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August 7, 2020

Mr. Steve Delaney
 Chief Executive Officer
 Orange County Employees Retirement System
 2223 Wellington Avenue
 Santa Ana, CA 92701-3101

**Re: Orange County Employees Retirement System (OCERS)
 University of California-Irvine (UCI) Unfunded Actuarial Accrued Liability as of
 December 31, 2019 - Setting Contributions for FY 2021/2022**

Dear Steve:

As requested, we have determined the payments for FY 2021/2022 required for UCI¹ to pay off its Unfunded Actuarial Accrued Liability (UAAL) with OCERS. To summarize our results, here are the total fiscal year payments based on the December 31, 2019 actuarial valuation:

<u>Fiscal Year</u>	<u>Annual Payment</u>
2020/2021	\$3,216,349
2021/2022 through 2035/2036	\$3,347,233
2036/2037	\$538,034
2037/2038	\$338,174
2038/2039	\$730,802
2039/2040	\$404,503
2040/2041	\$130,883

Background

In our letter to you dated August 2, 2019, we calculated UCI's UAAL to be \$32,770,000 as of December 31, 2018. In addition, we provided the amortization schedules² for UCI assuming level dollar monthly payments over various payment periods for the UAAL calculated in that letter. Based on the December 31, 2018 valuation, the total annual payments assuming payments will be made at the end of each month, are summarized in the table below:

¹ This analysis includes members reported with employer code 113 (biweekly) or 114 (monthly).

² There were separate amortization schedules for paying off:

- (a) all of the UAAL prior to the December 31, 2018 valuation; and
- (b) the change in the UAAL in the December 31, 2018 valuation.

<u>Fiscal Year</u>	<u>Annual Payment</u>
2019/2020	\$2,942,730
2020/2021 through 2035/2036	\$3,216,349
2036/2037	\$407,150
2037/2038	\$207,290
2038/2039	\$599,919
2039/2040	\$273,619

Continuing the practice used in preparing last year's letter, we have consolidated the two detailed amortization payment schedules from our earlier letter (see footnote (2)) as Attachment A. It should be noted that we have continued to amortize the outstanding balance of each of the five³ UAAL amounts over the corresponding remaining payment period to pay off the UAAL.

Increase in UAAL Due to Actuarial Loss from December 31, 2019 Valuation

In the December 31, 2019 valuation, we have determined the UAAL for UCI's members to be \$33,469,000.⁴ This is calculated by rolling forward the Valuation Value of Assets (VVA) for UCI as determined in the December 31, 2018 valuation to December 31, 2019 using the actual contributions, benefit payments and actual (smoothed) return during 2019 and subtracting that amount from the Actuarial Accrued Liability (AAL) as of December 31, 2019.

Based on our letter dated August 2, 2019, the UAAL as of December 31, 2018 adjusted with interest of 7.00% and scheduled payments to June 30, 2020 is \$31,786,966. Again, that amount would be paid off by UCI assuming the scheduled payments were made starting FY 2020/2021 together with the 7.00% investment return assumption.

Based on the December 31, 2019 valuation, the UAAL was recalculated to be \$33,469,000 as of that date. When adjusted with interest at 7.00% and actual contributions made by UCI from January 1, 2020 to June 30, 2020, the UAAL is \$33,123,903 as of June 30, 2020. The difference between the \$31,786,966 and the \$33,123,903 is the actuarial loss of \$1,336,937⁵ for UCI during calendar year 2019 adjusted with interest and contributions at 7.00% from December 31, 2019 to June 30, 2020.

If we assume that the first payment to amortize the additional UAAL of \$1,336,937 would not be made until July 1, 2021, we would first adjust the amount with interest at 7.00% from June 30, 2020 to December 31, 2020. The amount when adjusted with interest to

³ There was a payment schedule for all of the UAAL in the December 31, 2014 valuation and a payment schedule for the change in the UAAL in each of the December 31, 2015, 2016, 2017, and 2018 valuations.

⁴ See page 86 of our December 31, 2019 actuarial valuation report.

⁵ This actuarial loss was primarily due to higher than expected COLA increases during 2019.

December 31, 2020 is \$1,382,938. We would then further adjust the amount with interest at 7.00% from December 31, 2020 to June 30, 2021. The amount when adjusted with interest to June 30, 2021 is \$1,430,522.

Assuming level dollar monthly payments towards the additional UAAL over a 20-year period beginning July 2021, the monthly payment, assuming the amount will be made at the end of each month, is \$10,907 for a total annual payment of \$130,883. A copy of that amortization schedule associated with the actuarial loss from the December 31, 2019 valuation is provided in Attachment B. The combined amortization schedule (for both Attachments A and B) showing the annual calendar year payments is provided in Attachment C.

Assumptions

The results in this study were calculated using the actuarial assumptions adopted by the Board for the December 31, 2019, actuarial valuation. That valuation and these calculations were prepared under the supervision of Andy Yeung, ASA, MAAA, FCA, EA.

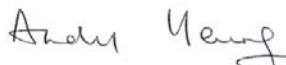
We are members of the American Academy of Actuaries and we meet the qualification requirements to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Andy Yeung, ASA, MAAA, FCA, EA
Vice President & Actuary

AW/hy
Enclosures

cc: Suzanne Jenike
Brenda Shott

University of California-Irvine UAAL Amortization Schedule UAAL Prior to December 31, 2019 Valuation

Annual Interest Rates: 7.00%
Annual Payment Growth: 0.00%

Calendar	Beginning of Period	Annual	Interest	Principal	End of Period
<u>Year</u>	<u>UAAL Balance</u>	<u>Payment</u> ^{1,2}	<u>Paid</u>	<u>Paid</u>	<u>UAAL Balance</u>
2020	\$ 32,172,301	\$ 3,079,540	\$ 2,057,376	\$ 1,022,164	\$ 31,249,614
2021	31,249,614	3,216,349	2,085,542	1,130,807	30,118,807
2022	30,118,807	3,216,349	2,006,386	1,209,964	28,908,844
2023	28,908,844	3,216,349	1,921,688	1,294,661	27,614,183
2024	27,614,183	3,216,349	1,831,062	1,385,287	26,228,896
2025	26,228,896	3,216,349	1,734,092	1,482,257	24,746,638
2026	24,746,638	3,216,349	1,630,334	1,586,015	23,160,623
2027	23,160,623	3,216,349	1,519,313	1,697,036	21,463,586
2028	21,463,586	3,216,349	1,400,520	1,815,829	19,647,757
2029	19,647,757	3,216,349	1,273,412	1,942,937	17,704,820
2030	17,704,820	3,216,349	1,137,407	2,078,943	15,625,878
2031	15,625,878	3,216,349	991,881	2,224,469	13,401,409
2032	13,401,409	3,216,349	836,168	2,380,181	11,021,228
2033	11,021,228	3,216,349	669,555	2,546,794	8,474,434
2034	8,474,434	3,216,349	491,280	2,725,070	5,749,364
2035	5,749,364	3,216,349	300,525	2,915,825	2,833,539
2036	2,833,539	1,811,750	116,422	1,695,328	1,138,212
2037	1,138,212	307,220	68,195	239,026	899,186
2038	899,186	403,604	53,578	350,027	549,159
2039	549,159	436,769	21,753	415,016	134,143
2040	134,143	136,810	2,667	134,143	-
Total		\$ 54,420,933	\$ 22,149,155	\$ 32,271,778	

¹ Payments are assumed to be made at the end of each month.

² Annual payments are displayed for each calendar year.

Note: Totals may be slightly off due to rounding

University of California-Irvine UAAL Amortization Schedule New UAAL Losses from the December 31, 2019 Valuation

Annual Interest Rate: 7.00%
Annual Payment Growth: 0.00%

Calendar Year	Beginning of Period UAAL Balance	Annual Payment ^{1,2}	Interest Paid ³	Principal Paid	End of Period UAAL Balance
2020	\$ -	\$ -	\$ -	\$ -	\$ 1,382,938 ⁴
2021	1,382,938 ⁵	65,442	48,289	17,152	1,413,370
2022	1,413,370	130,883	94,788	36,095	1,377,275
2023	1,377,275	130,883	92,261	38,622	1,338,653
2024	1,338,653	130,883	89,558	41,325	1,297,327
2025	1,297,327	130,883	86,665	44,218	1,253,109
2026	1,253,109	130,883	83,570	47,314	1,205,795
2027	1,205,795	130,883	80,258	50,625	1,155,170
2028	1,155,170	130,883	76,714	54,169	1,101,001
2029	1,101,001	130,883	72,922	57,961	1,043,040
2030	1,043,040	130,883	68,865	62,018	981,021
2031	981,021	130,883	64,524	66,360	914,661
2032	914,661	130,883	59,878	71,005	843,657
2033	843,657	130,883	54,908	75,975	767,681
2034	767,681	130,883	49,590	81,293	686,388
2035	686,388	130,883	43,899	86,984	599,404
2036	599,404	130,883	37,810	93,073	506,331
2037	506,331	130,883	31,295	99,588	406,743
2038	406,743	130,883	24,324	106,559	300,184
2039	300,184	130,883	16,865	114,018	186,165
2040	186,165	130,883	8,884	121,999	64,166
2041	64,166	65,442	1,276	64,166	-
Total		\$ 2,617,666	\$ 1,187,144	\$ 1,430,522	

¹ Payments are assumed to be made at the end of each month and are assumed to begin on July 1, 2021.

² Annual payments are displayed for each calendar year.

³ Interest paid from July 1, 2021.

⁴ The additional UAAL balance from the actuarial losses during 2019 is \$1,336,937 as of June 30, 2020. The UAAL balance as of December 31, 2020 is \$1,382,938.

⁵ The additional UAAL balance from the actuarial losses during 2019 is \$1,382,938 as of December 31, 2020. The UAAL balance as of June 30, 2021 before the UAAL payments are made starting July 1, 2021 is \$1,430,522.

Note: Totals may be slightly off due to rounding

University of California-Irvine UAAL Amortization Schedule Combined UAAL as of December 31, 2019 Valuation

Annual Interest Rates: 7.00%
Annual Payment Growth: 0.00%

Calendar Year	Beginning of Period UAAL Balance	Annual Payment ^{1,2}	Interest Paid	Principal Paid	End of Period UAAL Balance
2020	\$ 32,172,301	\$ 3,079,540	\$ 2,057,376	\$ 1,022,164	\$ 32,632,552
2021	32,632,552	3,281,791	2,133,832	1,147,959	31,532,177
2022	31,532,177	3,347,233	2,101,174	1,246,059	30,286,118
2023	30,286,118	3,347,233	2,013,950	1,333,283	28,952,835
2024	28,952,835	3,347,233	1,920,620	1,426,613	27,526,223
2025	27,526,223	3,347,233	1,820,757	1,526,476	25,999,747
2026	25,999,747	3,347,233	1,713,904	1,633,329	24,366,418
2027	24,366,418	3,347,233	1,599,571	1,747,662	22,618,756
2028	22,618,756	3,347,233	1,477,234	1,869,998	20,748,758
2029	20,748,758	3,347,233	1,346,334	2,000,898	18,747,860
2030	18,747,860	3,347,233	1,206,272	2,140,961	16,606,899
2031	16,606,899	3,347,233	1,056,404	2,290,828	14,316,071
2032	14,316,071	3,347,233	896,046	2,451,186	11,864,884
2033	11,864,884	3,347,233	724,463	2,622,769	9,242,115
2034	9,242,115	3,347,233	540,869	2,806,363	6,435,752
2035	6,435,752	3,347,233	344,424	3,002,809	3,432,943
2036	3,432,943	1,942,633	154,232	1,788,401	1,644,542
2037	1,644,542	438,104	99,490	338,614	1,305,929
2038	1,305,929	534,488	77,902	456,586	849,343
2039	849,343	567,652	38,618	529,035	320,308
2040	320,308	267,693	11,551	256,142	64,166
2041	64,166	65,442	1,276	64,166	-
Total		\$ 57,038,599	\$ 23,336,298	\$ 33,702,300	

¹ Payments are assumed to be made at the end of each month.

² Annual payments are displayed for each calendar year.

Note: Totals may be slightly off due to rounding