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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)
 Department of Education (Department) 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 the Department 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	\$335,473
2021/2022 through 2035/2036	\$359,697
2036/2037	\$25,375
2037/2038	\$4,821
2038/2039	\$121,171
2039/2040	\$67,089
2040/2041	\$24,224

Background

In our letter to you dated August 2, 2019, we calculated the Department’s UAAL to be \$3,376,000 as of December 31, 2018. In addition, we provided the amortization schedules¹ for the Department 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 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	\$292,608
2020/2021 through 2035/2036	\$335,473
2036/2037	\$1,152
2037/2038	\$(19,402)
2038/2039	\$96,948
2039/2040	\$42,865

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 (1)) as Attachment A. It should be noted that we have continued to amortize the outstanding balance of each of the five² 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 the Department's members to be \$3,576,000.³ This is calculated by rolling forward the Valuation Value of Assets (VVA) for the Department 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 \$3,303,071. Again, that amount would be paid off by the Department 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 \$3,576,000 as of that date. When adjusted with interest at 7.00% and actual contributions made by the Department from January 1, 2020 to June 30, 2020, the UAAL is \$3,550,509 as of June 30, 2020. The difference between the \$3,303,071 and the \$3,550,509 is the actuarial loss of \$247,438⁴ for the Department 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 \$247,438 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

² 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.

³ See page 86 of our December 31, 2019 actuarial valuation report.

⁴ This actuarial loss was primarily due to higher than expected COLA increases and retiree mortality experience during 2019.

December 31, 2020 is \$255,952. 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 \$264,759.

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 \$2,019 for a total annual payment of \$24,224. 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.

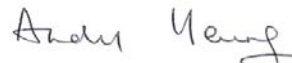
We are members of the American Academy of Actuaries and we meet the qualification requirements to render the actuarial opinion contained herein.

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

Department of Education 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	\$ 3,336,651	\$ 314,041	\$ 208,403	\$ 105,638	\$ 3,246,597
2021	3,246,597	335,473	216,630	118,843	3,127,754
2022	3,127,754	335,473	208,311	127,162	3,000,592
2023	3,000,592	335,473	199,410	136,064	2,864,528
2024	2,864,528	335,473	189,885	145,588	2,718,940
2025	2,718,940	335,473	179,694	155,779	2,563,161
2026	2,563,161	335,473	168,790	166,684	2,396,477
2027	2,396,477	335,473	157,122	178,352	2,218,126
2028	2,218,126	335,473	144,637	190,836	2,027,290
2029	2,027,290	335,473	131,279	204,195	1,823,095
2030	1,823,095	335,473	116,985	218,488	1,604,607
2031	1,604,607	335,473	101,691	233,783	1,370,824
2032	1,370,824	335,473	85,326	250,147	1,120,677
2033	1,120,677	335,473	67,816	267,658	853,019
2034	853,019	335,473	49,080	286,394	566,625
2035	566,625	335,473	29,032	306,441	260,184
2036	260,184	168,312	9,963	158,350	101,834
2037	101,834	(9,125)	7,238	(16,363)	118,197
2038	118,197	38,773	8,060	30,713	87,485
2039	87,485	69,907	3,437	66,470	21,015
2040	21,015	21,433	418	21,015	-
Total		\$ 5,635,440	\$ 2,283,205	\$ 3,352,235	

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

Department of Education 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	\$ -	\$ -	\$ -	\$ -	\$ 255,952 ⁴
2021	255,952 ⁵	12,112	8,937	3,175	261,584
2022	261,584	24,224	17,543	6,680	254,904
2023	254,904	24,224	17,076	7,148	247,756
2024	247,756	24,224	16,575	7,648	240,107
2025	240,107	24,224	16,040	8,184	231,923
2026	231,923	24,224	15,467	8,757	223,167
2027	223,167	24,224	14,854	9,370	213,797
2028	213,797	24,224	14,198	10,026	203,771
2029	203,771	24,224	13,496	10,727	193,044
2030	193,044	24,224	12,745	11,478	181,566
2031	181,566	24,224	11,942	12,282	169,284
2032	169,284	24,224	11,082	13,141	156,143
2033	156,143	24,224	10,162	14,061	142,081
2034	142,081	24,224	9,178	15,046	127,036
2035	127,036	24,224	8,125	16,099	110,937
2036	110,937	24,224	6,998	17,226	93,711
2037	93,711	24,224	5,792	18,432	75,279
2038	75,279	24,224	4,502	19,722	55,558
2039	55,558	24,224	3,121	21,102	34,455
2040	34,455	24,224	1,644	22,579	11,876
2041	11,876	12,112	236	11,876	-
Total		\$ 484,474	\$ 219,715	\$ 264,759	

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 \$247,438 as of June 30, 2020. The UAAL balance as of December 31, 2020 is \$255,952.

⁵ The additional UAAL balance from the actuarial losses during 2019 is \$255,952 as of December 31, 2020. The UAAL balance as of June 30, 2021 before the UAAL payments are made starting July 1, 2021 is \$264,759.

Note: Totals may be slightly off due to rounding

Department of Education 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	\$ 3,336,651	\$ 314,041	\$ 208,403	\$ 105,638	\$ 3,502,549
2021	3,502,549	347,585	225,568	122,018	3,389,338
2022	3,389,338	359,697	225,854	133,843	3,255,496
2023	3,255,496	359,697	216,485	143,212	3,112,284
2024	3,112,284	359,697	206,461	153,236	2,959,048
2025	2,959,048	359,697	195,734	163,963	2,795,085
2026	2,795,085	359,697	184,257	175,440	2,619,644
2027	2,619,644	359,697	171,976	187,721	2,431,923
2028	2,431,923	359,697	158,835	200,862	2,231,061
2029	2,231,061	359,697	144,775	214,922	2,016,139
2030	2,016,139	359,697	129,730	229,967	1,786,172
2031	1,786,172	359,697	113,633	246,064	1,540,108
2032	1,540,108	359,697	96,408	263,289	1,276,819
2033	1,276,819	359,697	77,978	281,719	995,100
2034	995,100	359,697	58,258	301,439	693,661
2035	693,661	359,697	37,157	322,540	371,121
2036	371,121	192,536	16,960	175,576	195,545
2037	195,545	15,098	13,030	2,068	193,477
2038	193,477	62,996	12,562	50,434	143,042
2039	143,042	94,130	6,558	87,572	55,470
2040	55,470	45,656	2,062	43,594	11,876
2041	11,876	12,112	236	11,876	-
Total		\$ 6,119,914	\$ 2,502,920	\$ 3,616,994	

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