

**San Diego City  
Employees' Retirement System**

**San Diego Unified Port District**

**Actuarial Valuation Report  
as of June 30, 2016**

**Produced by Cheiron**

**February 2017**

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February 24, 2017

Board of Administration  
San Diego City Employees' Retirement System  
401 West A Street, Suite 400  
San Diego, CA 92101

**Re: San Diego Unified Port District June 30, 2016 Actuarial Valuation**

Dear Members of the Board:

We are pleased to submit the June 30, 2016 Actuarial Valuation Report for the San Diego City Employees' Retirement System (SDCERS). The valuation results with respect to the Unified Port District (UPD) are contained in this valuation report. This report is for the use of the SDCERS Board and its auditors in preparing financial reports in accordance with applicable law and accounting requirements. This report contains information on SDCERS' financial condition including assets, liabilities, and contributions, as well as certain exhibits required for SDCERS' Comprehensive Annual Financial Report (CAFR).


In preparing our report, we relied on information (some oral and some written) supplied by SDCERS' staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The results of this report rely on future plan experience conforming to the underlying assumptions and methods outlined in this report. To the extent that the actual plan experience deviates from the underlying assumptions and methods, or there are any changes in plan provisions or applicable laws, the results would vary accordingly.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This valuation was prepared for the San Diego City Employees' Retirement System for the purposes described herein and for the use by the plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,  
Cheiron



Gene Kalwarski, FSA, EA, MAAA  
Principal Consulting Actuary



David Holland, FSA, EA, MAAA  
Consulting Actuary

cc: Alice Alsberghe, ASA, MAAA

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION I - BOARD SUMMARY**

The primary purpose of the actuarial valuation is to disclose, as of the valuation date, on the following:

- The financial condition of the SDCERS-Unified Port District Defined Benefit Plan,
- Past and expected trends in the financial condition of SDCERS-Unified Port District,
- The UPD's Actuarially Determined Contribution for Fiscal Year 2018, and
- Information required for the Comprehensive Annual Financial Report (CAFR).

In this Section, we present a summary of the principal valuation results. This summary includes the basis upon which the June 30, 2016 valuation was completed and an examination of the current financial condition of SDCERS-Unified Port District. In addition, we present a review of the key historical trends followed by the projected financial outlook for SDCERS-Unified Port District.

**A. Valuation Basis**

In September 2016, the SDCERS Board voted to adopt the results of a comprehensive experience study covering the period July 1, 2010 through June 30, 2015. The detailed findings of that study can be found in Cheiron's July 2016 presentation to the SDCERS Board. The revised assumptions have been reflected in this valuation and can be found in Appendix B of this report.

The most notable change to the demographic assumptions was the update to the base mortality tables, reflecting fewer deaths than expected, as well as the addition of a mortality improvement scale to anticipate future improvements in members' lifespans.

In November 2015, the SDCERS Board voted to reduce the discount rate and wage inflation assumptions by 0.25% each, over two years. A decrease of 0.125% was reflected in the previous valuation and another decrease of 0.125% was reflected in this June 30, 2016 valuation, bringing the discount rate assumption down to 7.00% and the wage inflation assumption down to 3.05%.

The June 30, 2016 valuation reflects the final year of the three-year phase-in of expected administrative expenses. The development of this component of the ADC is shown in Table IV-1.

Effective January 1, 2013, Unified Port District employees who are deemed to be "New Members" under the California Public Employees' Pension Reform Act (PEPRA) will be subject to a number of plan provisions, including reduced benefit accrual factors, a cap on pensionable salary, three-year averaging for final salary, and mandatory exclusion of certain items from pensionable salary. PEPRA also requires New Members to pay at least 50% of the normal cost, with more than 50% allowed subject to collective bargaining. There are less significant changes for current employees and retirees.

General and Executive Members hired on or after January 1, 2009 participate in a new Miscellaneous Plan with lower benefits and costs. Miscellaneous Plan Members only begin to accrue service and benefits after completing five years of UPD employment, and we have

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**SECTION I - BOARD SUMMARY**

been informed that the UPD does not intend for these members to make contributions. However, Miscellaneous Members, who are also New Members under PEPRAs, will still be subject to PEPRAs' 50/50 cost sharing provision. More details on the plan provisions for all tiers can be found in Appendix C.

Numbers in the tables of this report may not add due to rounding.

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**B. Experience between June 30, 2015 and June 30, 2016**

The following discussion summarizes the key results of the June 30, 2016 valuation and how they compare to the results from the June 30, 2015 valuation.

**1. SDCERS-UPD Assets, Liabilities and Contributions**

Table I-1 presents a comparison between the June 30, 2016 and June 30, 2015 SDCERS-Unified Port District assets, liabilities, unfunded actuarial liability, funding ratios and contributions.

The key results shown in Table I-1 indicate that due to the increase in total actuarial liability of 11.2% compared to the actuarial value of assets increase of only 5.0%, the funding ratio decreased from 78.8% as of June 30, 2015 to 74.4% as of June 30, 2016. SDCERS employs a commonly used actuarial smoothing method on the market value that dampens market volatility, so the actuarial value of assets increased whereas the market value of assets decreased by 0.5%. Measuring the funding ratio on a market value of assets basis, the ratio would be 73.0% as of June 30, 2016. Section II-C provides additional information explaining the development of the actuarial value of assets.

There was a significant increase in the Actuarially Determined Contribution (ADC), from \$14.6 million to \$17.7 million. The components of change are shown in Table I-3. These figures assume payment at the beginning of the year; the amounts assuming payment throughout the year may be found in Table IV-1.

<b>Table I-1</b>				
<b>SDCERS - Unified Port District - Assets, Liabilities and Contributions</b>				
		<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>% Change</b>
Actuarial Liability	\$	504,763,128	\$ 453,773,528	11.2%
Actuarial Value Assets	\$	375,301,415	\$ 357,599,720	5.0%
Unfunded Actuarial Liability-Actuarial Value	\$	129,461,713	\$ 96,173,808	34.6%
Funding Ratio-Actuarial Value		74.4%	78.8%	-4.4%
Market Value Assets	\$	368,232,658	\$ 370,053,588	-0.5%
Unfunded Actuarial Liability-Market Value	\$	136,530,470	\$ 83,719,939	63.1%
Funding Ratio-Market Value		73.0%	81.6%	-8.6%
Actuarially Determined Contribution (ADC)	\$	17.7	\$ 14.6	21.5%

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**SECTION I - BOARD SUMMARY**

**2. Components of UAL Change between June 30, 2015 and June 30, 2016**

The unfunded actuarial liability (UAL) for SDCERS-Unified Port District increased by \$33.3 million, from \$96.2 million to \$129.5 million. Table I-2 below presents the specific components of the change in the UAL.

The Plan's UAL was expected to decline by \$7.1 million. The significant increase in the UAL was driven by the changes in demographic and economic assumptions (total of \$32.9 million), with the largest increase coming from changes in the mortality assumption. Net asset experience increased the UAL by \$5.6 million. There was also a liability experience loss of \$1.9 million, with the largest source being mortality (members living longer than expected).

<b>Table I-2</b>	
<b>SDCERS - Unified Port District-Change in UAL</b>	
<b>(In Millions)</b>	
<b>1. UAL at June 30, 2015</b>	<b>\$ 96.2</b>
2. Expected change in UAL	(7.1)
3. Asset experience	
a. Anticipated investment loss/(gain)	(3.1)
b. Actual investment loss/(gain)*	2.4
c. Employee contributions paid less than expected	0.1
d. Net asset experience (b - a + c)	5.6
4. Liability experience loss*	1.9
5. Changes in economic assumptions	5.7
6. Changes in demographic assumptions	27.2
7. Other misc (includes purchased service)	-
8. Total change in UAL: 2 + 3d + sum of 4 through 7	33.3
<b>9. UAL at June 30, 2016: 1 + 8</b>	<b>\$ 129.5</b>

\* Combined impact from experience of \$4.3 million (\$2.4 million actual investment loss plus \$1.9 million actual liability experience loss).

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**SECTION I - BOARD SUMMARY**

**3. SDCERS-UPD Change in Contributions (ADC)**

The Unified Port District's actuarially determined contribution (ADC) for FY 2018 increased by \$3.1 million; from \$14.6 million to \$17.7 million. The ADC was expected to increase by \$0.4 million, assuming continued phase-in of investment experience from prior years, recognizing the final year of a three-year phase-in of expected administrative expenses, and no changes in assumptions.

There were however significant changes in assumptions which were the leading cause of the increase to the ADC (total of \$2.2 million). Two other notable factors causing the ADC to be greater than expected were net asset experience, which increased the ADC by \$0.5 million, and liability experience losses, which increased the ADC by \$0.2 million.

In Table I-3 below we present the specific components of the change in the ADC. In Section IV we provide more detail on the development of this contribution.

<b>Table I-3</b>	
<b>SDCERS - Unified Port District-Change in ADC</b>	
<b>(In Millions)</b>	
<b>1. ADC at June 30, 2015</b>	<b>\$ 14.6</b>
2. Expected change in ADC	0.4
3. Asset experience	
a. Anticipated investment loss/(gain)	(0.3)
b. Actual investment loss/(gain)	0.2
c. Employee contributions paid less than expected	0.0
d. Net asset experience (b - a + c)	0.5
4. Liability experience loss	0.2
5. Changes in economic assumptions	0.4
6. Changes in demographic assumptions	1.8
7. Other misc (includes purchased service)	(0.1)
8. Total change in ADC: 2 + 3d + sum of 4 through 7	3.1
<b>9. ADC at June 30, 2016: 1 + 8</b>	<b>\$ 17.7</b>



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**4. SDCERS-UPD Membership**

Table I-4 shows that total membership in SDCERS-Unified Port District remained level from 2015 to 2016. There was movement from active and terminated vested to retiree status, with a 5.9% increase in retirees and decreases of 4.0% and 1.8% for active and terminated vested participants, respectively. Expected active member total payroll increased by 0.5% from 2015 to 2016, and the average pay per active member increased by 4.7%. Total annual benefits in pay status increased by 5.9% from 2015 to 2016, with the average benefit increasing by 1.7%.

Note: The payroll figures shown below are the expected amounts for the fiscal year beginning July 1, 2016.

<b>Table I-4</b>				
<b>SDCERS - Unified Port District - Membership Total</b>				
<b>Valuation as of:</b>	<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>% Change</b>	
Active Counts	362	377	-4.0%	
Terminated Vested	279	284	-1.8%	
Disabled	61	62	-1.6%	
Retirees	415	392	5.9%	
Beneficiaries	<u>82</u>	<u>82</u>	<u>0.0%</u>	
Total UPD Members	1,199	1,197	0.2%	
Active Member Payroll	\$ 33,684,615	\$ 33,512,411	0.5%	
Average Pay per Active Member	\$ 93,051	\$ 88,892	4.7%	
Benefits in Pay Status	\$ 24,084,860	\$ 22,743,044	5.9%	
Average Benefit	\$ 43,163	\$ 42,431	1.7%	

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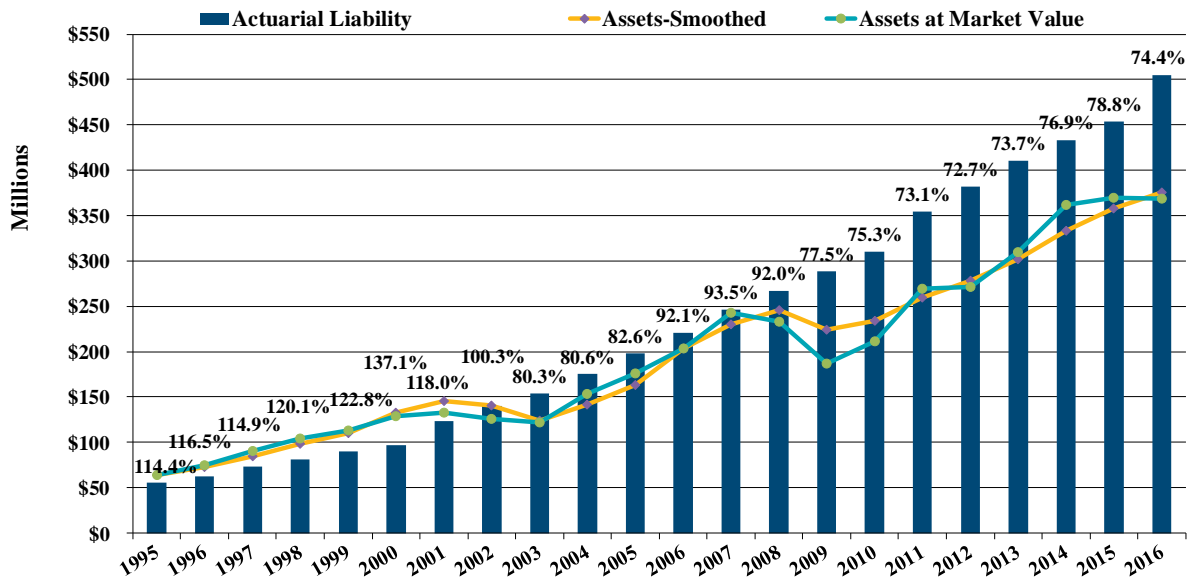
**SECTION I - BOARD SUMMARY**

**C. Historical Trends SDCERS-Unified Port District**

Despite the primary focus given each year on the most recently computed unfunded actuarial liability (UAL), funding ratio, and the UPD’s contribution (ADC), it is important to remember that each valuation is merely a snapshot of the long-term progress of a pension plan. It is more important to judge a current year’s valuation results relative to historical trends, and trends expected into the future.

In the chart below, we present the historical trends for the market value and smoothed assets compared to actuarial liabilities, with SDCERS-Unified Port District funding ratios since 1995.

**SDCERS- Unified Port District Assets and Liabilities 1995-2016**



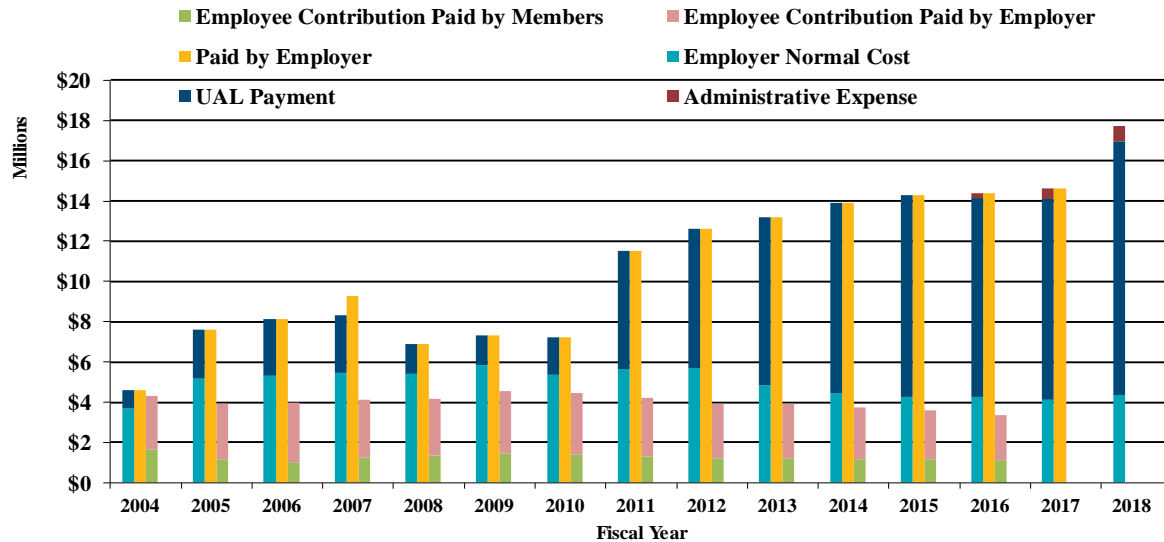
The UPD funding ratio was over 100% in the early years of the chart, but dropped to 80.3% in 2003. The funding ratio improved significantly over the next several years, primarily due to strong investment performance. In 2009, the funding ratio declined significantly due to investment losses and continued to decrease for several years as the investment loss was gradually recognized in the actuarial value of assets. From 2013 through 2015 the funding ratio steadily increased, primarily due to better than expected investment performance. In 2016, the drop in the funding ratio from 78.8% to 74.4% was primarily due to changes in assumptions. As mentioned earlier, the funding ratios represent the ratio of the smoothed (actuarial) assets over the actuarial liabilities. If the market value of assets were used instead, the funding ratio as of June 30, 2016 would be 73.0%.

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In the next chart below, we present the historical trends for the SDCERS-Unified Port District contributions: actual contributions paid by the UPD and by the Members, and the actuarially determined contributions (ADC).

**SDCERS-Unified Port District and Member Contributions FY 2004-2018**



This chart compares the actual contributions made by the Unified Port District (gold bars) to the actuarially determined contributions (ADC). The ADC is broken out by component - Employer Normal Cost, plus UAL payment, plus administrative expense. The contributions paid by the UPD are based on the Board’s adopted funding practice of Normal Cost plus amortization of the various UAL components, including the requirement beginning in FY 2009 that there is no negative amortization and the requirement beginning in FY 2016 to fund the administrative expenses. The FY 2018 ADC reflects the final year of the three-year phase-in of the administrative expense assumption. The chart indicates that the Unified Port District has been consistently paying at or above the ADC for the entire period shown.

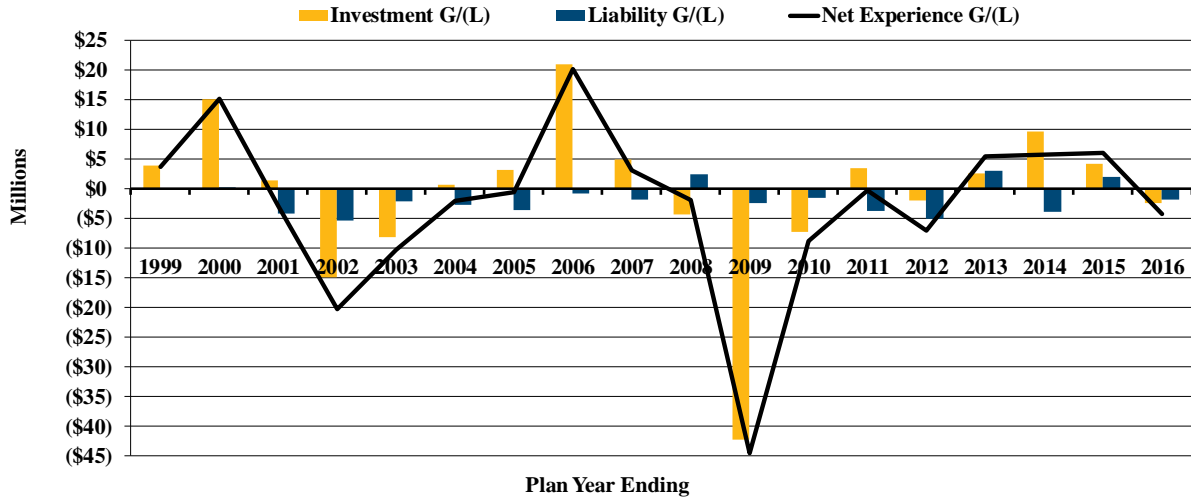
Employee contributions paid by the UPD (pink bars) and paid by the Members (green bars) are also shown in the chart. A substantial portion of employee contributions are “offset” (paid for) by the UPD; however, such offsets are not permitted for New Members under PEPRA.

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**SECTION I - BOARD SUMMARY**

The chart below for SDCERS-Unified Port District presents the pattern of annual experience gains and losses, broken into the investment and liability components. The chart does not include any changes in SDCERS' assets and liabilities attributable to changes in actuarial methods, procedures, or assumptions, or to changes in plan benefits.

**SDCERS-Unified Port District Historical Gain/(Loss) 1999-2016**



The key insights from this chart are:

- In 2002 and 2003 the System experienced significant investment losses (gold bars), depicted on an actuarial value of assets basis, which were offset by investment gains from 2004 to 2007. However, the investment losses of 2008 through 2010 more than offset those gains.
- The investment loss in 2009 was by far the most significant gain or loss during the period shown.
- During the period shown there has generally been a pattern of liability losses, which have been small relative to total liabilities. The 2010-2015 Experience Study, adopted by the Board in September 2016, resulted in revisions to many demographic assumptions. The most important change was to the mortality assumption, which was responsible for a significant portion of the liability losses during the study period. The liability experience under the new assumptions will first be measured in the June 30, 2017 Actuarial Valuation.

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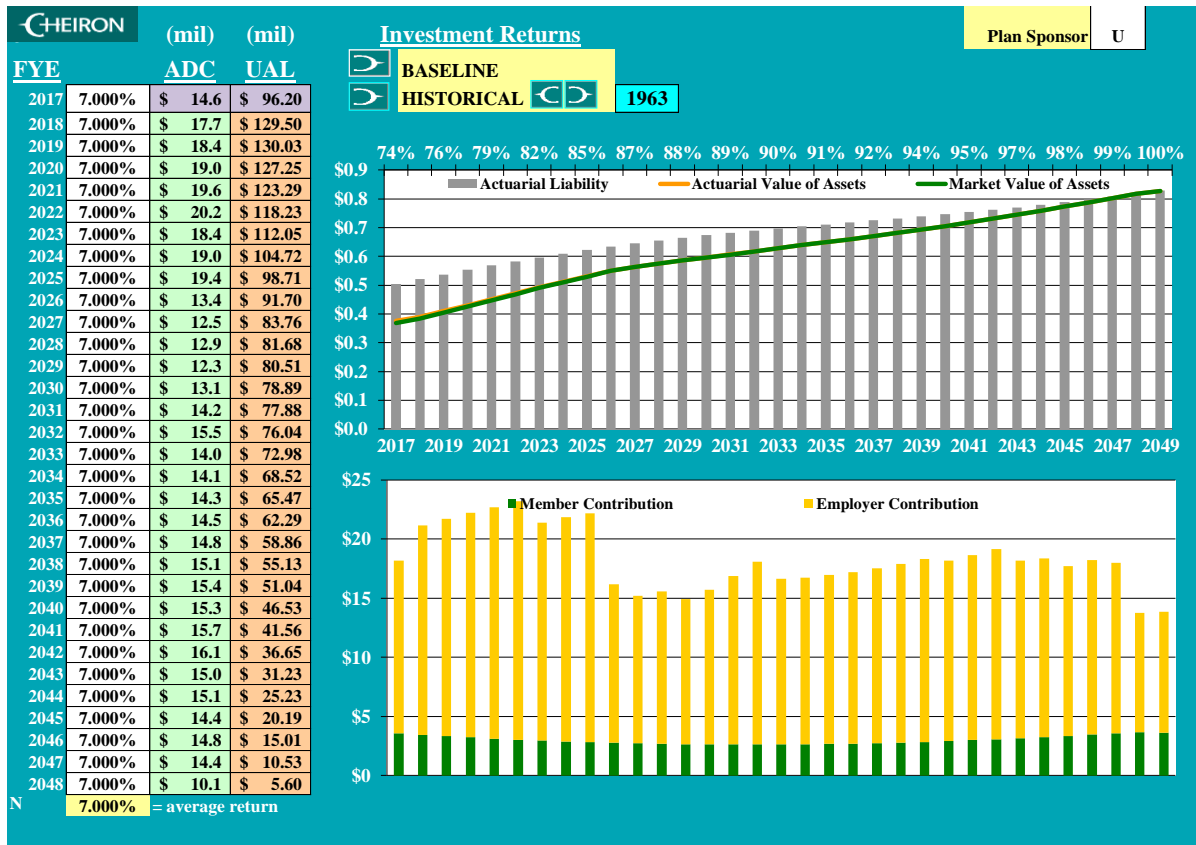
**SECTION I - BOARD SUMMARY**

**D. Projected Financial Trends**

Our analysis of SDCERS-Unified Port District projected financial trends is a very important part of this valuation. These projections based on the June 30, 2016 valuation results are presented in terms of benefit security (assets over liabilities) and the UPD's expected cost progression.

In the chart that follows, we project the SDCERS-Unified Port District assets and liabilities and the UPD's contributions. These projections assume a 7.00% investment return and discount rate for all years, as well as all experience conforming to the Plan's assumptions. The upper chart compares the assets (green and yellow lines) and liabilities (gray bars) and the lower chart shows contributions in dollars (employer contributions in yellow bars and member contributions in green bars). The left side of the exhibit shows the returns assumed each year followed by the annual ADC and UAL in dollar amounts.

**SDCERS-Unified Port District Projections FY 2017-2049 (earnings as assumed)**



Based on assuming 7.00% earnings, the UPD's funded status (percentages at the top of the upper graph) is projected to reach 100% by the end of the period. The UPD's ADC is projected to remain reasonably steady over the next nine years or so, decline significantly in

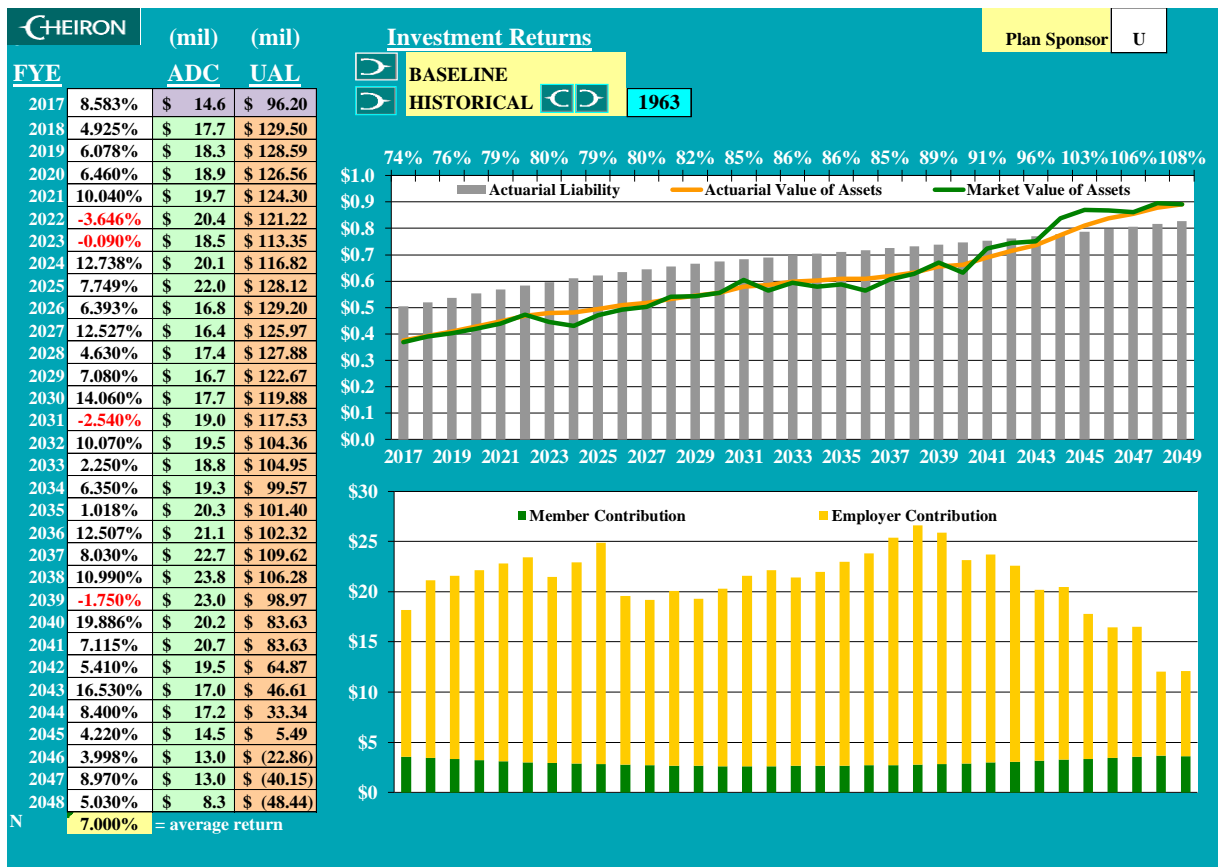
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2026, increase slightly towards the end of the period, and then decline when the amortization of the assumption changes in the 2016 valuation is completed.

However, it is very important to note that these projections, while valid as baseline projections, **are not going to occur** as experience never conforms exactly to assumptions from year to year. As a result, we present the following additional stress testing projection based on assuming varying returns in the future, which are 7.00% on average.

**SDCERS-Unified Port District Projections FY 2017-2049 (earnings which vary by year)**



With varying annual earnings that average over the period to 7.00%, one can see the volatility in the funding ratios in the top chart and employer contributions in the bottom chart. Note that this chart reflects an illustrative scenario and is not intended to reflect future expectations.

This last chart demonstrates the risks faced by SDCERS measured in terms of funding ratios and contribution rates. Whether the System is fully funded or poorly funded, subsequent returns can quickly alter the financial position of the Plan dramatically. It is impossible to judge the financial soundness of a System with a single year point measurement. What is more important to consider is the System’s level of conservatism in funding the Plan, and the discipline and ability of the plan sponsor to consistently contribute the ADC as determined by the plan actuary.

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**SECTION II - ASSETS**

Like most other public pension plans, SDCERS uses two different asset measurements that are presented in this section of the report: the market value and the actuarial value of assets. The market value of assets represents, as of the valuation date, the value of the assets if they were liquidated on that date. The actuarial value of assets is a value that smooths annual investment performance over multiple years to reduce the impact of annual investment volatility on employer contributions. The actuarial value of assets is used in determining SDCERS' contributions for the three participating employer plans.

Each employer receives a separate actuarial valuation report and cost determination. However, the assets of all employer plans are pooled for investment purposes. The apportionment of the assets among the employer plans directly impacts each employer's costs. Therefore, in the interest of ensuring transparency, this section discloses information on the total assets of SDCERS-All Employers. In addition, a brief explanation of how those assets are apportioned to the City of San Diego, the San Diego Unified Port District, and the San Diego County Regional Airport Authority is included.

On the following pages, detailed information is presented on SDCERS-All Employers assets, including:

- A. Disclosure of the June 30, 2016 total SDCERS market value of assets, by asset class;
- B. Market value of assets by Plan Sponsor;
- C. Development of the actuarial value of assets; and
- D. Disclosure of the investment performance for the year.

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**SECTION II - ASSETS**

**A. Disclosure of Market Value of Assets**

The market value of assets represents a “snap-shot” value as of June 30, 2016, the last day of the fiscal year, which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with swings in the investment markets. Because these fluctuations would cause volatility in employer contributions, an actuarial value of assets is developed. Table II-1 below discloses the market value by asset class of SDCERS – All Employers’ gross assets on June 30, 2016.

<b>Table II-1</b>	
<b>SDCERS – All Employers</b>	
<b>Summary of Reported Market Value of Total Defined Benefit Plan</b>	
Cash	\$ 219,352,982
US Stocks	1,510,118,261
International Stocks	1,420,376,041
Private Equity	882,731,916
Bonds	2,118,119,346
Real Estate	829,319,267
Receivables	205,300,226
Miscellaneous	202,211,692
Accounts Payable	<u>(568,011,622)</u>
<b>Market Value of Assets – June 30, 2016</b>	<b>\$ 6,819,518,109</b>



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**SECTION II - ASSETS**

**B. Market Value of Assets by Plan Sponsor**

As of July 1, 2007, the City, Unified Port District, and Airport Authority Plans were separated into independent, qualified, single employer, governmental defined benefit plans and trusts. The assets of the three separate plans and trusts are pooled in the SDCERS Group Trust, which was established as of July 1, 2007. SDCERS invests and administers the Group Trust as a common investment fund and accounts separately for the proportional interest of each plan and trust that participates in the Group Trust. Cash flow activity for each plan is recorded directly to that plan, with investment activity and other cash flow activity not specific to any one plan being allocated based upon each plan's respective share of the Group Trust's total assets, with time-weighted adjustments for the plan-specific cash flows. Administrative expenses are allocated based on the proportion of participants of a participating trust to the number of total participants of all participating trusts on the first day of the plan year. Table II-2 below discloses the market value and actuarial value of assets by Plan.

<b>Table II-2 Summary of Market and Actuarial Assets for Each Employer Group as of June 30, 2016</b>			
	<u>Market Value</u> Total Net Assets June 30, 2015	<u>Market Value</u> Total Net Assets June 30, 2016	<u>Actuarial Value</u> Total Assets June 30, 2016
City of San Diego	\$ 6,387,828,761	\$ 6,307,412,212	\$ 6,455,378,088
Unified Port District	370,053,588	368,232,658	375,301,415
Airport Authority	<u>138,544,185</u>	<u>143,873,239</u>	<u>148,084,058</u>
<b>Total-SDCERS</b>	<b>\$ 6,896,426,535</b>	<b>\$ 6,819,518,109</b>	<b>\$ 6,978,763,560</b>

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**SECTION II - ASSETS**

**C. Actuarial Value of Assets**

To determine on-going funding requirements, most pension plans utilize an actuarial value of assets. Unlike the market value of assets, the actuarial value of assets represents an asset value based on averaging or smoothing year-to-year market value returns for purposes of reducing the resulting volatility on contributions.

The actuarial value of assets is equal to 100% of the expected actuarial value of assets as of June 30, 2016 plus 25% of the difference between the current actual market value of assets and the expected actuarial value of assets. (See Appendix B, Section B-2 for further explanation of the asset valuation method). In no event will the actuarial value of assets ever be less than 80% of the market value of assets, nor ever greater than 120% of the market value of assets.

<b>Table II-3 SDCERS - Unified Port District Development of Actuarial Value of Assets at June 30, 2016 Expected Value of Assets Method</b>	
1. Actuarial Value of Assets at June 30, 2015	\$ 357,599,720
2. Amount in (1) with interest at 7.125% to June 30, 2016	383,078,700
3. Employer and Member contributions for the Plan Year ended June 30, 2016	18,099,601
4. Disbursements from Trust excluding investment expenses, June 30, 2015 through June 30, 2016	23,780,406
5. Interest on cash flows to June 30, 2016 at 7.125% per year	<u>259,771</u>
6. Expected Actuarial Value of Assets at June 30, 2016 = (2) + (3) – (4) + (5)	377,657,667
7. Actual Market Value of Assets at June 30, 2016	<u>368,232,658</u>
8. Excess of (7) over (6)	(9,425,008)
9. Preliminary Actuarial Value of Assets at June 30, 2016 = (6) + 25% of (8)	\$ 375,301,415
10. 80% Minimum Corridor on the Actuarial Value of Assets = 80% of (7)	294,586,127
11. 120% Maximum Corridor on the Actuarial Value of Assets = 120% of (7)	441,879,190
12. Final Actuarial Value of Assets at June 30, 2016 = (9), but no less than (10) and no more than (11)	\$ 375,301,415

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**SECTION II - ASSETS**

**D. Investment Performance**

The return on the market value of assets, as reported by SDCERS' investment consultant Aon Hewitt Investment Consulting, was 1.1%. The return in FY 2015 was 3.3%.

On an actuarial (smoothed) value of assets basis, the return for FY 2016 was 6.46%. This return produced for SDCERS-All Employers an overall investment loss of \$53.8 million for the year ending June 30, 2016. (Note: this reported loss is different than the investment loss of \$2.4 million reported in Table I-4 of this report. \$2.4 million is the loss only for SDCERS-Unified Port District).

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**SECTION III - LIABILITIES**

In this section, we present detailed information on liabilities for SDCERS-Unified Port District including:

- Disclosure of liabilities at June 30, 2015 and June 30, 2016, and
- Statement of changes in the unfunded actuarial liabilities during the year.

**A. Disclosure**

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the purpose for which the figures are ultimately used. Note that these liabilities are not applicable for settlement purposes, including the purchase of annuities and the payment of lump sums.

- **Present Value of Future Benefits:** Used for measuring all future SDCERS obligations, represents the amount of money needed today to fully fund all benefits of SDCERS both earned as of the valuation date and those to be earned in the future by current plan members, under the current plan provisions.
- **Actuarial Liability-Entry Age Normal (EAN):** Used for determining employer contributions and GASB accounting disclosures. This liability is calculated taking the present value of all future benefits and subtracting the present value of future Member contributions and future employer normal costs as determined under the EAN actuarial funding method. It represents the portion of the present value of future benefits attributed to service prior to the valuation date by the Entry Age Normal method.
- **Present Value of Accrued Benefits:** This liability represents the present value of future benefits payable to all plan participants as of the valuation date, if future accruals and contributions stopped.

Table III-1, on the following page, discloses the first two of these liabilities for the current and prior year valuations. Table III-2 breaks down these liabilities by tier; subtracting the actuarial value of assets from the actuarial liability results in a net surplus or an unfunded actuarial liability (UAL). Table III-3 disclosed the third of these liabilities, present value of accrued benefits, for the current and prior year valuations.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION III - LIABILITIES**

Table III-1				
SDCERS - Unified Port District - Total				
Valuation as of:	June 30, 2016		June 30, 2015	
<b>Present Value of Future Benefits</b>				
Actives	\$	212,863,406	\$	201,058,621
Terminated Vested		20,977,899		18,275,399
Disabled		21,925,824		20,503,209
Retirees		281,032,335		251,008,677
Beneficiaries		<u>15,554,458</u>		<u>13,662,977</u>
<b>Total Unified Port District</b>	<b>\$</b>	<b>552,353,922</b>	<b>\$</b>	<b>504,508,883</b>
<b>Actuarial Liability - EAN</b>				
Total Present Value of Future Benefits	\$	552,353,922	\$	504,508,883
Present Value of Future Normal Costs				
Employer Portion		25,890,599		26,946,900
Employee Portion		<u>21,700,195</u>		<u>23,788,455</u>
<b>Actuarial Liability - EAN</b>	<b>\$</b>	<b>504,763,128</b>	<b>\$</b>	<b>453,773,528</b>
Actuarial Value of Assets	\$	375,301,415	\$	357,599,720
<b>Unfunded EAN Actuarial Liability</b>	<b>\$</b>	<b>129,461,713</b>	<b>\$</b>	<b>96,173,808</b>

Table III-2 shows the actuarial liability as of June 30, 2016 for General, Miscellaneous, Executive and Safety Members of SDCERS-Unified Port District.

Table III-2							
SDCERS - Unified Port District as of June 30, 2016							
	Total	General	Miscellaneous	Executives	Safety-Old	Safety-PEPRA	
<b>Present Value of Future Benefits</b>							
Actives	\$	212,863,406	\$	124,841,766	\$	842,586	\$
Terminated Vested		20,977,899		17,055,868		-	6,157,222
Disabled		21,925,824		9,629,245		-	78,003,653
Retirees		281,032,335		159,575,785		-	3,018,180
Beneficiaries		<u>15,554,458</u>		13,083,894		-	-
<b>Total Unified Port District</b>	<b>\$</b>	<b>552,353,922</b>	<b>\$</b>	<b>324,186,558</b>	<b>\$</b>	<b>842,586</b>	<b>\$</b>
<b>26,298,552</b>	<b>\$</b>	<b>197,998,243</b>	<b>\$</b>	<b>3,027,983</b>			
<b>Actuarial Liability - EAN</b>							
Actives	\$	165,272,612	\$	100,708,748	\$	134,139	\$
Terminated Vested		20,977,899		17,055,868		-	5,697,840
Disabled		21,925,824		9,629,245		-	58,592,995
Retirees		281,032,335		159,575,785		-	9,803
Beneficiaries		<u>15,554,458</u>		13,083,894		-	-
<b>Total Unified Port District</b>	<b>\$</b>	<b>504,763,128</b>	<b>\$</b>	<b>300,053,540</b>	<b>\$</b>	<b>134,139</b>	<b>\$</b>
<b>25,839,171</b>	<b>\$</b>	<b>178,587,585</b>	<b>\$</b>	<b>148,693</b>			

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION III - LIABILITIES**

Table III-3 shows the present value of accrued benefits as of June 30, 2016 for all Members of SDCERS-Unified Port District.

<b>Table III-3</b>				
<b>SDCERS - Unified Port District - Present Value of Accrued Benefits</b>				
	<b>Valuation as of:</b>	<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>% Change</b>
<b>Present Value of Accrued Benefits</b>				
1. Present Value of Benefits Accrued and Vested to Date				
a. Members Currently Receiving Payments	\$	318,512,617	\$ 285,174,863	11.7%
b. Vested Terminated and Inactive Members		20,977,899	18,275,399	14.8%
c. Active Members		<u>122,331,297</u>	<u>105,967,558</u>	<u>15.4%</u>
d. Total PVAB	\$	461,821,813	\$ 409,417,820	12.8%
2. Assets at Market Value	\$	368,232,658	\$ 370,053,588	-0.5%
3. Unfunded Present Value of Accrued Benefits, But Not Less Than Zero	\$	93,589,155	\$ 39,364,232	
4. Ratio of Assets to Value of Benefits (2)/(1)(d)		79.73%	90.39%	-10.7%

**B. Changes in Unfunded Actuarial Liabilities**

The UAL of any retirement plan is expected to change at each subsequent valuation for a variety of reasons. In each valuation, we report on those elements of change in the UAL that have particular significance or could potentially affect the long-term financial outlook of a retirement plan. Below we present key changes in liabilities since the last valuation.

<b>Table III-4</b>	
<b>Development of 2016 Experience Gain/(Loss) SDCERS - Unified Port District</b>	
<b>(In Thousands)</b>	
1. Unfunded Actuarial Liability at June 30, 2015	\$ 96,173.8
2. Beginning of year Unfunded Actuarial Liability payment	(10,131.7)
3. Interest accrued ((1+2) x 7.125%)	<u>6,130.5</u>
4. Expected Unfunded Actuarial Liability at June 30, 2016 (1+2+3)	92,172.6
5. Actual Unfunded Liability at June 30, 2016	129,461.7
6. Difference: (4 - 5)	(37,289.1)
7. Portion of difference (6) due to actuarial assumption or method changes	(32,900.9)
8. Portion of difference (6) due to plan changes	-
9. Portion of difference (6) due to contributions less than expected	(99.2)
10. Portion of difference (6) due to net experience Gain/(Loss)	(4,289.0)
a) portion of (10) due to investment experience	\$ (2,412.1)
b) portion of (10) due to liability experience	\$ (1,876.8)
c) portion of (10) due to service purchases	\$ -

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION III - LIABILITIES**

Table III-5 shows the history of past experience gains and losses.

<b>Table III-5</b>			
<b>Experience Gain/(Loss) - Historical SDCERS - Unified Port District <sup>1</sup></b>			
<b>Valuation Date</b>	<b>Gain/(Loss)</b>	<b>Beginning-of-Year Actuarial Liabilities</b>	<b>Gain/(Loss) % of Liability</b>
6/30/1999	\$ 3,601,033	\$ 81,632,570	4.4%
6/30/2000	15,094,373	89,808,543	16.8
6/30/2001	(2,899,896)	97,159,852	(3.0)
6/30/2002	(20,288,699)	123,125,659	(16.5)
12/31/2002	<sup>1</sup> (11,097,105)	140,196,959	(7.9)
6/30/2003	(10,248,435)	137,824,047	(7.4)
6/30/2004	(2,070,099)	154,299,669	(1.3)
6/30/2005	(552,547)	175,366,198	(0.3)
6/30/2006	20,138,814	198,071,900	10.2
6/30/2007	2,994,479	220,637,279	1.4
6/30/2008	(1,999,505)	246,538,326	(0.8)
6/30/2009	(44,607,050)	267,036,729	(16.7)
6/30/2010	(8,831,078)	288,698,145	(3.1)
6/30/2011	(388,359)	310,467,297	(0.1)
6/30/2012	(7,152,892)	354,837,169	(2.0)
6/30/2013	5,648,661	382,013,160	1.5
6/30/2014	5,568,248	410,026,471	1.4
6/30/2015	6,000,467	433,271,687	1.4
6/30/2016	(4,288,969)	453,773,528	(0.9)

<sup>1</sup> Airport Authority split as of December 31, 2002.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION IV - CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to achieve and maintain an appropriate funded status of a plan. Typically, the actuarial process will use an actuarial funding method that attempts to create a pattern of contributions that is both stable and predictable.

The actuarial funding methodology employed is the Entry Age Normal (EAN) actuarial funding method. Under the funding method, there are three components to the total contribution: the normal cost, an amortization payment on the unfunded actuarial liability, and the expected administrative expenses. The normal cost for an individual employee is the ratio of their present value of future benefits to present value of future salaries at entry age, multiplied by their valuation salary. The gross normal cost rate for each sub-group is determined by dividing the sum of the individual normal costs by the total valuation salary for that sub-group. The gross normal cost rate is then reduced by the average employee contribution rate to determine the employer normal cost rate. Finally, the employer normal cost rate for each sub-group is multiplied by that group's projected FY 2018 payroll to determine the normal cost component of the FY 2018 ADC.

The EAN actuarial liability is the Plan's total present value of future benefits minus the total present value of future normal costs. The difference between the EAN actuarial liability and the actuarial value of assets is the unfunded actuarial liability. The UAL for FY 2018 is to be amortized over several different periods. Table IV-2 shows the outstanding balance, the FY 2018 payment and the remaining amortization period for each of these components. If necessary, there is an additional UAL cost component to ensure that there is no negative amortization in any year.

In January 2015 the Board voted to account for expected administrative expenses explicitly in the actuarially determined contribution (ADC). The administrative expense component is \$780,000 for FY 2018 (assuming payment at the beginning of the year), reflecting the final year of a three-year phase-in. This amount is assumed to increase by 2.5% per year.

Table IV-1 on the following page shows how the Unified Port District's contribution rate for SDCERS for FY 2018 is developed.



**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION IV - CONTRIBUTIONS**

**Table IV-1  
SDCERS - Unified Port District  
Development of the UPD's Contribution as of June 30, 2016 for FY 2018  
(dollars in millions)**

	WEIGHTED TOTAL UPD	Non-Safety			Safety			
		Weighted Total	General	Misc	Executives	Weighted Total	Safety Old Plan	Safety PEPRA
1. Total Normal Cost Rate as of June 30, 2016	<b>24.08%</b>	21.38%	22.05%	8.58%	22.71%	28.89%	29.43%	24.35%
2. Member Contribution Rate as of June 30, 2016	<b>10.77%</b>	<u>9.48%</u>	<u>9.99%</u>	<u>0.00%</u>	<u>10.17%</u>	<u>13.07%</u>	<u>13.22%</u>	<u>11.91%</u>
3. Employer Normal Cost Rate as of June 30, 2016 (1-2)	<b>13.31%</b>	11.90%	12.06%	8.58%	12.54%	15.82%	16.21%	12.44%
4. Actuarial Liability	<b>\$504.8</b>	\$326.0	\$300.1	\$0.1	\$25.8	\$178.7	\$178.6	\$0.1
5. Actuarial Assets	<b>\$375.3</b>	<u>\$242.4</u>	<u>\$223.1</u>	<u>\$0.1</u>	<u>\$19.2</u>	<u>\$132.9</u>	<u>\$132.8</u>	<u>\$0.1</u>
6. Total Unfunded Actuarial Liability (UAL) (4-5) <sup>1</sup>	<b>\$129.5</b>	\$83.6	\$77.0	\$0.0	\$6.6	\$45.8	\$45.8	\$0.0
7. Preliminary FY17 UAL amortization <sup>1</sup>	<b>\$12.6</b>	\$8.1	\$7.5	\$0.0	\$0.6	\$4.5	\$4.5	\$0.0
8. <u>Negative Amortization Test for FY18</u>								
a. Total UAL on 6/30/16 less FY17 UAL payment	<b>\$119.5</b>	\$77.2	\$71.0	\$0.0	\$6.1	\$42.3	\$42.3	\$0.0
b. Interest on 8a. To 6/30/17	<b>\$8.4</b>	\$5.4	\$5.0	\$0.0	\$0.4	\$3.0	\$3.0	\$0.0
c. Preliminary FY18 UAL amortization (line 7)	<b>\$12.6</b>	<u>\$8.1</u>	<u>\$7.5</u>	<u>\$0.0</u>	<u>\$0.6</u>	<u>\$4.5</u>	<u>\$4.5</u>	<u>\$0.0</u>
d. Negative interest (8b - 8c, not less than zero)	-	-	-	-	-	-	-	-
9. Total FY18 UAL payment on 7/01/17 (8c + 8d)	<b>\$12.6</b>	\$8.1	\$7.5	\$0.0	\$0.6	\$4.5	\$4.5	\$0.0
10. Total FY18 UAL payment throughout year	<b>\$13.0</b>	\$8.4	\$7.7	\$0.0	\$0.7	\$4.6	\$4.6	\$0.0
11. Total Expected Payroll for FY18	<b>\$35.2</b>	\$22.7	\$17.7	\$4.5	\$0.6	\$12.5	\$10.0	\$2.5
12. FY18 Normal Cost paid throughout the year	<b>\$4.5</b>	\$2.6	\$2.1	\$0.4	\$0.1	\$1.9	\$1.6	\$0.3
13. FY18 Normal Cost paid at start of year	<b>\$4.4</b>	\$2.5	\$2.1	\$0.4	\$0.1	\$1.9	\$1.6	\$0.3
14. Administrative Expenses paid throughout the year	<b>\$0.8</b>	\$0.5	\$0.5	\$0.0	\$0.0	\$0.3	\$0.3	\$0.0
15. Determination of FY18 ADC %								
a. Employer Normal Cost Rate (12 divided by 11)	<b>12.83%</b>	11.39%	12.06%	8.58%	12.54%	15.46%	16.21%	12.44%
b. UAL Rate (line 10 divided by line 11)	<b>36.99%</b>	37.04%	43.85%	0.08%	119.67%	36.89%	46.01%	0.15%
c. Admin Expense Rate (line 14 divided by line 11)	<b>2.29%</b>	<u>2.23%</u>	<u>2.57%</u>	<u>0.40%</u>	<u>6.08%</u>	<u>2.41%</u>	<u>2.86%</u>	<u>0.58%</u>
d. Total employer ADC % (15a + 15b + 15c)	<b>52.11%</b>	50.65%	58.48%	9.05%	138.29%	54.75%	65.07%	13.17%
16. Determination of FY18 ADC dollars								
a. FY18 ADC if paid throughout year	<b>\$18.4</b>	\$11.5	\$10.3	\$0.4	\$0.8	\$6.8	\$6.5	\$0.3
b. FY18 ADC if paid at beginning of year	<b>\$17.7</b>	\$11.1	\$10.0	\$0.4	\$0.7	\$6.6	\$6.3	\$0.3

<sup>1</sup> See Table IV-2 for components of these amounts.

Note: Numbers may not add due to rounding.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION IV - CONTRIBUTIONS**

Table IV-2 shows information on each layer of the June 30, 2016 UAL.

**Table IV-2  
SDCERS - Unified Port District  
Schedule of Amortization Bases as of July 1, 2016  
Used in Development of the UPD's Contribution for FY 2018**

<u>Type of Base</u>	<u>Date Established</u>	<u>Initial Amount</u>	<u>Initial</u>	<u>July 1, 2016</u>	<u>Outstanding</u>	<u>Remaining</u>	<u>FY 2018</u>
			<u>Amortization</u>	<u>Outstanding</u>	<u>Balance for FY</u>	<u>Amortization</u>	<u>Amortization</u>
			<u>Years</u>	<u>Balance</u>	<u>2018 (BOY) <sup>1</sup></u>	<u>Years</u>	<u>Amount</u>
1. June 30, 2007 UAL	7/1/2007	\$ 15,953,422	14	\$ 10,740,301	\$ 9,392,475	5	\$ 2,022,401
2. Assumption Change	7/1/2008	3,749,736	30	4,425,851	4,433,854	22	290,796
3. Experience Loss	7/1/2008	865,441	15	718,535	659,628	7	105,191
4. Experience Loss	7/1/2009	43,763,842	15	38,648,037	36,038,528	8	5,119,653
5. Experience Loss	7/1/2010	8,786,725	15	8,152,494	7,696,164	9	989,302
6. Experience Gain	7/1/2011	(488,764)	15	(471,731)	(449,772)	10	(52,963)
7. Plan Change (ERIP)	7/1/2011	9,482,154	20	9,961,855	9,789,257	15	838,087
8. Assumption Change	7/1/2011	10,225,742	30	11,588,449	11,666,335	25	706,584
9. Experience Loss	7/1/2012	6,509,649	15	6,497,643	6,246,076	11	680,496
10. Method Change	7/1/2012	2,411,525	30	2,694,613	2,716,437	26	160,723
11. Experience Gain	7/1/2013	(3,358,988)	15	(3,443,726)	(3,333,158)	12	(338,740)
12. Assumption Change	7/1/2013	8,088,814	30	8,900,431	8,983,839	27	519,975
13. Experience Gain	7/1/2014	(5,340,373)	15	(5,610,644)	(5,462,192)	13	(521,370)
14. Experience Gain	7/1/2015	(5,825,601)	15	(6,240,675)	(6,106,001)	14	(550,593)
15. Assumption Change	7/1/2015	5,479,948	30	5,870,395	5,938,717	29	330,141
16. Experience Loss	7/1/2016	4,128,942	15	4,128,942	4,417,968	15	378,235
17. Assumption Change	7/1/2016	32,900,945	30	<u>32,900,945</u>	<u>35,204,011</u>	30	<u>1,921,156</u>
<b>TOTAL</b>				<b>\$ 129,461,713</b>	<b>\$ 127,832,166</b>		<b>\$ 12,599,076</b>

<sup>1</sup> July 1, 2016 outstanding balance adjusted to the FY 2018 beginning of year (BOY), July 1, 2017.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION V - COMPREHENSIVE ANNUAL FINANCIAL REPORT INFORMATION**

Tables V-1 and V-2 are exhibits required for the System’s Comprehensive Annual Financial Report (CAFR). The Government Finance Officers Association (GFOA) recommends showing at least six years of experience in each of these exhibits in the CAFR. Table V-1 presents an analysis of financial experience for the valuation year, and Table V-2 presents the Solvency Test which shows the portion of actuarial liability covered by assets.

The disclosures needed to satisfy the new requirements of Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 are contained in our separate GASB 67/68 report as of June 30, 2016, issued on November 10, 2016.

<b>Table V-1</b> <b>SDCERS - Unified Port District</b> <b>ANALYSIS OF FINANCIAL EXPERIENCE</b> <b>Gain and Loss in Actuarial Liability During Years Ended June 30</b> <b>Resulting from Differences Between Assumed Experience</b> <b>and Actual Experience</b>	
<b>Type of Activity</b>	<b>Gain (or Loss) for Year ending June 30, 2016</b>
Investment Income	\$ (2,412,140)
Combined Liability Experience	<u>(1,876,829)</u>
Gain (or Loss) During Year from Financial Experience	\$ (4,288,969)
Non-Recurring Gain (or Loss) Items (e.g., Contributions, Assumption Changes)	<u>(33,000,161)</u>
Composite Gain (or Loss) During Year	\$ (37,289,130)

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**SECTION V - COMPREHENSIVE ANNUAL FINANCIAL REPORT INFORMATION**

**Table V-2  
SDCERS - Unified Port District  
SOLVENCY TEST  
Actuarial Liabilities For  
(\$ in thousands)**

Valuation Date June 30,	(A)	(B)	(C)	Reported Assets <sup>1</sup>	Portion of Actuarial Liabilities Covered by Reported Assets		
	Active Member Contributions	Retirees And Beneficiaries	Remaining Active Members' Liabilities		(A)	(B)	(C)
2016 <sup>5</sup>	\$ 22,964	\$ 318,513	\$ 163,286	\$ 375,301	100%	100%	20.71%
2015 <sup>5</sup>	21,857	285,175	146,742	357,600	100	100	34.46
2014	22,613	261,029	149,630	333,229	100	100	33.14
2013 <sup>5</sup>	23,744	230,880	155,402	302,322	100	100	30.69
2012	21,236	218,954	141,824	277,822	100	100	26.53
2011 <sup>5</sup>	19,138	207,854	127,845	259,315	100	100	25.28
2010	21,999	150,188	138,280	233,788	100	100	44.55
2009	20,784	137,803	130,112	223,879	100	100	50.18
2008 <sup>5</sup>	19,397	123,029	124,611	245,580	100	100	82.78
2007 <sup>4</sup>	18,374	115,021	113,143	230,585	100	100	85.90
2006 <sup>3</sup>	16,140	101,542	102,955	203,286	100	100	83.15
2005	15,122	86,242	96,708	163,691	100	100	64.45
2004	12,885 <sup>2</sup>	75,994	86,487	141,375	100	100	60.70

<sup>1</sup> Actuarial Value of Assets.

<sup>2</sup> Estimated.

<sup>3</sup> Reflects contingent liabilities (13<sup>th</sup> check), DROP reserves, and IRC Section 415 limits.

<sup>4</sup> The actuarial liability on June 30, 2007 and after is based on the entry age actuarial funding method. All prior years are based on the projected unit credit actuarial funding method.

<sup>5</sup> Reflects revised actuarial and economic assumptions.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**APPENDIX A - MEMBERSHIP INFORMATION**

Table A-1 Reconciliation of Member Data Unified Port District								
	<u>Active</u>	<u>Terminated Vested</u>	<u>Terminated Non-Vested</u>	<u>Disabled</u>	<u>Retired</u>	<u>Beneficiaries</u>	<u>DROP</u>	<u>Totals</u>
<b>Participants as of 7/1/2015</b>	<b>377</b>	<b>118</b>	<b>166</b>	<b>62</b>	<b>348</b>	<b>82</b>	<b>44</b>	<b>1,197</b>
New Entrants	10	0	0	0	0	0	0	10
Returned to Work	0	0	0	0	0	0	0	0
Vested Terminations	(3)	3	0	0	0	0	0	0
Non-Vested Terminations	(1)	0	1	0	0	0	0	0
Retirements	(4)	0	(1)	0	21	0	(16)	0
DROP	(14)	0	0	0	0	0	14	0
Disabilities	0	0	0	0	0	0	0	0
New Continuants	0	0	0	0	0	3	0	3
New Dissolutions <sup>1</sup>	0	0	0	0	3	0	3	6
Benefits Ceased <sup>2</sup>	0	0	0	(1)	(2)	(3)	0	(6)
Lump Sum Cashout	(3)	(2)	(6)	0	0	0	0	(11)
Transferred Out	0	0	0	0	0	0	0	0
Miscellaneous Adjustments	0	0	0	0	0	0	0	0
<b>Participants as of 7/1/2016</b>	<b>362</b>	<b>119</b>	<b>160</b>	<b>61</b>	<b>370</b>	<b>82</b>	<b>45</b>	<b>1,199</b>

<sup>1</sup> Includes participants who may have previously had a frozen benefit and retired from a different plan.

<sup>2</sup> Includes deaths and benefits that were terminated or suspended.

**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX A - MEMBERSHIP INFORMATION**

<b>Table A-2 SDCERS - Unified Port District Active Member Data</b>			
	<u>June 30, 2016</u>	<u>June 30, 2015</u>	<u>% Change</u>
<b><u>Total</u></b>			
Count	362	377	-4.0%
Average Current Age	46.7	46.6	0.4%
Average Service	12.9	12.6	2.0%
Average Pensionable Earnings	\$ 93,051	\$ 88,892	4.7%
Annual Pensionable Earnings	\$ 33,684,615	\$ 33,512,410	0.5%
Average Valuation Compensation <sup>1</sup>	\$ 93,051	\$ 88,892	4.7%
Annual Valuation Compensation <sup>1</sup>	\$ 33,684,615	\$ 33,512,410	0.5%
Average Service Without Purchased Service	12.2	11.9	2.5%
Members with Paid Purchased Service	54	60	-10.0%
Members with Any Purchased Service	61	68	-10.3%
Amount of Paid Purchased Service	202	215	-6.1%
Amount of Total Purchased Service	237	263	-9.9%
<b><u>General</u></b>			
Count	251	272	-7.7%
Average Current Age	49.4	48.9	1.0%
Average Service	13.6	13.1	3.8%
Average Pensionable Earnings	\$ 86,556	\$ 82,319	5.1%
Annual Pensionable Earnings	\$ 21,725,483	\$ 22,390,843	-3.0%
Average Valuation Compensation <sup>1</sup>	\$ 86,556	\$ 82,319	5.1%
Annual Valuation Compensation <sup>1</sup>	\$ 21,725,483	\$ 22,390,843	-3.0%
Average Service Without Purchased Service	13.0	12.4	4.8%
Members with Paid Purchased Service	35	41	-14.6%
Members with Any Purchased Service	40	46	-13.0%
Amount of Paid Purchased Service	139	152	-8.7%
Amount of Total Purchased Service	161	185	-12.8%
<b><u>Safety</u></b>			
Count	111	105	5.7%
Average Current Age	40.7	40.5	0.5%
Average Service	11.2	11.3	-0.9%
Average Pensionable Earnings	\$ 107,740	\$ 105,920	1.7%
Annual Pensionable Earnings	\$ 11,959,132	\$ 11,121,567	7.5%
Average Valuation Compensation <sup>1</sup>	\$ 107,740	\$ 105,920	1.7%
Annual Valuation Compensation <sup>1</sup>	\$ 11,959,132	\$ 11,121,567	7.5%
Average Service Without Purchased Service	10.5	10.6	-0.9%
Members with Paid Purchased Service	19	19	0.0%
Members with Any Purchased Service	21	22	-4.5%
Amount of Paid Purchased Service	63	63	0.2%
Amount of Total Purchased Service	76	78	-3.0%

<sup>1</sup> The definition of valuation compensation differs from pensionable earnings due to IRS 401(a).

**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX A - MEMBERSHIP INFORMATION**

<b>Table A-3 SDCERS - Unified Port District Non-Active Participant Data</b>							
	<b>Count</b>			<b>Average Age</b>			
	<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>%Change</b>	<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>%Change</b>	
<b>Total</b>							
Retired <sup>1</sup>	415	392	5.9%	68.0	67.6	0.6%	
Disabled	61	62	-1.6%	64.3	63.6	1.1%	
Beneficiaries	82	82	0.0%	75.6	75.2	0.5%	
Payee Total	558	536	4.1%	68.7	68.3	0.6%	
DROP Participants	45	44	2.3%	57.3	57.3	-0.1%	
Deferred Vested <sup>2</sup>	279	284	-1.8%	50.7	49.9	1.7%	
Vested < 5 (10) yrs svc <sup>3</sup>	176	183	-3.8%				
<b>General</b>							
Retired <sup>1</sup>	332	312	6.4%	70.0	69.7	0.4%	
Disabled	40	41	-2.4%	68.2	67.6	0.9%	
Beneficiaries	74	74	0.0%	77.1	76.8	0.4%	
Payee Total	446	427	4.4%	71.0	70.7	0.4%	
DROP Participants	26	21	23.8%	60.1	61.9	-2.9%	
Deferred Vested <sup>2</sup>	241	247	-2.4%	51.4	50.5	1.8%	
Vested < 5 (10) yrs svc <sup>3</sup>	147	155	-5.2%				
<b>Safety</b>							
Retired <sup>1</sup>	83	80	3.8%	60.1	59.4	1.2%	
Disabled	21	21	0.0%	56.9	55.9	1.8%	
Beneficiaries	8	8	0.0%	61.3	60.3	1.7%	
Payee Total	112	109	2.8%	59.6	58.8	1.4%	
DROP Participants	19	23	-17.4%	53.4	53.1	0.6%	
Deferred Vested <sup>2</sup>	38	37	2.7%	46.3	45.6	1.5%	
Vested < 5 (10) yrs svc <sup>3</sup>	29	28	3.6%				

<sup>1</sup>Includes DROP Participants.

<sup>2</sup>Includes all Participants having a contribution balance still on account with SDCERS.

<sup>3</sup> 10 years of service required for vesting if terminated prior to December 31, 2002.

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**APPENDIX A - MEMBERSHIP INFORMATION**

<b>Table A-4 SDCERS - Unified Port District Non-Active Participant Data</b>						
	<b>Total Annual Benefit</b>			<b>Average Annual Benefit</b>		
	<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>%Change</b>	<b>June 30, 2016</b>	<b>June 30, 2015</b>	<b>%Change</b>
<b><u>Total</u></b>						
Retired <sup>1</sup>	\$ 20,802,341	\$ 19,572,584	6.3%	\$ 50,126	\$ 49,930	0.4%
Disabled	1,694,793	1,686,471	0.5%	27,783	27,201	2.1%
Beneficiaries	<u>1,587,726</u>	<u>1,483,989</u>	7.0%	<u>19,363</u>	<u>18,097</u>	7.0%
Payee Total	\$ 24,084,860	\$ 22,743,044	5.9%	\$ 43,163	\$ 42,431	1.7%
DROP Participants	\$ 3,020,959	\$ 3,198,750	-5.6%	\$ 67,132	\$ 72,699	-7.7%
Deferred Vested <sup>2</sup>	\$ 6,238,739	\$ 5,803,736	7.5%	\$ 22,361	\$ 20,436	9.4%
<b><u>General</u></b>						
Retired <sup>1</sup>	\$ 14,325,955	\$ 13,370,233	7.1%	\$ 43,150	\$ 42,853	0.7%
Disabled	831,192	835,166	-0.5%	20,780	20,370	2.0%
Beneficiaries	<u>1,405,191</u>	<u>1,304,355</u>	7.7%	<u>18,989</u>	<u>17,626</u>	7.7%
Payee Total	\$ 16,562,338	\$ 15,509,755	6.8%	\$ 37,135	\$ 36,323	2.2%
DROP Participants	\$ 1,223,206	\$ 946,206	29.3%	\$ 47,046	\$ 45,057	4.4%
Deferred Vested <sup>2</sup>	\$ 5,243,508	\$ 4,882,043	7.4%	\$ 21,757	\$ 19,765	10.1%
<b><u>Safety</u></b>						
Retired <sup>1</sup>	\$ 6,476,386	\$ 6,202,351	4.4%	\$ 78,029	\$ 77,529	0.6%
Disabled	863,601	851,305	1.4%	41,124	40,538	1.4%
Beneficiaries	<u>182,535</u>	<u>179,633</u>	1.6%	<u>22,817</u>	<u>22,454</u>	1.6%
Payee Total	\$ 7,522,522	\$ 7,233,289	4.0%	\$ 67,165	\$ 66,360	1.2%
DROP Participants	\$ 1,797,753	\$ 2,252,544	-20.2%	\$ 94,619	\$ 97,937	-3.4%
Deferred Vested <sup>2</sup>	\$ 995,231	\$ 921,694	8.0%	\$ 26,190	\$ 24,911	5.1%

<sup>1</sup> Includes DROP Participants.

<sup>2</sup> Includes all Participants having a contribution balance still on account with SDCERS. Annual benefit for Deferred Vested Participants is the total contribution balance in account as of the valuation date.



**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX A - MEMBERSHIP INFORMATION**

**Table A-5  
SDCERS - Unified Port District  
Distribution of Active Members (Excludes DROP Participants) as of June 30, 2016  
Total UPD**

Age	Years of Service										Total Count	Average Salary	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up			
<b>Under 25</b>	-	1	-	-	-	-	-	-	-	-	-	1	\$ 83,081
<b>25 to 29</b>	4	7	3	-	-	-	-	-	-	-	-	14	82,946
<b>30 to 34</b>	2	7	9	3	-	-	-	-	-	-	-	21	86,731
<b>35 to 39</b>	3	3	28	19	4	-	-	-	-	-	-	57	88,957
<b>40 to 44</b>	-	2	15	27	16	1	-	-	-	-	-	61	100,001
<b>45 to 49</b>	-	2	14	20	18	9	3	-	-	-	-	66	98,137
<b>50 to 54</b>	1	-	13	14	19	13	8	1	-	-	-	69	92,931
<b>55 to 59</b>	-	4	9	10	16	9	3	-	-	-	-	51	91,547
<b>60 to 64</b>	-	2	3	5	4	2	-	-	-	-	-	16	96,157
<b>65 to 69</b>	-	-	2	1	2	-	-	-	-	-	-	5	60,951
<b>70 and up</b>	-	-	1	-	-	-	-	-	-	-	-	1	46,826
<b>Total Count</b>	10	28	97	99	79	34	14	1	-	-	-	362	
<b>Avg. Salary</b>	\$ 68,509	\$ 89,784	\$ 83,253	\$ 92,343	\$ 97,584	\$ 116,801	\$ 103,533	\$ 138,121	\$ -	\$ -	\$ -		\$ 93,051

**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX A - MEMBERSHIP INFORMATION**

<b>Table A-6 SDCERS - Unified Port District Retirees (Includes DROP Participants), Disabled, and Beneficiaries Tabulated by Attained Age/Benefit Effective Date Total UPD</b>											
<b>Plan Year</b>	<b>Age</b>										<b>Total</b>
	<b>Under 50</b>	<b>50 to 54</b>	<b>55 to 59</b>	<b>60 to 64</b>	<b>65 to 69</b>	<b>70 to 74</b>	<b>75 to 79</b>	<b>80 to 84</b>	<b>85 to 89</b>	<b>90 and up</b>	
<b>Pre-1997</b>	1	2	2	3	5	6	8	11	19	9	66
<b>1997</b>	-	1	1	-	-	1	-	4	-	-	7
<b>1998</b>	-	1	1	1	1	3	6	6	1	2	22
<b>1999</b>	-	1	-	2	-	1	4	1	-	1	10
<b>2000</b>	-	1	-	-	2	4	5	2	1	2	17
<b>2001</b>	1	1	1	-	-	3	5	2	1	-	14
<b>2002</b>	-	1	2	1	8	3	5	-	-	-	20
<b>2003</b>	-	-	-	1	3	2	8	-	2	-	16
<b>2004</b>	1	-	-	-	7	8	6	3	1	-	26
<b>2005</b>	-	-	-	3	9	6	1	-	-	-	19
<b>2006</b>	-	1	-	4	9	6	3	-	-	-	23
<b>2007</b>	-	-	1	6	6	15	1	-	2	1	32
<b>2008</b>	-	-	3	3	5	9	1	1	1	-	23
<b>2009</b>	1	-	2	9	11	9	1	-	-	-	33
<b>2010</b>	1	-	5	4	10	1	-	-	-	-	21
<b>2011</b>	-	10	12	21	17	7	-	3	1	-	71
<b>2012</b>	-	-	6	4	8	2	1	1	-	2	24
<b>2013</b>	-	4	8	4	2	3	-	-	1	-	22
<b>2014</b>	1	10	11	9	3	2	-	-	-	1	37
<b>2015</b>	-	9	9	11	1	1	2	-	-	-	33
<b>2016</b>	-	4	7	9	-	-	-	2	-	-	22
<b>Total</b>	6	46	71	95	107	92	57	36	30	18	558

Average Age at Retirement/Disability                      58.4  
Average Current Age    68.7  
Average Annual Pension    \$ 43,163



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**APPENDIX A - MEMBERSHIP INFORMATION**

**Data Assumptions and Practices**

In preparing our data, we relied on information supplied by the SDCERS' staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. Our methodology for obtaining the data used for the valuation is based upon the following assumptions and practices:

- Service for Actives and Inactives was calculated using "SDCERS Srv Credit" which is benefited service credit. An adjusted date of hire is retroactively calculated from the valuation date. Purchased Service that has been paid for is included in the SDCERS Srv Credit field. Purchased Service that has been contracted for, but not paid as of the valuation date is assumed to be paid in full, and this service will be reflected in the projected benefit.
- Valuation Salary will be the maximum of "Current Fiscal Year Pensionable Salary" and an annualized last pay period "Pensionable Salary", carried forward with assumed salary increases. Historical salaries, "1 Yr Prior Fiscal Year Pensionable Salary," "2 Yr Prior Fiscal Year Pensionable Salary," "3 Yr Prior Fiscal Year Pensionable Salary," and "4 Yr Prior Fiscal Year Pensionable Salary," are considered in the calculation of projected benefit.
- New hires with an "Entry Date" after 6/30/2015 had their "Current Fiscal Year Pensionable Salary" annualized based on accrued service to date.
- If the "Contrib Rate" was not provided, the prior year contribution for the member was used.
- For accounts having duplicate records in the Actives and Inactives by Social Security Number, the information from the latest payroll date is regarded as most-up-to-date. The other record is treated as out-of-date and invalid.
- For duplicate records (based on SSN and Benefit Type) in the payee file, records having the same plan and same benefit type but different benefit amounts, we have added those benefit amounts together.
- Records on the provided "Member" file are considered to be Active if they have no "Death Date," no "Separation Date," do not have a retiree record and they received pay in the last pay period (Last Pay Period = 26 or 27) of the current FY.
- Records on the "Member" file are considered to be Inactive if they do not have a "Death Date," do not have a retiree record and either have a "Separation Date" or have a "Last Pay Period" earlier than the last pay period of the current FY.
- For Inactives, the "Highest Pensionable Salary" from the supplemental file "HighestFiscalPensionableSalary\_DFRD and INAC Members \_FY2016\_20160712.xlsx" was used for calculating projected benefits as applicable. If a participant was not provided in

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**APPENDIX A - MEMBERSHIP INFORMATION**

the supplemental file, the maximum of the annualized pay over the prior year and the last four fiscal years' pensionable salaries was used.

- We assume that any active member found in the inactive data last year has returned to work and should be valued as active.
- Records on the "Payee" file are considered in pay status if their benefit is not suspended.
- Pension Benefit for retirees for each plan was calculated by summing "Monthly Pension," "Monthly Annuity," "Cola Annuity," "Surv Spouse Annuity," and "Cola Pension" and subtracting "DRO Reduction Amt." The "DRO Reduction Amt" field is mainly for Qualified Domestic Relations Order purposes. The "13th Check Supplement Amount" field is added as an annual benefit and the "Corbett Supplement" is annualized for new retirees in the City only. It is assumed the payment is annual for retirees already in pay status prior to this valuation.
- Members retiring since the prior valuation date and not having a "13<sup>th</sup> Check Supplement Amount" will have their projected "13<sup>th</sup> Check Supplement Amount" calculated assuming \$30 multiplied by the "13th Check Supplement Years."
- Payees' "Cola Pension" and "Star Cola Pension" do not include a COLA as of July 1 2016. These COLA increases were provided in the supplemental file "TaxableCOLA\_Effective 20160701\_Final.xlsx."
- Members may retire and receive benefits from multiple plans (e.g., a Unified Port District member could have also worked for the Airport Authority); we will value each Member's blended benefit individually. This will result in the counts being slightly higher than actual counts due to people having more than one benefit payable from multiple plans.
- We assume any retiree found in last year's "Payee" file and not in this year's file has died without a beneficiary and should be removed from the valuation data.
- We assume all deceased retirees with payments continuing to a beneficiary have already been accounted for in the "Payee" file.
- We exclude any payee receiving \$0.00 from a blended benefit plan.
- The Final 415 Regulations were used to calculate the present value of Member benefits over the Internal Revenue Service Code 415 Benefit Limits.

**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Actuarial Assumptions**

The SDCERS Board has the authority to select economic and demographic assumptions for the plan. The assumptions used in this report reflect the results of a full experience study performed by Cheiron covering the period July 1, 2010 through June 30, 2015, and adopted by the SDCERS Board in September 2016, as well as an economic experience study performed by Cheiron and presented to the SDCERS Board in November 2015.

**1. Investment Return**

SDCERS' assets are assumed to earn 7.00% net of investment expenses.

**2. Inflation Rate**

An inflation assumption of 3.05% compounded annually is used for projecting the total annual payroll growth for amortization of the UAL.

**3. Administrative Expense**

Administrative expenses are assumed to be \$780,000 for FY 2018 (assuming payment at the beginning of the year), increasing by 2.50% annually.

**4. Interest Credited to Member Contributions**

7.00%, compounded annually.

**5. Salary Increase Rate**

Inflation component: 3.05%

The additional merit component:

<b>Table B-1</b>		
<b>Years of Service at Valuation Date</b>	<b>General</b>	<b>Safety</b>
0	5.00%	8.00%
1	4.00%	7.00%
2	3.00%	6.00%
3	2.00%	3.50%
4	1.00%	2.00%
5+	0.50%	0.50%

**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**6. Cost-of-Living Increase in Benefits**

Assumed to be 1.9% per annum, compounded.

**7. COL Annuity Benefit**

For both active and terminated vested Members, the actuarial liability for the COL annuity benefit is valued by adding one-sixth of accumulated member contribution accounts. For active Members, a 2.5% load is applied on the normal cost for future member contributions. For PEPRA Participants, the normal cost of the COL annuity benefit is equal to one-sixth of the employee contribution rate.

Members under the Miscellaneous Plan do not receive a COL annuity benefit.

**8. Member Refunds**

All or part of the employee contribution rate is subject to potential “offset” by the employer. That “offset” and the related accumulated interest are not to be refunded to employees at termination. However, such offsets are not directly reflected in either the employee contributions or related refund calculations.

100% of non-vested and 0% of vested deferred Members is assumed to elect a refund of Member contributions at termination.

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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**9. Rates of Termination**

<b>Table B-2 SDCERS - Unified Port District Rates of Termination</b>		
<b><u>Service</u></b>	<b><u>General</u></b>	<b><u>Safety</u></b>
0	11.00%	14.00
1	10.00	12.00
2	9.00	10.00
3	8.00	8.00
4	7.00	5.00
5	6.50	4.25
6	6.00	4.25
7	5.50	4.25
8	5.25	4.25
9	5.00	4.25
10	4.75	4.00
11	4.75	4.00
12	4.75	4.00
13	4.75	4.00
14	4.75	4.00
15	4.50	3.75
16	4.50	3.75
17	4.50	3.75
18	4.50	3.75
19	4.50	3.75
20+	4.25	3.50

10% of terminating employees, with 5+ years of service at termination (10+ years of service if terminated prior to December 31, 2002), are assumed to subsequently work for a reciprocal employer and receive 3.55% pay increases per year.

No terminations are assumed once retirement eligible.

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APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS

10. Rates of Disability

<b>Table B-3</b>		
<b>SDCERS - Unified Port District</b>		
<b>Rates of Disability at Selected Ages</b>		
<u>Age</u>	<u>General</u>	<u>Safety</u>
20	0.01%	0.15%
25	0.02	0.18
30	0.03	0.20
35	0.04	0.27
40	0.05	0.37
45	0.08	0.47
50	0.15	0.57
55	0.20	0.67
60	0.30	--

75% of the General disabilities and 90% of the Safety disabilities are assumed to be industrial disability retirements. Non-industrial disability retirement is subject to a service requirement.



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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**11. Rates of Mortality for Active Lives**

Active Members use the CalPERS Pre-Retirement Mortality Table base rates from the CalPERS January 2014 Experience Study, projected 20 years from the 2009 base year using a variation of Scale MP-2015 from the Society of Actuaries. The scale was modified using the Society of Actuaries' model implementation tool with rates converging to the ultimate rate in 2019 (instead of 2029) and an ultimate rate of improvement of 0.75% (instead of 1.0%) up to age 85 and decreasing to 0.60% (instead of 0.85%) at age 95.

Sample rates are as follows (including mortality improvement projection):

<b>Table B-4 SDCERS - Unified Port District Rates of Mortality for Active Lives at Selected Ages</b>		
<b>General and Safety</b>		
<b><u>Age</u></b>	<b><u>Male</u></b>	<b><u>Female</u></b>
20	0.02%	0.02%
25	0.03	0.02
30	0.04	0.02
35	0.05	0.03
40	0.06	0.04
45	0.09	0.06
50	0.13	0.09
55	0.21	0.14
60	0.31	0.19
65	0.42	0.27
70	0.58	0.38

50% of active Member deaths for Safety Members are assumed to be industrial deaths and all active Member deaths for General Members are assumed to be non-industrial deaths.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**12. Rates of Mortality for Retired Healthy Lives & Terminated Vested Members**

Retired healthy and terminated vested Members use the CalPERS Post-Retirement Healthy Mortality Table base rates from the CalPERS January 2014 Experience Study, with a 10% increase to female rates, projected 20 years from the 2009 base year using a variation of Scale MP-2015 from the Society of Actuaries. The scale was modified using the Society of Actuaries' model implementation tool with rates converging to the ultimate rate in 2019 (instead of 2029) and an ultimate rate of improvement of 0.75% (instead of 1.0%) up to age 85 and decreasing to 0.60% (instead of 0.85%) at age 95.

Sample rates are as follows (including mortality improvement projection):

<b>Table B-5 SDCERS - Unified Port District Rates of Mortality for Retired Healthy Lives at Selected Ages</b>		
<u>Age</u>	<u>Male</u>	<u>Female</u>
40	0.09%	0.09%
45	0.18	0.19
50	0.42	0.46
55	0.54	0.45
60	0.71	0.50
65	0.88	0.67
70	1.44	1.13
75	2.42	1.98
80	4.30	3.38
85	7.76	6.13
90	13.54	11.42

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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**13. Rates of Mortality for Retired Disabled Lives**

Disabled Members use the CalPERS Work-Related Disability Mortality Table base rates from the CalPERS January 2014 Experience Study, projected 20 years from the 2009 base year using a variation of Scale MP-2015 from the Society of Actuaries. The scale was modified using the Society of Actuaries' model implementation tool with rates converging to the ultimate rate in 2019 (instead of 2029) and an ultimate rate of improvement of 0.75% (instead of 1.0%) up to age 85 and decreasing to 0.60% (instead of 0.85%) at age 95.

Sample rates are as follows (including mortality improvement projection):

<b>Table B-6 SDCERS - Unified Port District Rates of Mortality for Disabled Lives at Selected Ages</b>		
<u>Age</u>	<u>Male</u>	<u>Female</u>
40	0.19%	0.17%
45	0.26	0.24
50	0.42	0.42
55	0.54	0.41
60	0.75	0.54
65	1.19	0.86
70	1.80	1.44
75	3.11	2.42
80	5.41	4.14
85	8.55	6.64
85	13.54	10.38

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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**14. Rates of Retirement**

Rates of Retirement are shown in the table below. Retirement rates include both service retirements and entry into DROP.

Table B-7 SDCERS - Unified Port District Rates of Retirement by Service Years				
<u>Service</u>	<u>General - Old Plan</u>		<u>Safety - Old Plan</u>	
	<u>Prior to age 62</u>	<u>Age 62 or greater</u>	<u>Prior to age 55</u>	<u>Age 55 or greater</u>
5-9	--	33.0%	--	9.0%
10	--	40.0	--	40.0
11	--	40.0	--	40.0
12	--	40.0	--	40.0
13	--	40.0	--	40.0
14	--	40.0	--	40.0
15	--	42.5	--	40.0
16	--	42.5	--	40.0
17	--	42.5	--	40.0
18	--	42.5	--	40.0
19	--	42.5	--	40.0
20	40.5	50.0	45.0	50.0
21	33.3	50.0	35.0	50.0
22	35.1	50.0	40.0	50.0
23	36.9	50.0	45.0	50.0
24	38.7	50.0	50.0	50.0
25	40.5	50.0	55.0	60.0
26	42.3	50.0	60.0	60.0
27	44.1	50.0	65.0	60.0
28	45.9	50.0	70.0	60.0
29	47.7	50.0	75.0	60.0
30	49.5	50.0	100.0	100.0
31	51.3	50.0	100.0	100.0
32	53.1	50.0	100.0	100.0
33	54.9	50.0	100.0	100.0
34	56.7	50.0	100.0	100.0
35+	100.0	100.0	100.0	100.0

All members are assumed to retire at the later of current age or age 70, regardless of service.

For terminated vested Members, we assume that retirement will occur provided they have at least five years of service (at least ten years of service if terminated prior to December 31, 2002) on the later of attained age or:

General Members: Earlier of age 62 or age 55 and 20+ years of service.

Safety Members: Earlier of age 55 (50 if PEPR) or age 50 and 20+ years of service (only if hired before January 1, 2010).

**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**15. Family Composition**

80% of men and 55% of women were assumed married at retirement. A female spouse is assumed to be three-years younger than her male spouse.

Actual data is used for current pensioners, if available.

**16. Member Contributions for Spousal Continuance**

All active Members contribute towards a 50% survivor continuance. However, Members who are unmarried at retirement may either be refunded that specific part of their contributions, or they may leave such contributions on account and receive an incremental benefit that is the actuarial equivalent of such contributions.

**17. Deferred Member Benefit**

The benefit was estimated based on information provided by SDCERS staff. The data used to value the estimated deferred benefit were date of birth, date of hire, date of termination, and last pay. Based on the data provided, service credit, highest average salary, and deferred retirement age were estimated. The estimates were used to compute the retirement benefit, upon which the liabilities are based. For those participants without sufficient data or service, accumulated participant contribution balances, with interest, were used as the actuarial liability.

**18. DROP Account Balances**

For DROP participants still working, the liability for the account balances in the asset information received from SDCERS staff was adjusted to assume average commencement in 2½ years and an interest crediting rate of 1.5%. Thereafter, it was assumed the account balance would be converted to an annuity at an interest rate of 2.8% over an average period of 10 years. The 10-year period was selected to average among the available DROP payment elections, including a lump sum, life expectancy, and 20 years. The liability for pre-2006 DROP account balances still left on account was valued assuming they would be paid out until age 70½, with an interest crediting rate of 1.5%. The liability for the remaining account balances was adjusted based on the DROP annuity rate in effect at the Member's benefit effective date.

These adjustments are applied to the DROP account balance values provided in the financial statements. The account balance liability is allocated to each individual Tier (e.g., General) based on the total amount of the DROP account balances for that Tier in the valuation data.

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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**19. Other**

The contribution requirements and benefit values of a plan are calculated by applying actuarial assumptions to the benefit provisions and Member information furnished, using the actuarial funding methods described in this report.

Actual experience of SDCERS will not coincide exactly with assumed experiences, regardless of the choice of the assumptions, the skill of the actuary, or the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed contribution rate. From time to time it becomes appropriate to modify one or more of the assumptions to reflect experience trends, but not random year-to-year fluctuations.

**B. Actuarial Methods**

**1. Actuarial Funding Method**

The Entry Age Normal funding method was used for active employees, whereby the normal cost rate is computed as the average level annual percent of pay required to fund the retirement benefits for all Members between their dates of hire and assumed dates of retirement. The EAN actuarial liability is the difference between the Plan's total present value of future benefits and the present value of future normal costs, calculated for each sub-group (e.g., General). The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets, and is allocated to each sub-group based on its liability.

The unfunded actuarial liability is amortized by annual payments. The payments are determined so that they will be a level percentage of pay, assuming payroll increases 3.05% per year. The UAL is amortized over different closed periods depending on the source of the loss. The entire UAL as of June 30, 2007 is amortized over 14 years. Subsequent gains and losses are amortized over 15 years, changes in assumptions over 30 years, and changes in benefits over 20 years (or period over which benefit changes are paid, if shorter). Funding surplus, if any, is amortized over 30 years. Finally, if necessary, there is an additional UAL cost component to ensure that there is no negative amortization in any year.

Expected administrative expenses are included in the actuarially determined contribution (ADC). The administrative expense component is \$780,000 for FY 2018 (assuming payment at the beginning of the year), reflecting the final year of a three-year phase-in. This amount is assumed to increase by 2.5% per year.

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**APPENDIX B - ACTUARIAL ASSUMPTIONS AND METHODS**

**2. Asset Valuation Method**

For the purposes of determining the Unified Port District's actuarially determined contribution to SDCERS, we use a smoothed actuarial value of assets. The asset smoothing method dampens the volatility in asset values that could occur because of the fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process. Assets are assumed to be used exclusively for the use of retirement benefits and expenses.

The actuarial value of assets each year is equal to 100% of the *expected actuarial value of assets*\* plus 25% of the difference between the current market value of assets and the expected actuarial value of assets. In no event will the actuarial value of assets ever be less than 80% of the market value of assets nor greater than 120% of the market value of assets.

**3. Changes Since Last Valuation**

The assumed payroll increases used to set the payment schedule for the UAL were updated from 3.175% to 3.05% in order to align with the current assumption.

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\* *The expected actuarial value of assets is equal to the prior year's actuarial value of assets increased with actual contributions made, decreased with actual disbursements made, all items (prior assets, contributions and disbursements) further adjusted with expected investment returns for the year.*

## APPENDIX C - SUMMARY OF PLAN PROVISIONS

In 1963, the San Diego Unified Port District (UPD) contracted with the City of San Diego to have its employees participate in the City's SDCERS-administered retirement plan. In 2002, the voters of the City of San Diego voted to add section 149 to the City Charter, allowing public agencies to contract directly with SDCERS to participate in the SDCERS trust fund, and to have SDCERS administer the retirement benefits established by each contracting employer. Pursuant to Charter section 149, the Port has contracted directly with SDCERS to administer the retirement plan for its employees since January 1, 2003. The change in contracting parties brought about by this Charter amendment did not affect any rights or benefits that UPD employees earned before 2003.

### 1. Membership Requirement

Membership is mandatory upon first day of employment for all Safety Members and for General Members hired before January 1, 2009. (§0103) For Miscellaneous Members hired on or after January 1, 2009, the Member is a participant for purposes of establishing reciprocity, but does not begin earning service credit until the 1<sup>st</sup> day of their 6<sup>th</sup> year of employment (§0102).\*

### 2. Monthly Compensation Base for Benefits

Highest one-year average for General Members hired before October 1, 2006, and Safety Members hired before January 1, 2010. For General Members hired on or after October 1, 2006, and all Miscellaneous Members, highest three-year average. (§0102)

For Safety Members hired on or after January 1, 2010, the highest three-year average during his or her final three-year period while contributing to the Plan. (§0102 and Amendment 1) For Safety Members hired on or after January 1, 2013, the highest consecutive 36 months, divided by 36. (Gov. Code §7522.32)

Subject to a 10% increase for General Members who joined the SDCERS plan before November 9, 2001 and were contributing to the Plan on January 1, 2002 and all Safety Members, if the Member elects such increase in lieu of an increased benefit formula.

### 3. Service Retirement

#### Eligibility

##### *General Members:*

Age 62 with five years of service (excludes five year permissible purchased service), or age 55 with 20 years of service. Miscellaneous Members begin earning service credit during their sixth year of employment (§0300).

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\* All “§” references are to the Unified Port District Plan Document.



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**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

*Safety Members:*

For Safety Members hired before January 1, 2010, age 55 with five years of service (excludes five year permissible purchased service), or age 50 with 20 years of service. For Safety Members hired on or after January 1, 2010, age 55 with five years of service (excludes five year permissible purchased service), or any age with 30 years of service with the UPD (§0301). For Safety Members hired on or after January 1, 2013, age 50 with 5 or more years of earned service. (Gov. Code §7522.25)

**Benefit**

*General Members:*

For General Members hired before November 10, 2001, choice of (1) formula in place on December 31, 2001 with 10% increase in Final Average Compensation, (2) “Andrecht” formula effective as of January 1, 2002, or (3) “2.5% at 55” multiplier with a benefit cap of 90% of Final Average Compensation (§0300(g)).

For General Members hired on or after November 10, 2001 and before January 1, 2009, “2.5% at 55” multiplier with a benefit cap of 90% of Final Average Compensation (§0300(h)).

For Miscellaneous Members hired on or after January 1, 2009, the formula is (not to exceed 90% of final compensation): (1) for years 1-5 of service credit, 0.75% of Final Compensation per year; (2) for years 6-10 of service credit, 1% of Final Compensation per year; (3) for years 11-15 of service credit, 1.25% of Final Compensation per year; and (4) beginning with service credit year 15, 1.5% of Final Compensation per year (§0301(g)).

Executive General Members hired before January 1, 2009 receive “3% at 55” multiplier without an increase in Final Average Compensation. (§0300)

Executive Members who take office on or after January 1, 2013 - a blended benefit based on their two categories of service. (§0300)

*Safety Members:*

For Safety Members hired before January 1, 2010 choice of formula in place on December 31, 2001 with a 10% increase in Final Average Compensation or “Andrecht” 3% formula without increases in Final Average Compensation. Effective April 1, 2004, there is a benefit cap of 90% of Final Average Compensation.

Safety Members hired on or after January 1, 2010 receive a 3% multiplier without an increase in Final Average Compensation, not to exceed 90% of final compensation.

Safety Members hired on or after January 1, 2013 receive 2% per year of service at age 50, increasing to 2.7% at age 57, not to exceed 90% of final compensation. (Gov. Code §7522.25)

For all employees, there is an additional benefit equal to the annuitized Member COL Annuity contributions at retirement date.

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

In all cases, there is an integration feature which provides for 2/3 of the formula multiplier on the first \$400 of monthly Final Average Compensation. The 2/3 equals the Social Security integration factor.

<b>Table C-1</b>						
<b>SDCERS - Unified Port District</b>						
<b>Member Service Retirement Accrual Factors</b>						
<u>Age</u>	<b>General Members hired prior to 1/1/2009</b>				<b>Safety</b>	
	<u>Pre 12/31/2001</u>	<u>Andrecht</u>	<u>Post 4/1/2004</u>	<u>Management</u>	<u>Pre 12/31/2001</u>	<u>Andrecht</u>
50	--	--	--	--	2.50%	3.00%
51	--	--	--	--	2.54%	3.00%
52	--	--	--	--	2.58%	3.00%
53	--	--	--	--	2.62%	3.00%
54	--	--	--	--	2.66%	3.00%
55	2.00%	2.25%	2.50%	3.00%	2.70%	3.00%
56	2.00%	2.25%	2.60%	3.00%	2.70%	3.00%
57	2.00%	2.25%	2.70%	3.00%	2.70%	3.00%
58	2.00%	2.25%	2.80%	3.00%	2.70%	3.00%
59	2.08%	2.25%	2.90%	3.00%	2.70%	3.00%
60	2.16%	2.30%	3.00%	3.00%	2.70%	3.00%
61	2.24%	2.35%	3.00%	3.00%	2.70%	3.00%
62	2.31%	2.40%	3.00%	3.00%	2.70%	3.00%
63	2.39%	2.45%	3.00%	3.00%	2.70%	3.00%
64	2.47%	2.50%	3.00%	3.00%	2.70%	3.00%
65 and up	2.55%	2.55%	3.00%	3.00%	2.70%	3.00%

**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

GENERAL:

<b>Table C-2 SDCERS - Unified Port District</b>	
<b>For Vested Members hired before</b>	
<b><u>January 1, 2009 who terminated---</u></b>	
Prior to January 1, 1997	<b><u>--the accrual factors are--</u></b> See Table C-4
January 1, 1997 - December 31, 2001	Pre 12/31/2001 factors above
January 1, 2002 - March 31, 2004	Pre 12/31/2001 factors above with 10%  increase in Final Average Compensation, Andrecht, or Executives (if applicable)
April 1, 2004 - Present	Pre 12/31/2001 factors above with 10%  increase in Final Average Compensation, Andrecht, Post 4/1/2004 or Executives (if applicable)

SAFETY:

<b>Table C-3 SDCERS - Unified Port District</b>	
<b><u>For Vested Members who terminated--</u></b>	
<b><u>--the accrual factors are--</u></b>	
Prior to January 1, 2002	See Table C-4
January 1, 2002 - Present	Pre 12/31/2001 factors above with 10% increase in Final Average Compensation or Andrecht

**SDCERS-UNIFIED PORT DISTRICT  
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**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

<b>Table C-4 SDCERS - Unified Port District Pre-1997<sup>1</sup> Member Service Retirement Accrual Factors</b>		
<u>Age</u>	<u>General</u>	<u>Safety</u>
50	--	2.00%
51	--	2.10%
52	--	2.22%
53	--	2.34%
54	--	2.47%
55	1.48%	2.62%
56	1.55%	2.62%
57	1.63%	2.62%
58	1.72%	2.62%
59	1.81%	2.62%
60	1.92%	2.62%
61	1.99%	2.62%
62	2.09%	2.62%
63	2.20%	2.62%
64	2.31%	2.62%
65 and up	2.43%	2.62%

<sup>1</sup>Safety Members have the same calculation factors through December 31, 2001

**Maximum Benefit**

*General Members hired before January 1, 2009:* 90% of Final Average Compensation if Post 4/1/2004 factor is chosen.

*General Members hired on or after January 1, 2009:* 90% of Final Average Compensation

*General Executive Members:* 90% of Final Average Compensation

*Safety Members:* 90% of Final Average Compensation

**Unmodified Form of Payment**

Monthly payments continued for the life of the Member, with 50% continuance to the eligible surviving spouse, domestic partner, or dependent child under 21 years of age upon Member's death. If there is no eligible spouse, the Member may receive either a lump sum payment equal to the accumulated surviving spouse contributions or use those contributions to provide a larger annuity. (\$0600)

**Note:** Unified Port District employees participate in Social Security.

## APPENDIX C - SUMMARY OF PLAN PROVISIONS

### 4. Non-Industrial Disability

#### Eligibility

Ten years of service. Miscellaneous Members hired on or after January 1, 2009 who do not begin to accrue service credit until their sixth year of employment, must have 10 years of service credit, which means 15 years of Port employment (§0504).

#### Benefit

##### *General Members:*

For General Members hired before January 1, 2009, the greater of 1.5% per year of service, one-third of final compensation, or the earned service retirement benefit (§0506).

For Miscellaneous Members hired on or after January 1, 2009, the greater of 11% of Final Compensation or earned service retirement benefit (§0507).

##### *Safety Members:*

Greater of 1.8% per year of service, one-third of final compensation, or the earned service retirement benefit (§0505).

### 5. Industrial Disability

#### Eligibility

No age or service requirement for Members hired before January 1, 2009. Miscellaneous Members hired on or after January 1, 2009 must have five years of Port employment to be eligible for an industrial disability benefit (§0500).

#### Benefit

##### *General Members:*

For General Members hired before January 1, 2009, greater of one-third of final compensation, or the earned service retirement benefit, if eligible (§0502).

For Miscellaneous Members hired on or after January 1, 2009, the greater of 11% of Final Compensation or earned service retirement benefit, if eligible (§0503).

##### *Safety Members:*

Greater of one-half of final compensation, or the earned service retirement benefit (§0501).

### 6. Non-Industrial Death Before Eligible to Retire

Refund of employee contributions with interest plus one month's salary for each completed year of service to a maximum of six months' salary. Miscellaneous Members hired on or

## APPENDIX C - SUMMARY OF PLAN PROVISIONS

after January 1, 2009 must have five years of Port employment to be eligible for a non-industrial death benefit (§0701).

### 7. Non-Industrial Death After Eligible to Retire for Service

50% of earned benefit payable to eligible surviving spouse, domestic partner, or dependent child under 21 years of age. General Members hired on or after January 1, 2009 must have five years of Port employment to be eligible for a non-industrial death benefit (§0701, §0703).

### 8. Industrial Death

50% of the final average compensation preceding death, payable to eligible surviving spouse, domestic partner, or dependent child under 21 years of age. Miscellaneous Members hired on or after January 1, 2009 must have five years of Port employment to be eligible for an industrial death benefit.

### 9. Death After Retirement

#### Maximum Benefit

Continuance to surviving beneficiary depending on benefit selection made at retirement.

\$2,000 payable in lump sum to the beneficiary or the estate of the retiree (§0708).

### 10. Withdrawal Benefits

#### Pre-12/8/76 Hires

If contributions left on deposit, entitled to earned benefits, commencing any time after eligible to retire.

#### Post-12/7/76 Hires

Less than five years of service (ten years of service if employee terminated before December 31, 2002) – Refund of accumulated employee contributions with interest, or may keep deposits with SDCERS and earn additional interest, and use service with a reciprocal system to establish eligibility for earned benefits upon concurrent retirement from reciprocal system. (§0205, 0401).

#### All Members

Five or more years of service (ten or more years of service if employee terminated before December 1, 2002); there will be a one-time Andrecht-related 7% increase in benefit.

**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

**11. Post-Retirement Cost-of-Living Benefit**

*General and Safety Members:*

Based on changes in Consumer Price Index, to a maximum of 2% per year (§1301).

**12. COL Annuity**

Actuarial equivalent of accumulated contributions in cost-of-living annuity account at time of retirement (§0300).

**13. Member Contributions**

Vary by age at time of entrance into SDCERS (§0200). While a significant portion of these contributions may be “offset,” such offsets are not directly reflected in either the employee contributions or related refund calculations. Rates include cost of providing spouse’s continuance, cost of providing COL Annuity, and cost of funding final one-year average in lieu of final three-year average (§0102, 0200, 0201). Miscellaneous Plan Members, hired on or after January 1 2013, do not make contributions to the Plan.

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**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

<b>Table C-5 SDCERS - Unified Port District Employee Contribution Rates<sup>1</sup></b>						
<b><u>Hired Before January 1, 2013</u></b>					<b><u>Hired On or After January 1, 2013</u></b>	
<b><u>Entry Age</u></b>	<b>General</b>		<b>Safety</b>		<b>Safety</b>	
	<b>Integrated Members</b>		<b>Integrated Members</b>		<b>Integrated Members</b>	
	<b><u>First \$400/Mo.</u></b>	<b><u>Over \$400/Mo.</u></b>	<b><u>First \$400/Mo.</u></b>	<b><u>Over \$400/Mo.</u></b>	<b><u>First \$400/Mo.</u></b>	<b><u>Over \$400/Mo.</u></b>
20	5.52%	8.28%	7.75%	11.63%	6.25%	9.25%
21	5.59	8.38	7.86	11.79	6.50	9.50
22	5.66	8.49	7.95	11.93	6.50	10.00
23	5.73	8.60	8.06	12.09	6.75	10.25
24	5.80	8.70	8.16	12.24	7.00	10.50
25	5.89	8.83	8.27	12.41	7.25	10.75
26	5.97	8.95	8.37	12.56	7.25	11.00
27	6.04	9.06	8.49	12.73	7.50	11.25
28	6.12	9.18	8.59	12.89	7.75	11.75
29	6.20	9.30	8.71	13.06	8.00	12.00
30	6.28	9.42	8.81	13.22	8.25	12.25
31	6.37	9.55	8.93	13.39	8.50	12.75
32	6.45	9.67	9.03	13.55	8.75	13.00
33	6.53	9.79	9.15	13.72	9.00	13.50
34	6.61	9.91	9.27	13.90	9.25	13.75
35	6.70	10.05	9.39	14.08	9.25	14.00
36	6.79	10.18	9.50	14.25	9.50	14.50
37	6.88	10.32	9.62	14.43	9.75	14.75
38	6.97	10.45	9.75	14.62	10.00	15.00
39	7.05	10.58	9.87	14.80	10.25	15.50
40	7.15	10.72	9.99	14.99	10.50	15.75
41	7.24	10.86	10.12	15.18	10.75	16.25
42	7.33	10.99	10.24	15.36	11.00	16.75
43	7.42	11.13	10.37	15.56	11.50	17.00
44	7.52	11.28	10.51	15.76	11.75	17.50
45	7.61	11.42	10.63	15.94	12.00	18.00
46	7.71	11.56	10.77	16.15	12.00	18.00
47	7.81	11.71	10.90	16.35	12.00	18.00
48	7.91	11.86	11.03	16.54	12.00	18.00
49	8.01	12.01	11.16	16.74	12.00	17.75
50	8.10	12.15				
51	8.21	12.32				
52	8.31	12.47				
53	8.42	12.63				
54	8.53	12.79				
55	8.63	12.95				
56	8.74	13.11				
57	8.87	13.31				

<sup>1</sup>Contribution Rate = Normal Cost + Cost-of-Living Rate



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**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

Interest: 8.00%  
Salary: 5.00%  
Mortality: 83 Group Annuity Mortality (GAM) male  
(Males set back 2 years, Females set back 8 years)

Changes to the salary scale and mortality table effective with the June 30, 1994 valuation were applied to the then existing Member rates.

#### **14. Internal Revenue Code Compliance**

Benefits provided by the SDCERS' Trust Fund are subject to the limitations set forth in Section 415 in accordance with the "grandfather" election in Section 415(b) (10) of the Internal Revenue Code.

As of the June 30, 2006 valuation, active participants' benefit payments were limited by Section 415 of the Internal Revenue Code. As of the June 30, 2007 valuation, all benefit payments were limited by Section 415 of the Internal Revenue Code.

#### **15. Deferred Retirement Option Plan**

Effective April 1, 1997, a deferred retirement option plan (DROP) was created and offered to UPD Members under the SDCERS Plan as an alternative method of benefit accrual. The DROP provision is effective under this Plan on January 1, 2003 (§1200). Members eligible for service retirement are eligible to participate in DROP, but only those hired before October 1, 2005 may enter the program (§1201).

A participant in DROP may leave DROP at any time before the end of his or her designated DROP participation period by voluntarily leaving Port employment (§1202). The maximum DROP participation period is 60 months (§1201).

A DROP participation account is a nominal account established with the Retirement System, which is credited with the following amounts (§1203):

- The Member's monthly service retirement allowance, credited monthly, calculated at the date of DROP entry and increased each year by a cost-of-living adjustment.
- The Member's supplemental 13<sup>th</sup> check benefit, if applicable, credited annually.
- 3.05% of base compensation, payable by the Unified Port District and credited bi-weekly.
- 3.05% of base compensation, payable by the Member and credited bi-weekly.
- Interest on the above amounts, as determined by the Board.

When a Member leaves DROP and Port employment, they begin to collect their monthly service retirement allowance, their supplemental 13<sup>th</sup> check benefit (if applicable), and the amounts credited to their DROP participation account, payable as a single lump sum

**SDCERS-UNIFIED PORT DISTRICT  
ACTUARIAL VALUATION AS OF JUNE 30, 2016**

**APPENDIX C - SUMMARY OF PLAN PROVISIONS**

distribution, as a 240-month annuity with equal payments, or any other form approved by the Board and subject to applicable provisions of the Internal Revenue Code (§1206).

DROP is not intended to jeopardize the tax-qualified status of the retirement system under the rules and regulations of the Internal Revenue Service. Benefits provided under this division are subject to the limitations of Section 415 of the Internal Revenue Code relating to the amount of benefits that can be paid (§1207).

**16. Blended Benefit with Participating Agencies**

Members may retire and receive benefits from multiple Plans (e.g., a Unified Port District employee could have also worked for the Airport Authority).

**17. Changes Since Last Valuation**

None.

**Note:** The summary of major plan provisions is designed to outline principal plan benefits. If the SDCERS staff should find the plan summary not in accordance with the actual provisions, the actuary should immediately be alerted so the proper provisions are valued.

**APPENDIX D - GLOSSARY OF TERMS**

**1. Actuarial Liability**

The Actuarial Liability is the difference between the present value of all future System benefits and the actuarial value of future normal costs. This is also referred to by some actuaries as “accrued liability” or “actuarial accrued liability.”

**2. Actuarial Assumptions**

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Actuarial assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**3. Accrued Service**

Service credited under the System which was rendered before the date of the actuarial valuation.

**4. Actuarial Equivalent**

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

**5. Actuarial Cost Method**

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement System benefits between future normal cost and actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

**6. Actuarial Gain/(Loss)**

The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

**7. Actuarial Present Value**

The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

**APPENDIX D - GLOSSARY OF TERMS**

**8. Actuarially Determined Contribution (ADC)**

Contribution determined each year based on the SDCERS Board's adopted funding policy. The term also exists in GASB 67 and 68 as a contribution determined by the actuary in accordance with Actuarial Standards of Practice, but no further guidance are provided.

**9. Amortization**

Paying off an interest-discounted amount with periodic payments of interest and principal — as opposed to paying off with lump sum payment.

**10. Normal Cost**

The actuarial present value of retirement System benefits allocated to the current year by the actuarial funding method.

**11. Unfunded Actuarial Liability (UAL)**

The difference between actuarial liability and the actuarial value of assets.

Most retirement systems have unfunded actuarial liability. They arise each time new benefits are added and each time an actuarial loss is realized.

The existence of unfunded actuarial liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liability, and the trend in its amount (after due allowance for devaluation of the dollar).



*Classic Values, Innovative Advice*