



KORN FERRY™  
| HayGroup

# Commonwealth of Pennsylvania State Employees' Retirement System

## 2017 Benefits Completion Plan





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June 13, 2018

Ms. Terrill J. Sanchez  
Executive Director  
State Employees' Retirement System  
30 North Third Street - Suite 150  
Harrisburg, PA 17101-1716

Dear Ms. Sanchez:

The purpose of this letter is to recommend the amount of employer contributions necessary to sustain the Benefits Completion Plan. Section 415(b) of the Internal Revenue Code (IRC) limits the benefits that can be paid to members of the Pennsylvania State Employees' Retirement System (SERS) from the SERS Defined Benefit Plan. The benefit from the Benefits Completion Plan is the benefit that would have been paid in the absence of the IRC Section 415(b) limit less the benefit that is being paid from the SERS Defined Benefit Plan.

The December 8, 2003 ruling letter from the Internal Revenue Service (IRS) stated that the contribution to the Benefits Completion Plan during each fiscal year would be limited to the amount sufficient to fund benefits payable during the calendar year that starts in the fiscal year. This report determines the recommended contribution for the fiscal year beginning July 1, 2018. In accordance with the IRS letter, we based the contribution for the fiscal year beginning July 1, 2018 on a projection of the benefits payable from the Benefits Completion Plan fund through December 31, 2019.

The Benefits Completion Plan pays both retirement annuities and death benefits. The retirement annuities are reasonably predictable. Lump sum death benefits are less predictable. Some of the death benefits are very large and could become payable at any time. At one extreme there could be no large death benefits in a year. However, there could be one or more large death benefits payable in any given year.

In October 2006 we prepared a report on the long-term financing of the Benefits Completion Plan. Based on that report we proposed that the Benefits Completion Plan contribution be set at a high enough level to ensure that the fund was large enough to pay the two highest potential death benefits. Based upon this policy, our subsequent annual reviews of the status of the fund, and our annual fund balance projections, we recommended the following contribution rates:

Fiscal year beginning July 1, 2007	0.04 percent of payroll
Fiscal year beginning July 1, 2008	0.04 percent of payroll
Fiscal year beginning July 1, 2009	0.01 percent of payroll



Fiscal year beginning July 1, 2010	0.01 percent of payroll
Fiscal year beginning July 1, 2011	0.01 percent of payroll
Fiscal year beginning July 1, 2012	0.09 percent of payroll
Fiscal year beginning July 1, 2013	0.05 percent of payroll
Fiscal year beginning July 1, 2014	0.03 percent of payroll
Fiscal year beginning July 1, 2015	0.01 percent of payroll
Fiscal year beginning July 1, 2016	0.01 percent of payroll
Fiscal year beginning July 1, 2017	0.02 percent of payroll

Now, based upon our review of the status of the fund as of December 31, 2017, our fund balance projections through December 31, 2019 and the policy described above, we recommend that SERS increase the contribution rate to 0.03 percent of payroll for the year beginning July 1, 2018.

There are currently 31 participants of the Benefits Completion Plan receiving retirement annuity payments and 38 active employees who could potentially retire before December 31, 2019 with entitlement to Benefits Completion Plan payments. This report projects the fund based on the expected benefits for those participants and employees.

#### **Actuarial Certification**

To the best of our knowledge, this report is complete and accurate, and all costs and liabilities have been determined in accordance with the applicable actuarial standards of practice and on the basis of actuarial assumptions and methods which are reasonable (taking into account the past experience of SERS and reasonable expectations) and which represent our best estimate of anticipated experience under the plan.

The actuaries certifying to this valuation are members of the Society of Actuaries or other professional actuarial organizations, and meet the General Qualification Standards of the American Academy of Actuaries for purposes of issuing Statements of Actuarial Opinion.

Respectfully Submitted,  
Korn Ferry Hay Group, Inc.

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## **Pennsylvania State Employees' Retirement System Benefits Completion Plan**

The Pennsylvania State Employees' Retirement System (SERS) administers two defined benefit plans. The Defined Benefit Plan covers all eligible Pennsylvania employees and annuitants. The Benefits Completion Plan provides benefits to certain annuitants whose Defined Benefit Plan benefits are limited by Internal Revenue Code (IRC) Section 415(b).

This report presents the current status of the Benefits Completion Plan as of December 31, 2017 and recommends an employer contribution for the plan for the fiscal year beginning July 1, 2018. The employer contribution for the Benefits Completion Plan will be added to the employer contribution for the Defined Benefit Plan to set the total retirement contribution for the fiscal year beginning July 1, 2018.

### **Benefits Payable from the Benefits Completion Plan Trust Fund**

In general, IRC Section 415(b) limits a pension plan participant's annual benefit attributable to employer contributions to a specified dollar limit. For the 2018 calendar year, the IRC Section 415(b) limit is \$220,000, an increase of \$5,000 over the \$215,000 limit in calendar year 2017.

The Internal Revenue Service adjusts the IRC Section 415(b) limit for inflation on an annual basis. However, in any given year there will be no increase to the IRC Section 415(b) limit unless cumulative inflation is enough to result in an annual increase of at least \$5,000. Thus, the limit will not necessarily increase every year.

The IRC Section 415(b) limit is adjusted to its actuarial equivalence at certain pension plan participant ages. If a participant retires before age 62, the IRC Section 415(b) limit is reduced to its actuarial equivalent at the participant's retirement age. If a participant retires after age 70, the IRC Section 415(b) limit is increased to its actuarial equivalent at the participant's retirement age.

The IRC Section 415(b) limit is further adjusted for the actuarial value attributable to the withdrawal of an amount equal to the pension plan participant's pick-up contributions with interest. The IRC Section 415(b) limit is also adjusted actuarially for certain optional benefit forms and adjusted for annuities based on less than 10 years of service credit.

The Benefits Completion Plan will pay both retirement and death benefits that exceed the IRC Section 415(b) limit. Death benefits can be paid either on the death of a retired participant receiving benefits from the Benefits Completion Plan or on the death of an employee.



In almost all cases, SERS benefits are also limited to no more than 100 percent of compensation. In general, the Benefits Completion Plan does not pay benefits that, together with the Defined Benefit Plan, are greater than 100 percent of compensation. An exception to this limit includes certain participants eligible for actuarial increases due to retirement beyond age 70. For such participants, the 100 percent of salary limit does not apply to the actuarial increase portion of the participant's benefit. For all others, the monthly retirement benefit payable from the Benefits Completion Plan is the difference between:

- 1 – The total benefit that would have been paid with the 100 percent limit but without the IRC Section 415(b) limit; and,
- 2 – The actual benefit that is paid from the Defined Benefit Plan.

SERS pays a death benefit that is based on the full SERS monthly annuity without either the IRC Section 415(b) or 100 percent of pay limit, but no more than the benefit permitted under IRC Section 401(a)(9) of the Internal Revenue Code. The SERS death benefit is the total of (a) the death benefit based on the monthly annuity limited by 100 percent of pay and (b) a supplemental benefit equal to the full benefit less the benefit limited by 100 percent of pay, subject to the IRC Section 401(a)(9) limits on incidental death benefits. The supplemental death benefit is payable from the Defined Benefit Plan to the extent permitted by IRC Section 415(b). Therefore, the death benefit payable from the Benefits Completion Plan is the difference between:

- 1 – The total benefit that would have been paid without either the 100 percent limit or the IRC Section 415(b) limit; and,
- 2 – The actual benefit that is paid from the Defined Benefit Plan.

A retiree or survivor is a participant of the Benefits Completion Plan if the retiree/survivor is currently drawing benefits from the Benefits Completion Plan. An employee is not currently a participant of the Benefits Completion Plan even if the projected benefits for the employee are greater than the IRC Section 415(b) limit. The employee will become a participant of the Benefits Completion Plan only after the employee retires and begins to draw benefits from the plan. Retirees/survivors who become participants of the Benefits Completion Plan will generally remain participants unless and until the IRC Section 415(b) limit is increased to the point that the benefit payable to them from the Defined Benefit Plan is not limited.

#### *Monthly Retirement Benefit*

The monthly benefit payable from the Benefits Completion Plan is the benefit that would have been paid without the IRC Section 415(b) limit less the benefit that is being paid from the Defined Benefit Plan. The example below illustrates the retirement benefits payable from the retirement system and the limits that affect the monthly benefits payable.



## Example of a Monthly Retirement Benefit Payable from the Benefits Completion Plan

TABLE 1		
A.	Benefit payable to the participant based on option selected.	\$225,000
B.	Retirement Code 100 percent of pay limit.	222,000
C.	Retirement benefit payable from the SERS Defined Benefit Plan, limited by 100 percent of pay. (lesser of A. and B.)	222,000
D.	IRC Section 415(b) limit.	220,000
E.	Retirement benefit payable from the SERS Defined Benefit Plan, limited by IRC Section 415(b) limit and 100 percent of pay. (lesser of C. and D.)	220,000
F.	Retirement benefit payable from the Benefits Completion Plan. (difference between C. and E., but not less than \$0)	2,000

The 100 percent of salary limit (line B. above) is applied in determining the benefit that would have been paid without the IRC Section 415(b) limit. Therefore, the Benefits Completion Plan and the Defined Benefit Plan, in combination, do not pay retirement benefits that exceed 100 percent of final compensation. Although a Supplemental Death Benefit would also apply in this example, it is not being illustrated here. See Example 2 in the Appendix for an illustration of the handling of a Supplemental Death Benefit.

### *Death Benefit*

There are three types of death benefits payable from the Benefits Completion Plan. The Appendix includes examples of each type of benefit. The types are:

- ✓ Death benefits payable to beneficiaries of active participants who have an annual retirement benefit in excess of the IRC Section 415(b) limit and who die in service (see example 1 in the Appendix); and
- ✓ Death benefits payable to beneficiaries of retired participants who selected Option 1 and who have an annual retirement benefit in excess of the IRC Section 415(b) limit (see example 2 in the Appendix); and
- ✓ Death benefits payable to survivor annuitants based on the optional benefit chosen by the participant at retirement, where the annual survivor benefit payable is in excess of the IRC Section 415(b) limit (see example 3 in the Appendix).

Participants who die in service and were eligible to receive a retirement benefit are assumed to have retired the day before death and elected an Option 1 benefit. If the Option 1 death benefit is in excess of the benefit payable under the IRC Section 415(b) limit, the Defined Benefit Plan will pay the amount of the benefit attributable to the annuity up to the IRC Section 415(b) limit, and the Benefits Completion Plan will pay the remainder of the death benefit. Example 1 in the Appendix illustrates the death benefits payable from the SERS Defined Benefit Plan and the Benefits Completion Plan if an active participant dies in service.



A Supplemental Death Benefit is payable to a beneficiary of a participant who had a retirement benefit limited by 100 percent of final compensation. The Supplemental Death Benefit is the present value of the excess of the retirement benefit payable to the participant before applying the 100 percent of final compensation limit over the 100 percent of final compensation limit, subject to limits imposed by IRC Section 401(a)(9). If the benefit payable to the participant is larger than the IRC Section 415(b) limit, the part of the Supplemental Death Benefit in excess of the IRC Section 415(b) limit will be payable from the Benefits Completion Plan. Example 2 in the Appendix illustrates this case.

If a participant chooses a joint and survivor benefit at retirement and the benefit is limited by the IRC Section 415(b) limit (as shown in the example in Table 1), the participant will receive a retirement benefit from the SERS Defined Benefit Plan and the participant will receive a retirement benefit from the Benefits Completion Plan. It is possible that part of the survivor benefit payable after the participant's death would also be payable from the Benefits Completion Plan. Example 3 in the Appendix illustrates a situation where a survivor benefit would be payable from the Benefits Completion Plan based on the optional benefit the participant elected at retirement. Example 4 shows a situation where a survivor benefit would not be payable. The examples illustrate the benefit payable based on an Option 2 (100 percent joint and survivor annuity) and an Option 3 (50 percent joint and survivor annuity).



## Status of the Fund

Table 2 shows the progress of the fund in calendar year 2017. The fund began at about \$3,590,000 and decreased by \$1,310,000 to about \$2,280,000.

<b>TABLE 2</b> Benefits Completion Plan Trust Fund Operations in Calendar Year 2017	
Beginning Balance – December 31, 2016	\$3,594,134
Income	
Contributions	897,483
Investment Income	26,189
Total Income	923,672
Expenses	
Benefit Payments	
Supplemental Benefit Payments	676,343
Regular Benefit Payments	1,552,171
Benefits Payable	525
Total Benefit Payments	2,229,038
Administrative Expenses	12,603
Total Expenses	2,241,642
Ending Balance – December 31, 2017	\$2,276,165

Note: Some calculation results above may differ slightly due to rounding.

## Actuarial Assumptions

With limited exceptions, as noted hereafter, the actuarial assumptions used for this valuation of the Benefits Completion Plan are the actuarial assumptions that are used for the December 31, 2017 actuarial valuation of the SERS Defined Benefit Plan. In general, these assumptions were adopted by the SERS Board in March of 2016 based upon Korn Ferry Hay Group's review of SERS experience from 2011 through 2015. The full set of actuarial assumptions adopted is included in Korn Ferry Hay Group's report on the Eighteenth Investigation of Actuarial Experience of the State Employees' Retirement System of the Commonwealth of Pennsylvania – March 9, 2016 (which can be obtained from SERS), with the exception of the annual investment return and annual inflation assumptions. Based upon the review of investment return experience performed in early 2017, the State Employees' Retirement Board (the Board) adopted an annual investment return assumption of 7.25 percent and an annual inflation assumption of 2.60 percent for the December 31, 2016 actuarial valuation. Since these assumptions remain appropriate and reasonable, they have been retained for the December 31, 2017 valuation.





The Benefits Completion Plan Trust Fund will be invested in short-term investment funds in the SERS Treasury Account. Because this fund earned only 0.5 percent interest in 2016 and 0.9 percent interest in 2017, a 0.0 percent interest rate was assumed for projection purposes.

Administrative expenses include actuarial and legal fees that are charged directly to the Fund. The Fund paid \$13,000 in expenses in 2017, \$11,000 in expenses in 2016 and 2015, \$12,000 in expenses in 2014 and 2013, \$13,000 in expenses in 2012, \$15,000 in expenses in 2011, \$16,000 in expenses in 2010, \$17,000 in expenses in 2009, \$15,000 in 2008, and \$13,000 in 2007. The 2006 expenses were \$41,000, which included payment for a study of the long-term funding levels for the Benefits Completion Plan. This study was not performed in any subsequent years, so we assume expenses of \$20,000 on an annual basis.

The IRC Section 415(b) limit could increase on January 1, 2019. However, for purposes of this valuation, it is assumed that the limit will remain flat. If the limit increases on January 1, 2019, it is likely that the benefit payments from the Benefits Completion Plan will be lower than projected.

Assumed future salary increases will be 3.70 percent a year. The Defined Benefit Plan valuation assumes a 2.90 percent general salary increase plus a career salary increase (due to promotions and longevity growth) that averages 2.65 percent for a total of 5.55 percent on average. The assumed career salary increase is inversely related to service. Because most of these employees have substantial service, we used a salary increase rate that was lower than the average for all years of service. It should be noted that the career salary increase assumptions were lowered somewhat beginning with the 2015 valuation, due to updates resulting from the Actuarial Experience Study completed by Korn Ferry Hay Group in March of 2016.

In determining the liability for the Benefits Completion Plan, it is assumed that employees who terminate and apply for an annuity before superannuation age will elect to begin benefits immediately. The Defined Benefit Plan valuation assumes a portion of the terminating members will elect a deferred benefit.

For purposes of the Benefits Completion Plan valuation, it is assumed that future retired participants will choose the full retirement allowance (single-life annuity) option, and the participant will not withdraw any contributions or interest. Assuming the participant elects a full retirement allowance produces a conservative estimate because the 415(b) limit is not subject to reduction when a participant elects to cover a spouse under an Option 2 or an Option 3 (i.e., joint and survivor annuity) election. When a participant withdraws contributions and interest, under an Option 4 lump sum withdrawal, the 415(b) limit is reduced by more than the actual benefit is reduced. Therefore, one aspect of this assumption is conservative, and the other aspect is not. We believe that the net effect of these assumptions results in a reasonable estimate of the Benefits Completion Plan liability. The Defined Benefit Plan valuation assumes a portion of the retired members will elect an alternative form of annuity. As with the Defined Benefit Plan valuation, retirements are assumed to occur on January 1 in the Benefits Completion Plan valuation.



## **Determination of the Recommended Contribution**

The Benefits Completion Plan contribution is set for one year at a time based on projected payouts for two years. However, it is useful to consider the long-term cost of the Benefits Completion Plan. Hay Group estimated the projected long-term cost of the Benefits Completion Plan in future years and presented the results in a report issued on October 6, 2006. The primary finding of that report was that the net Benefits Completion Plan payments, as a percent of total SERS payroll, were projected to increase gradually to a peak of 0.05 percent of pay in 2016 to 2018. The payment was then expected to decline because the great majority of the Benefits Completion Plan benefits were expected to be payable to participants who joined SERS before January 1, 1996, who would be retired or nearing retirement by 2016-2018. This was due to the fact that SERS members hired prior to 1996 do not have their compensation limited under IRC Section 401(a)(17) for purposes of computing their benefits under both the Defined Benefit Plan and the Benefits Completion Plan. Post-1995 hires, on the other hand, are subject to these IRC compensation limits, thereby somewhat reducing the likelihood that members of this group would become eligible for benefits payable from the Benefits Completion Plan.

Through June 30, 2011, actual net Benefits Completion Plan payments were, in fact, lower than projected in 2006, reducing the required annual contributions to fund the Benefits Completion Plan, as further explained in this paragraph. In our 2008 Benefits Completion Plan actuarial report we noted that in early 2009, an active employee with a large potential death benefit had retired and did not elect an Option 1 (guaranteed present value) benefit. The individual was also not eligible for a Supplemental Death Benefit. Since a death benefit was no longer potentially payable from the Benefits Completion Plan for this individual, we considered the fund to be sufficient to fund the two highest potential death benefits. Consequently, we recommended, for the fiscal year beginning July 1, 2009, that the contribution rate be reduced from 0.04 percent to 0.01 percent of payroll. During 2009, another active employee with a large potential death benefit retired and did not elect an Option 1 benefit. Therefore, for the fiscal year beginning July 1, 2010, we recommended that the contribution rate remain at 0.01 percent of payroll. During 2010, an active employee with a large potential death benefit retired and elected an Option 1 benefit. Even with this new liability, the fund assets were sufficient for the contribution rate to remain at 0.01 percent of payroll for the fiscal year beginning July 1, 2011.

During fiscal year 2011-2012, a pre-retirement death led to a large obligation due from the Benefits Completion Plan. In order to meet this obligation and also replenish the Benefits Completion Plan fund to cover potential future obligations, we recommended that the contribution rate be increased to 0.09 percent of payroll beginning July 1, 2012.

Our review of the fund as of December 31, 2012 and our fund balance projections through December 31, 2014 indicated that a somewhat lower level of funding (than required during the prior fiscal year) would suffice for the fiscal year beginning July 1, 2013. In order to meet the significant upcoming obligations of the Benefits Completion Plan and to continue the replenishment of the fund, we recommended a contribution rate of 0.05 percent of payroll for the fiscal year beginning July 1, 2013.

Our review of the fund as of December 31, 2013 and our fund balance projections through December 31, 2015 indicated that a somewhat lower level of funding (than required during the prior fiscal year) would suffice for the fiscal year beginning July 1, 2014. Therefore, we



recommended a contribution rate of 0.03 percent of payroll for the fiscal year beginning July 1, 2014.

During 2014, the two active employees with the largest potential death benefits both retired. One of those employees chose an Option 3 benefit and the other employee's benefit is no longer limited. Consequently, our review of the fund as of December 31, 2014 and our fund balance projections through December 31, 2016 indicated that, once again, as we observed in the two preceding reviews, a lower level of funding would suffice for the fiscal year beginning July 1, 2015. Therefore, we recommended a contribution rate of 0.01 percent of payroll for the fiscal year beginning July 1, 2015.

Our review of the fund as of December 31, 2015 and our fund balance projections through December 31, 2017 indicated that continuing with the most recent level of funding would suffice for the fiscal year beginning July 1, 2016. Therefore, we recommended maintaining a contribution rate of 0.01 percent of payroll for the fiscal year beginning July 1, 2016.

Our review of the fund as of December 31, 2016 and our fund balance projections through December 31, 2018 indicated that continuing with the most recent level of funding would not suffice for the fiscal year beginning July 1, 2017. Therefore, we recommended that the contribution rate be increased to 0.02 percent of payroll for the fiscal year beginning July 1, 2017.

Our current review of the fund as of December 31, 2017 and our fund balance projections through December 31, 2019 indicated, once again, as we observed in the previous review, that continuing with the most recent level of funding would not suffice for the fiscal year beginning July 1, 2018. Therefore, we recommend that the contribution rate be increased to 0.03 percent of payroll for the fiscal year beginning July 1, 2018.

Most of the individual participant benefits payable from the Benefits Completion Plan fund are relatively small and predictable. However, as noted above, substantial benefits have become payable, and will continue to be possible, as a result of the deaths of current and potential participants. Table 3 below shows that 4 individuals have potential death benefits above or approaching \$1,000,000. The two largest potential death benefits total over \$2,100,000. One of these individuals is a current member receiving monthly benefits; the other three are still active employees.

Employee A	\$1,170,000
Employee B	\$940,000
Employee C	\$830,000
Retiree A	\$780,000

Based on the projected long-term cost of the Benefits Completion Plan, Hay Group and SERS developed the following policy for establishing future contributions. In general, the contribution should be set at the rate needed to build and maintain a fund sufficient to pay the two largest potential death benefits.



Therefore, the employer contribution to the Benefits Completion Plan Trust Fund is the contribution for the year beginning July 1, 2018 that, together with the projected fund assets, will be sufficient to fund all annuity benefits expected to be payable through December 31, 2019, plus the two largest potential death benefits.

Table 4 below shows the projection of the fund balance that results from increasing to a 0.03 percent of payroll contribution rate for the 2018-2019 and 2019-2020 fiscal years. The table shows the projection through December 31, 2019 since the contribution needs to be sufficient to fund the benefits through 2019. The projection was made beginning with the current assets and projections using the actuarial assumptions described above. The retirement benefits are assumed to begin on January 1. Table 4 shows a prorated share of the death benefit.

The fund at the end of each period is equal to:

1. The fund at the end of the prior period, plus
2. Contributions, less
3. Retirement and death benefits, less
4. Expenses, plus
5. Investment earnings on the fund

The retirement benefits are those projected for the period using the stated assumptions. The death benefits reflect actual benefits currently payable, plus other potential death benefits that are projected using the stated assumptions. Given the low probability for each potential death benefit, the actual benefits could be zero or could be much higher if one or more of the potential high death benefit participants (shown in Table 3) were to die.

<b>TABLE 4</b>						
Projected Benefits Completion Plan Trust Fund Balance						
June 30, 2018 Through December 31, 2019						
Time Period	Contributions +	Retirement Benefit Payments -	Death Benefit Payments -	Expenses -	Interest +	Ending Balance
As of December 31, 2017 (from Table 2 above)						\$2,276,165
January 1, 2018 – June 30, 2018	\$591,160	\$807,976	\$40,307	\$10,000	\$0	2,009,041
July 1, 2018 – December 31, 2018	940,098	807,976	40,307	10,000	0	2,090,856
January 1, 2019 – June 30, 2019	940,098	860,640	46,467	10,000	0	2,113,847
July 1, 2019 – December 31, 2019	967,361	860,640	46,467	10,000	0	2,164,100

Note: Some calculation results above may differ slightly due to rounding.

Table 4 above shows the result of increasing to a 0.03 percent of payroll contribution rate for the 2018-2019 and 2019-2020 fiscal years. The resulting fund will be more than sufficient to fund the expected benefits using the actuarial assumptions as to the probability of retirement and mortality,



and in accordance with the funding policy stated above. Barring further pre-retirement deaths from among those eligible for large death benefits during 2018 or 2019, by December 31, 2019, the fund will be sufficient to pay the two largest death benefits, plus there will be over \$50,000 of additional funds on hand to cover other potential obligations.

### **Current and Potential Retired Participants**

An annuitant covered by SERS is eligible to participate in the Benefits Completion Plan if the annuitant is receiving a retirement benefit from the Defined Benefit Plan that is limited by IRC Section 415(b).

Each year, as of the valuation date, the current participants in the Benefits Completion Plan are evaluated to determine if they should be included in the Benefits Completion Plan for the following year. Participants of the Benefits Completion Plan would not be eligible to continue to participate if their retirement benefit were no longer limited by IRC Section 415(b). This situation could occur if the IRC Section 415(b) limit was increased and the total benefit due to the annuitant was paid out of the Defined Benefit Plan.

#### *Current Retired Participants*

As of the valuation date of December 31, 2017, there were 31 participants in the Benefits Completion Plan when reflecting the 415(b) limit effective January 1, 2018. These 31 participants will remain participants in the Benefits Completion Plan unless and until the IRC Section 415(b) limit is increased to the point that the benefit payable to them from the Defined Benefit Plan is not limited.

<b>TABLE 5</b>			
Benefits Completion Plan			
Current Retired Participants as of December 31, 2017			
Age Group	Number	Annual Retirement Benefit	Potential Death Benefit
Less than 65	12	\$240,226	\$986,814
Older than 65	19	\$1,294,338	\$2,107,689
Total	31	\$1,534,564	\$3,094,503

#### *Potential Retired Participants*

In addition to determining the liability for currently retired participants of SERS and their survivors and beneficiaries, it is necessary to project benefits for potential participants in the Benefits Completion Plan. Potential participants are currently active employees of SERS who could retire before the end of the next calendar year with benefits limited by IRC Section 415(b).

For purposes of the actuarial valuation, potential participants in the Benefits Completion Plan were selected by SERS staff as those who had at least five years of credited service as of December 31, 2017 and whose Single Life Annuity as of December 31, 2017 was more than 90 percent of the age-adjusted IRC Section 415(b) limit.

These selection criteria resulted in a set of 38 employees who might receive benefits from the



Benefits Completion Plan. We reviewed the selection criteria and agree that these criteria were reasonable to select all potential participants likely to receive benefits before December 31, 2018. Further, our calculation of the exact benefit for these 38 employees showed most with small or zero benefits from the Benefits Completion Plan. This confirmed our assumption that the criteria were broad enough to identify all potential participants.

Table 6 below shows the potential benefits as of December 31, 2017 for the 14 employees who could have received a benefit if they had retired at that point. The other 24 employees, out of the total of 38 employees discussed above, would have received no benefit if they had retired on December 31, 2017.

<b>Age Group</b>	<b>Count</b>	<b>Annual Benefit</b>
< 50	2	\$29,340
50 – 54	0	0
55 – 59	1	11,865
60 – 64	4	119,317
65 and older	7	237,898
<b>Total</b>	<b>14</b>	<b>\$398,420</b>



## Appendix

### Example 1: Lump Sum Death Benefit Payable from Benefits Completion Plan for a Participant Who Dies in Service

<b>A.</b>	Maximum single life annuity.	\$225,000
<b>B.</b>	IRC Section 415(b) limit.	220,000
<b>C.</b>	Retirement benefit payable from the SERS Defined Benefit Plan, if the participant had retired, limited by IRC Section 415(b) limit. (lesser of A. and B.)	220,000
<b>D.</b>	Death benefit payable from the SERS Defined Benefit Plan is the present value of the benefit payable from the SERS Defined Benefit Plan (8.0 times C).	1,760,000
<b>E.</b>	Retirement benefit payable from the Benefits Completion Plan, if the participant had retired. (difference between A. and C., but not less than \$0)	5,000
<b>F.</b>	Death benefit payable from the Benefits Completion Plan is the present value of the benefit payable from the Benefits Completion Plan (8.0 times E).	40,000

Because the participant's accrued retirement benefit is in excess of the Section 415(b) limit, a death benefit will be paid from the Benefits Completion Plan in addition to the death benefit payable from the SERS Defined Benefit Plan. The death benefit payable from the SERS Defined Benefit Plan (Line D) is the present value of the retirement benefit limited by the IRC Section 415(b) limit. The death benefit payable from the Benefits Completion Plan (line F) is the present value of the retirement benefit payable from the Benefits Completion Plan. The examples use an actuarial present value factor of 8.0.



Example 2: Lump Sum Death Benefit Payable from the Benefits Completion Plan for a Participant Who Dies After Retirement under Option 1

<b>A.</b>	Benefit payable to the participant assuming an Option 1 was chosen.	\$225,000
<b>B.</b>	100 percent of pay limit.	180,000
<b>C.</b>	Retirement benefit payable from the SERS Defined Benefit Plan, limited by 100 percent of pay. (lesser of A. and B.)	180,000
<b>D.</b>	IRC Section 415(b) limit (reduced for Option 1 election).	205,000
<b>E.</b>	Retirement benefit payable from the SERS Defined Benefit Plan. (lesser of C. and D.)	180,000
<b>F.</b>	Retirement benefit payable from the Benefits Completion Plan. (difference between C. and E., but not less than \$0)	0
<b>G.</b>	Annual annuity over the 100 percent of pay limit. (difference between A. and the sum of F. and E., but not less than \$0)	45,000
<b>H.</b>	Supplemental Death Benefit (Present value of annuity over the 100 percent of pay limit, assuming no Section 401(a)(9) limitation is applicable). (G. times 8.0)	360,000
<b>I.</b>	Additional annual annuity payable from the SERS Defined Benefit Plan if the 100 percent of pay limit was not applicable. (difference between D. and E.: the IRC Section 415(b) limit and the amount payable from the SERS Defined Benefit plan)	25,000
<b>J.</b>	Supplemental Death Benefit Payable from the SERS Defined Benefit Plan. (Present value of the annual annuity payable from the SERS Defined Benefit Plan if the 100 percent of pay limit was not applicable, assuming that no Section 401(a)(9) limit is applicable.) (I. times 8.0)	200,000
<b>K.</b>	Annual annuity payable from the Benefits Completion Plan if the 100 percent of pay limit was not applicable. (difference between G. and I. but not less than \$0)	20,000
<b>L.</b>	Supplemental Death Benefit Payable from Benefits Completion Plan (K. times 8.0)	160,000

The Supplemental Death Benefit payable from the Benefits Completion Plan is the present value of the difference between the benefit payable to the participant if the 100 percent of pay limit did not apply (line A = \$225,000) and the reduced IRC Section 415(b) limit (line D = \$205,000). If the actuarial present value factor is 8.0, the lump sum death benefit would be \$160,000.





Example 3: Monthly Survivor Benefit Payable from the Benefits Completion Plan for a Participant Who Dies After Retirement under an Option 2 Retirement Benefit

<b>A.</b>	Benefit payable to the participant assuming an Option 2 was chosen.	\$225,000
<b>B.</b>	100 percent of pay limit.	230,000
<b>C.</b>	Retirement benefit payable from the SERS Defined Benefit Plan, limited by 100 percent of pay. (lesser of A. and B.)	225,000
<b>D.</b>	IRC Section 415(b) limit, assuming participant named spouse as survivor annuitant.	220,000
<b>E.</b>	Retirement benefit payable from the SERS Defined Benefit Plan, limited by IRC Section 415(b) limit. (lesser of C. and D.)	220,000
<b>F.</b>	Retirement benefit payable from the Benefits Completion Plan. (difference between C. and E., but not less than \$0)	5,000
<b>G.</b>	Full survivor benefit. (100 percent of A.)	225,000
<b>H.</b>	Survivor benefit payable from the SERS Defined Benefit Plan after the death of the participant, based on Option 2 benefit. (100 percent of E.)	220,000
<b>I.</b>	Survivor benefit payable from the Benefits Completion Plan, after the death of the participant, based on Option 2 benefit. (difference between G. and H.)	5,000



Example 4: Monthly Survivor Benefit Payable from the Benefits Completion Plan for a Participant Who Dies After Retirement under and Option 3 Retirement Benefit

<b>A.</b>	Benefit payable to the participant assuming an Option 3 was chosen.	\$222,000
<b>B.</b>	100 percent of pay limit.	225,000
<b>C.</b>	Retirement benefit payable from the SERS Defined Benefit Plan, limited by 100 percent of pay. (lesser of A. and B.)	222,000
<b>D.</b>	IRC Section 415(b) limit, assuming participant named spouse as survivor annuitant.	220,000
<b>E.</b>	Retirement benefit payable from the SERS Defined Benefit Plan, limited by IRC Section 415(b). (lesser of C. and D.)	220,000
<b>F.</b>	Retirement benefit payable from the Benefits Completion Plan. (difference between C. and E., but not less than \$0)	2,000
<b>G.</b>	Full survivor benefit. (50 percent of A.)	111,000
<b>H.</b>	Survivor benefit payable from the SERS Defined Benefit Plan after the death of the participant, based on Option 3 benefit. (50 percent of A.)	111,000
<b>I.</b>	Survivor benefit payable from the Benefits Completion Plan, after the death of the participant, based on Option 3 benefit. (difference between G. and H.)	0

Because the survivor benefit payable from the Defined Benefit Plan without regard to the IRC Section 415(b) limit is less than the IRC Section 415(b) limit, no benefit is paid from the Benefits Completion Plan after the participant's death.

### About Korn Ferry

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