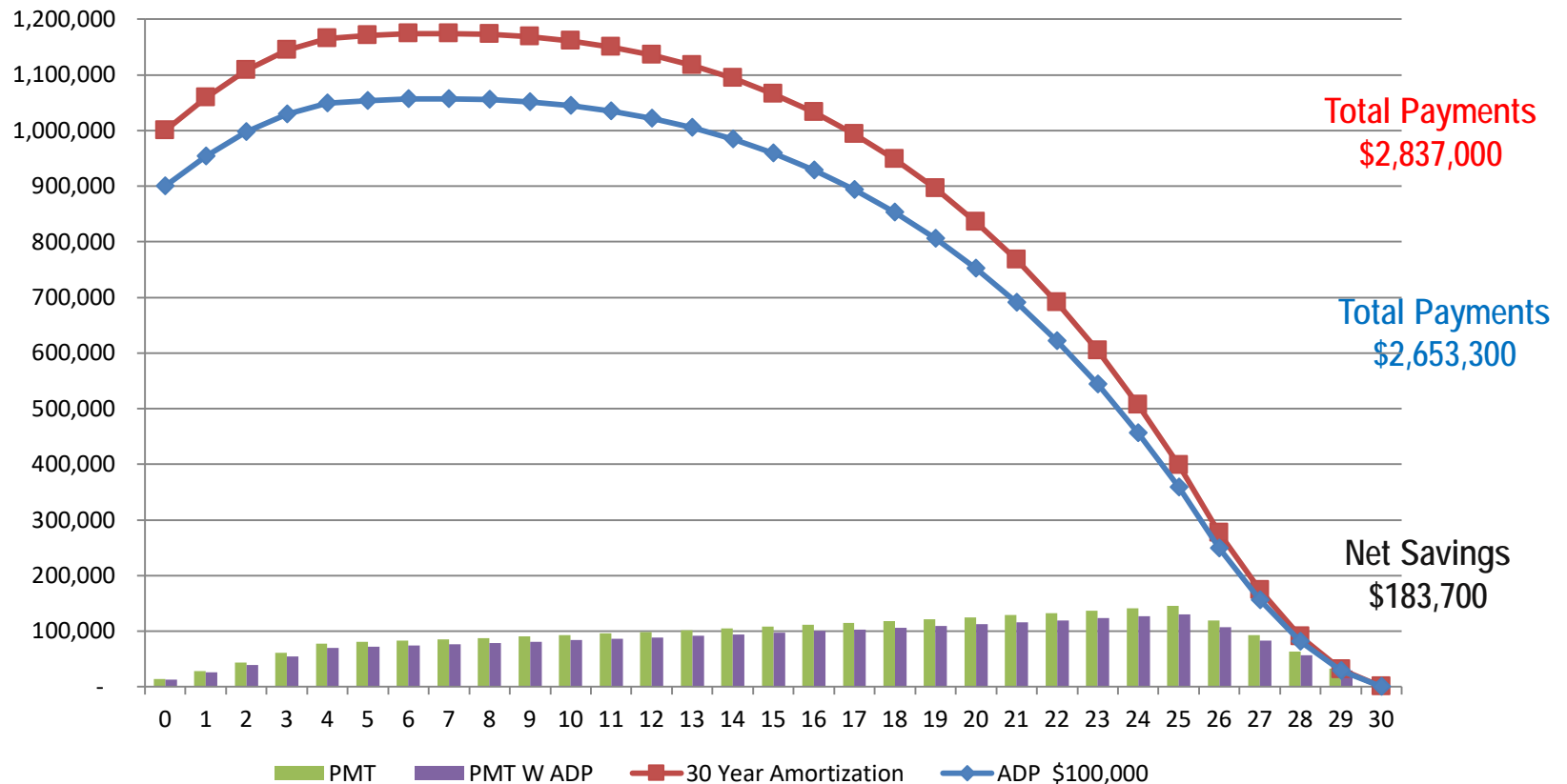
Amortization Schedules

Page 11 of Report for Pooled
Page 17 for Non-Pooled

	<u>Current Amortization Schedule*</u>		<u>Alternate Schedules</u>			
			<u>20 Year Amortization</u>		<u>15 Year Amortization</u>	
<u>Date</u>	<u>Balance</u>	<u>Payment</u>	<u>Balance</u>	<u>Payment</u>	<u>Balance</u>	<u>Payment</u>
6/30/2018	73,756,921	4,878,299	73,756,921	5,513,514	73,756,921	6,708,623
6/30/2019	74,141,508	5,600,449	73,483,286	5,678,919	72,244,891	6,909,881
6/30/2020	73,806,152	6,058,957	73,018,074	5,849,287	70,412,801	7,117,178
6/30/2021	72,970,949	6,569,013	72,342,014	6,024,765	68,230,790	7,330,693
6/30/2022	71,545,620	6,997,645	71,434,261	6,205,508	65,666,607	7,550,614
6/30/2023	69,571,014	7,207,574	70,272,272	6,391,673	62,685,429	7,777,132
6/30/2024	67,233,249	7,423,799	68,831,678	6,583,424	59,249,666	8,010,446
6/30/2025	64,499,020	6,882,890	67,086,145	6,780,926	55,318,752	8,250,760
6/30/2026	62,123,642	7,141,073	65,007,223	6,984,354	50,848,916	8,498,282
6/30/2027	59,305,542	6,788,361	62,564,185	7,193,885	45,792,941	8,753,231
6/30/2028	56,645,096	6,992,010	59,723,853	7,409,701	40,099,905	9,015,828
6/30/2029	53,577,416	7,201,770	56,450,413	7,631,992	33,714,901	9,286,303
6/30/2044	3,247,088	1,526,483				
6/30/2045	1,904,790	886,492				
6/30/2046	1,126,670	859,264				
6/30/2047	319,375	330,943				
Totals	157,208,707		148,150,176		124,773,094	
Interest Paid	83,451,786		74,393,255		51,016,173	
Estimated Savings			9,058,531		32,435,613	

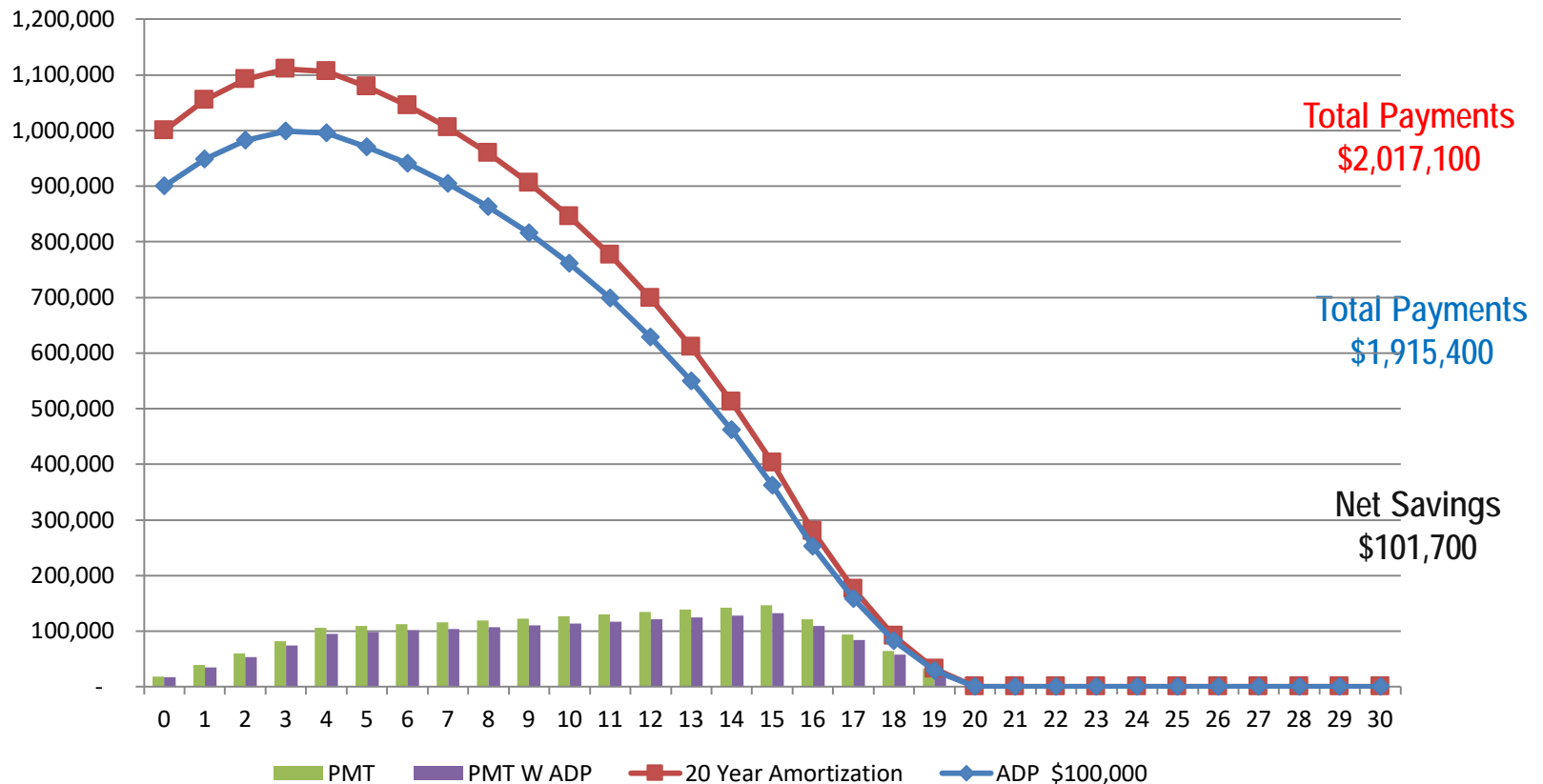
Paying Down the UAL

30 Year Amortization Schedule with \$100K ADP



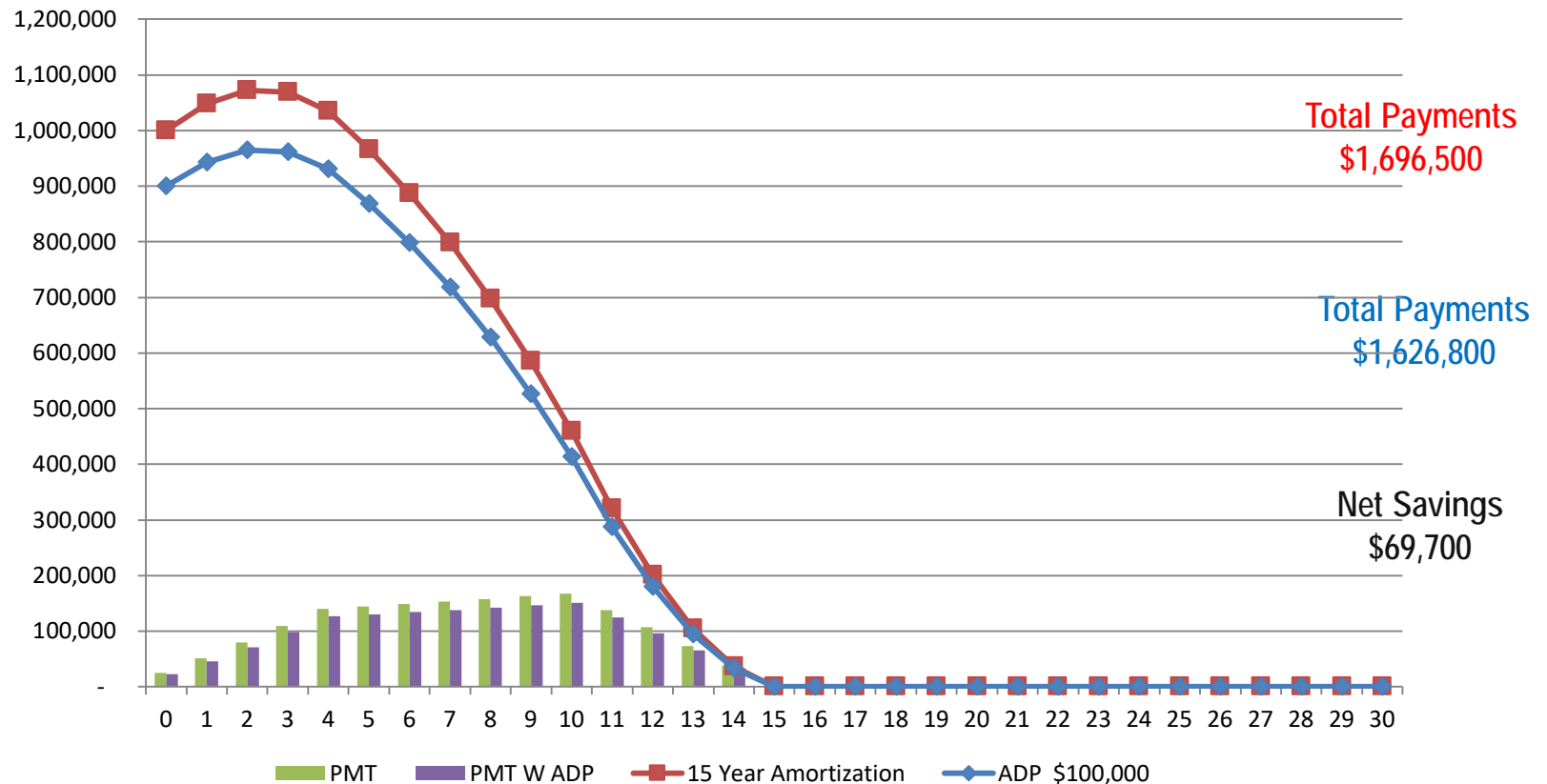
Paying Down the UAL

20 Year Amortization Schedule with \$100K ADP



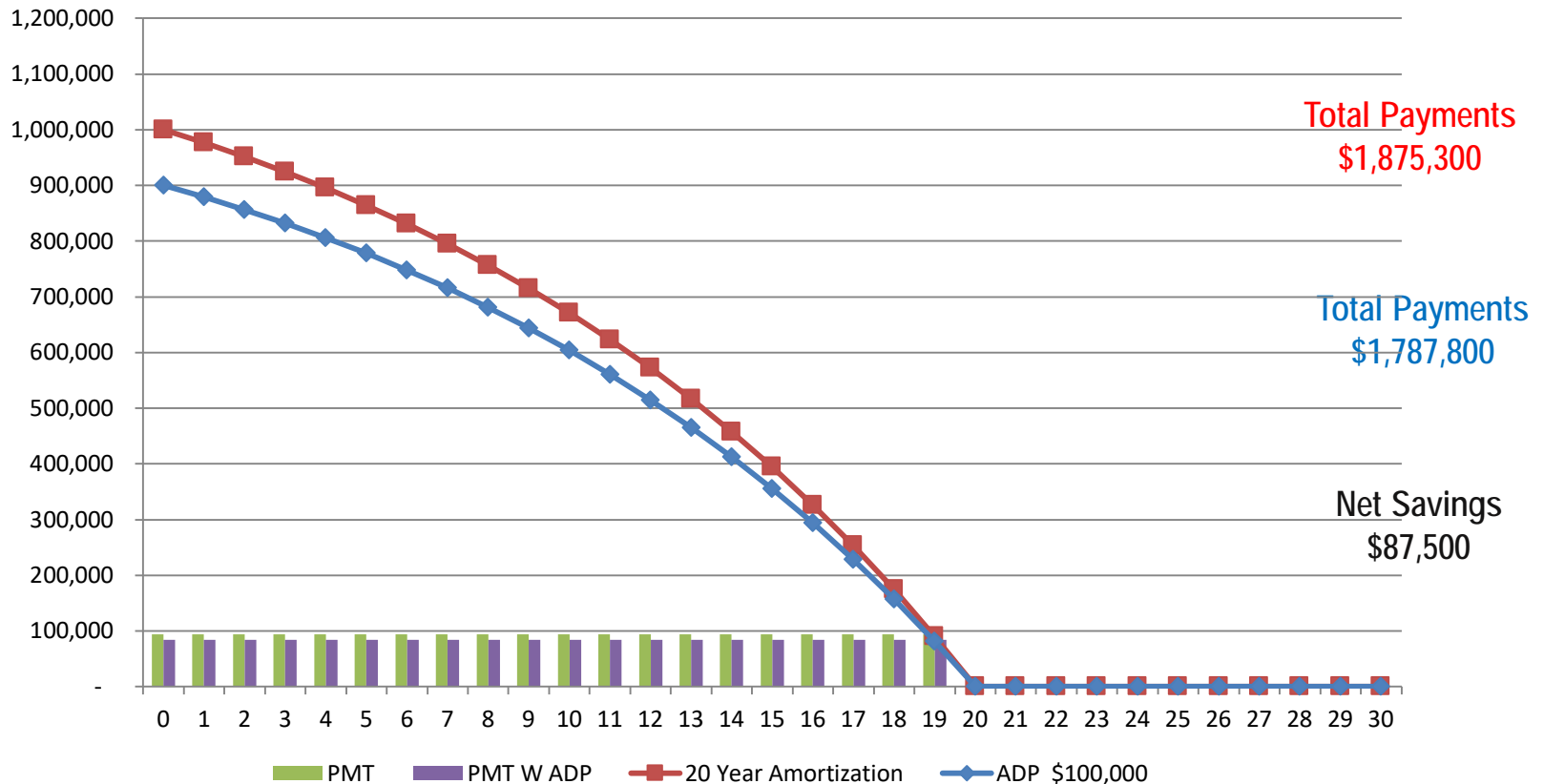
Paying Down the UAL

15 Year Amortization Schedule with \$100K ADP



Paying Down the UAL

20 Year Level Dollar Amortization Schedule with ADP



Amortization Policy Update

Experience Study Impact on Valuation Results

Questions & Discussion