



February 16, 2022

Ms. Traci Miller Christian
MCG Consulting Group
200 West Mill Street
Liberty, MO 64068

RE: SINGING RIVER HEALTH SYSTEM EMPLOYEES' RETIREMENT PLAN ACTUARIAL AUDIT FOR 2021

Dear Traci:

We have completed the actuarial audit services of the "Actuarial Valuation as of October 1, 2021" report dated November 8, 2021 ("Actuarial Valuation Report") for the Singing River Health System Employees' Retirement Plan ("Plan"). As part of this audit, we collected and reviewed official plan documents, census data, asset information and actuarial valuation reports. We also duplicated the liability calculations in our third party valuation system, ProVal. The results of this audit are provided below, and have been revised to reflect the data updates to include Benefit Service provided on February 15, 2022.

Asset Review

We were provided with the Plan's trust asset value as of September 30, 2021 and the benefit payment transactions during the 2020/2021 plan year. Based on this information and the asset data provided in the prior year Actuarial Valuation Report, we were able to match the calculation of the Actuarial Value of Assets as of October 1, 2021, as well as the rates of return on both the market and actuarial value of assets over the 2020/2021 plan year. We relied upon the prior year asset value, the asset gain/loss for the 2019/2020 plan year, and contributions (i.e. settlement payments) during the 2020/2021 plan year as reported in the current Actuarial Valuation Report, as no separate documentation of these items was provided.

Note that the Actuarial Valuation Report disclosed the rate of return of 22.7% on a market value basis on page 2, but on pages 4 and 5 the rate of return is shown as 22.4%. We matched the return of 22.7% in our audit.

Census Data Review

The Plan's census data used for the actuarial valuation as of October 1, 2021 was provided to us. This data was reviewed for reasonability, but no attempt was made to audit the accuracy of the data. Below are the findings of our census data review:

- One retiree has a "Certain Only" form of payment – however, this does not seem to be an optional form available to retirees in the plan. There is no liability for this retiree in the 2021 valuation because the certain period expired on October 1, 2021. However, if this form of payment should have been a "Certain and Life" form of payment instead, the payments for his remaining lifetime should be valued.
- There are two non-vested terminated participants who had a blank employee contribution balance in the census data, so they have no liability.

- Vesting service is essentially determined as elapsed time while employed, and is used in the actuarial valuation for eligibility purposes only (i.e. indicating when fully vested, and when eligible for retirement). However, the vesting service amount in the data does not correspond well with elapsed time from date of hire for many of the active participants. In some cases vesting service is much higher, and in other cases vesting service is much lower than elapsed service from date of hire. This may indicate that there is a substantial amount of re-hire activity in the plan (i.e. in which some cases the date of hire may be the original hire date, and others may be a re-hire date). However, if this is not the case or if the vesting service data field does not contain a reliable amount, you may want to consider using elapsed service from date of hire for eligibility purposes rather than the vesting service field.
- There was one participant (last name Avery) who is a vested terminated participant in the census data as of October 31, 2021, but the benefit payment records indicate she started receiving a pension payment on September 1, 2021. All other retiree data matched to the benefit payment records provided.
- We calculated an estimated frozen benefit for active employees based on the valuation data provided. For 247 active employees out of the total 383 active employees, our estimated benefit calculation was within 5% of the amount shown in the data. This appears to be reasonable, as we did not have complete data to complete a full calculation and were estimating frozen credited service based on hire date (i.e. would not be accurate for rehires for example).
- We matched the age and service distribution shown in the Actuarial Valuation Report using elapsed service from date of hire (i.e. and not using the vesting service field).
- We matched the retiree distribution counts in the Actuarial Valuation Report, but did not match the total annual pension amount (i.e. the raw census data had annual benefits of \$12,296,286 for the 805 retirees, whereas the Actuarial Valuation Report showed annual benefits totaling \$12,252,199 instead). As a result, we had slightly different average annual pension values for many of the groups.
- We matched the vested terminated distribution counts and benefits.
- You may want to consider adding some data statistics to the Actuarial Valuation Report for the non-vested terminated population included in the valuation (for example, count and average employee contribution balance).

Actuarial Valuation and Liabilities

We have duplicated the liability calculation in our third-party valuation system, Proval. Our calculation of liabilities for the Plan as of October 1, 2021, based on the October 1, 2021 census data provided to us after reflecting the Benefit Service values provided on February 15, 2022, and the assumptions and methods described in the Actuarial Valuation Report, is \$177.8 million versus the value of \$177.9 million in the Actuarial Valuation Report. We have discussed what we believe the discrepancies are by status group and describe below. Note that our analysis of the discrepancies is based on ProVal files you provided to us for the prior year's October 1, 2020 valuation. We will also separately provide you with the ProVal files we used for this determination.

For the purpose of duplicating the liability calculation, we assumed the form of payment for all future retirees was a single life annuity, and both current and future terminated vested participants would start their benefits at age 65. These assumptions were not disclosed in the report, but we believe they are consistent with the assumptions used based on prior discussions.

The liability we determined for in-pay participants (i.e. retirees and beneficiaries) is approximately 0.3% higher (we calculated \$134.9 million versus the \$134.5 million in the Actuarial Valuation Report). We believe this small difference may be due to the discrepancies with the retiree benefit amounts we had noted above (i.e. the total retiree benefits we had in the data we used were about 0.3% higher than the total retiree benefits shown in the Actuarial Valuation Report).

The liability we determined for non-vested terminated participants (i.e. the value of their employee contribution accounts) was matching. We included this liability in the ProVal valuation, so you'll see it in the ProVal files we attached.

The liability we determined for vested terminated participants was about 1% higher (i.e. we calculated \$12.3 million versus the \$12.2 million in the Actuarial Valuation Report). We believe this difference is primarily due to a pre-retirement death benefit for the vested terminated participants that was not included in the 2020 ProVal coding. We valued the vested terminated participants assuming they would start receiving their retirement benefits at age 65, but the mortality decrement is also applied during that deferral period. Therefore, for those vested terminated participants who are assumed to die before age 65, we added a death benefit payable to their spouse starting at the age they would have been age 65, equal to half of the 50% joint and survivor that otherwise would have started at age 65 (i.e. based on our understanding of the pre-retirement death benefit for deferred vested members).

Finally, the liability that we determined for active participants was \$29.45 million versus the \$30.06 million in the Actuarial Valuation Report (and the revised value of \$29.64 million you provided after revising the retirement assumption to match the report). This reflects using the Credited Service field provided in the data consistently to determine early retirement eligibility, early retirement reductions to benefits, and decrement rates that vary by service. We believe any further discrepancy may be due to using Vesting Service or elapsed service from hire to determine some of these items instead. In addition, a few other items were updated in the active valuation coding from the 2020 ProVal files:

- Conversion factors in the 2020 ProVal files appeared to have been developed using sex-distinct RP-2000 mortality tables, rather than a 50/50 blended table. Therefore, we updated conversion factors (used for death benefits) to reflect the blended tables, and to reflect the assumed commencement ages instead of the decrement age. Since this only applies to death benefits, the impact is minor.
- We assumed that active participants who are assumed to terminate employment prior to retirement eligibility will commence their benefits at age 65 (previously this was assumed to be age 60). In addition, we added a pre-retirement death benefit for those participants who are assumed to terminate and then die during this deferral period.

Actuarial Assumptions

There were some instances in the Actuarial Valuation Report where you may want to update your assumption documentation. It appears as though there were changes to the termination decrement tables and disability decrement tables from the 2020 valuation to the 2021 valuation, but these are not mentioned in the "Assumption Changes" section. You may also want to include the assumptions for the form of payment for all participants, and the timing of benefit commencement for deferred vested participants (both current and future deferred vested participants). Finally, in accordance with ASOPs 27 and 35, the report should contain the rationale used in selecting each demographic and economic assumption that has a significant effect on the measurement.

The interest rate assumption of 6.00% appears to be very reasonable as an expected rate of return on the asset portfolio. We evaluated the expected return using capital market assumptions in the “2021 Edition of the Survey of Capital Market Assumptions” published by Horizon Actuarial Services for a 20-year time horizon, and the asset allocation as shown in the mark-to-market accounting summary of assets as of September 30, 2021. We made assumptions about the asset class for some of the funds based upon their name. The result of our analysis was that an interest rate between approximately 5.90% and 6.50% would appear to be reasonable (based on the 35th to 65th percentile of geometric returns reflecting an assumed 20 basis point reduction for investment expenses). This also seems to be a reasonable rate in comparison to other clients and plans for whom we provide services.

The base mortality tables used (i.e. the RP-2014 tables reflecting base rates from 2006) are not the most recent tables published by the Society of Actuaries (i.e. Pri-2012 tables). However, as we discussed, there has been much higher mortality experience in the plan than even this older mortality table would suggest. Based on our analysis of the census data, the current mortality assumption would have predicted approximately 19 deaths between October 1, 2020 and October 1, 2021, but there were actually 28 deaths. Our understanding is that there has been similar high mortality experience for several years. Therefore, this older mortality table appears to be reasonable (and possibly conservative) for this specific population. You might also consider updating the mortality assumption to use the most recent Pri-2012 mortality tables with the blue-collar dataset. These tables would slightly decrease the overall benefit obligation while reflecting the most recent tables available, and reflect a closer estimate of the plan’s actual mortality experience (i.e. it would have estimated approximately 21 deaths during October 1, 2020 to October 1, 2021).

Plan Provisions

We compared the official plan documents to the benefit provision summary in the Actuarial Valuation Report. Below are some items you may want to consider updating/clarifying in the report summary:

- The normal retirement date described in Section 4.02 is based on attaining 10 years of Credited Service, but the Actuarial Valuation Report references Vesting Service instead. (Although Vesting Service and Credited Service used for eligibility purposes are very close in definition, this likely doesn’t make a material difference to the valuation).
- Section 4.06 states that only participants who become disabled while an active employee are eligible for disability benefits. You may want to include this in the description of Disability Retirement. In addition, we did not see the requirement that a participant has to be eligible for Social Security Disability in the plan document (as mentioned in the Actuarial Valuation Report), but this may be an administrative procedure that has been adopted by the Committee.
- The normal form of payment in Section 8.01 is a single life annuity, with a death benefit equal to any remaining amount of the employee contributions that were not paid out as benefits prior to death. That death benefit is not included in the normal form description in the report (nor is it being valued as mentioned below – although this impact could be minimal).
- Our understanding of the death benefit in Section 7.01 is that if a member dies while an active employee, their spouse receives a death benefit equal to the 100% joint and survivor annuity the member would have received. However, if a member dies while a terminated vested employee, their spouse receives half of the 50% joint and survivor annuity the member would have received. The report summary only mentions the 100% joint and survivor annuity, so you may want to include the description of the vested terminated pre-retirement death benefit. Death benefits are also available to single participants, but since the valuation uses a percent married assumption of 100%, this isn’t material to the valuation.

- You may also want to include a description of optional forms of payment provided by the plan, as well as the actuarial equivalent conversion basis used to determine option forms in the report summary.

Benefits in the Plan were frozen in December 2014. However, based on the current provisions in the plan document, there are a few items associated with the plan freeze that were not clear, as described below. The Plan may want to clarify these items in the official documentation (and you also may want to clarify in the provision summary of the Actuarial Valuation Report).

- The Average Compensation used to calculate benefits is defined in Section 1.08 as the highest average of 19 consecutive quarters of compensation (out of the most recent 40 quarters), plus compensation during the last quarter of employment. However, it is not clear how this works in conjunction with the plan freeze. Is the last quarter of employment prior to the plan freeze used in place of the last quarter of employment (even though the last quarter of employment prior to the freeze date would not reflect a full quarter of compensation)? Or are only the highest 19 (or even potentially 20) consecutive quarters used instead since the quarter prior to employment is now after the freeze date?
- Disability retirement benefit described in Section 5.05 says it is determined based on Credited Service as of attainment of age 60, as if the Member continued to accrue Credited Service to that date. Was that service also frozen as of the plan freeze date (i.e. Credited Service projected to the earlier of the plan freeze date or attainment of age 60), or does it continue to use Credited Service that the Member would have had at age 60?

Benefit Calculation Summary

We were not provided with any sample benefit calculations to review, and thus did not check a sample of frozen accrued benefit calculations to ensure consistency with the plan document as noted in our proposal. We are available to do this if desired. We did a high level review of the active frozen benefits in the census data as described above, and matched reasonably well based on the limited data used in the actuarial valuation.

Other Considerations

Below we have listed some other considerations for the actuarial valuation in future years. We have not measured the potential impact of any of these considerations, but in general believe these items would have a small (or offsetting) impact on the liability determination, so do not expect these to be significant. However, reflecting these items could improve the accuracy of the valuation results.

- Pop-Up Benefits – The retirement benefits for a portion of the current retirees (i.e. 70 out of 764 total retirees) reflect a joint and survivor form of payment with a pop-up feature. This pop-up feature is not currently being reflected in the valuation, so you could consider adding. The actual amount of the pop-up varies depending on the retiree's age and spouse's age at retirement, so it could be cumbersome to get actual pop-up adjustments for the entire retiree population that has this feature. However, a simplified methodology could be applied, such as setting up a pop-up annuity form of payment with an average estimated pop-up factor (for example, 1.10 based on a 3 year age difference for a retirement at age 60), or by adding a small load to the overall retirement liability.
- Alternative Forms of Payment – There are many optional forms of payments that retirees could elect at retirement, but the valuation currently assumes all future retirements will elect a single life annuity. Since the actuarial equivalence basis used to convert the optional forms is based on an older mortality table and a different interest rate than the valuation assumption, the present

value of the different forms of payment would impact the liability. Therefore, you could update the form of payment assumption to reflect the most commonly elected forms.

- Employee Contribution Refunds – As an alternative to electing an annuity option, participants in the plan can elect to take their employee contributions out of the plan and forfeit any other retirement benefits. Each year there are participants who take this option, which is likely causing some large gains. Therefore, you may want to consider including an assumption that a portion of the population will take this option as an alternative form of payment based on the plan’s recent experience.
- Death benefit of remaining employee contributions – The normal form of payment reflects a single life annuity with a death benefit equal to the value of the employee contributions less the cumulative amount of the benefits paid. This death benefit is not being valued, although this could rarely be applicable in practice. If this additional death benefit is a common occurrence, you may want to consider adding the employee contribution accounts to the data and including the value of this death benefit in the valuation.
- Disability benefits – Although the plan pays a disability benefit, the disability benefits are not being reflected in the valuation. This may be due to a very low incidence of disabilities, or since the plan is now frozen, the disability benefit may be the same as a vested termination benefit (i.e. the incidence of a disability is included in the termination decrements). If there is still a subsidized disability benefit, you may want to consider adding disability benefits and including disabled mortality in the valuation.
- Early retirement for deferred vested – We assumed in our duplication of liabilities that the deferred vested participants would start their benefits at age 65. However, deferred vested participants could elect to start a reduced benefit as early as age 60. Early retirement benefits are subsidized (i.e. only reduced 3% per year), so the valuation is not currently reflecting any of that early retirement subsidy for this population. As such, you may want to evaluate the deferred vested retirement experience to see if an earlier retirement date is justified.
- ASOP 56 – The valuation report does not include the actuarial modeling disclosures as required in Actuarial Standard of Practice 56, which is effective for work performed after October 1, 2020.

Please let us know if you have any questions or would like additional information about any of our commentary.

Respectfully submitted,

Retirement and Investment Solutions practice of CBIZ, Inc.



Tricia Meysenburg, FSA, EA