**Public Pension Management and Asset Investment Review Commission (PPMAIRC)**

**Data Request: SERS-004**

**Date submitted: June 7, 2018**

**Date for response: July 2, 2018**

**Stress Testing**

1. Please describe your current practices regarding stress testing and how this information is made available to the board and the public. In particular:
   * Who is conducting stress testing on behalf of the system: the system’s consultant, the actuary, or another entity? SERS’ General Investment Consultant, RVK, and its Actuary, Korn Ferry-Hay Group, conduct stress testing on behalf of the system. This response provides a description of the stress testing performed by RVK. The response to Item #2 (below) provides a description of the stress testing performed by Korn Ferry; Hay Group.
   * What is the frequency of stress testing? Stress testing falls into three categories.  First, it is embedded as a key element of all Asset Liability studies conducted on the SERS defined benefit plan.  These are scheduled at the request of the State Employees’ Retirement Board (Board) and executed by RVK with data contributions by the system’s actuary.  They generally occur every 3 to 4 years and one is tentatively scheduled to commence in the next 12 months.  Second, RVK executes stress testing of the fund’s asset base as part of every Asset Allocation analysis done for the Board.  These occur at least every other year, generally synchronized with the Board’s two-year Investment Plan.  Finally, RVK executes customized stress testing of the fund upon request of the Board.  The most recent stress test was executed in early 2018.
   * What scenarios are included in the stress tests? Multiple scenarios are included across these three general categories of stress tests.  These include, but are not limited to – (1) material declines in the equity markets, historically the most frequently observed stress applied to pension fund assets, (2) fund declines under various degrees of illiquidity within the fund’s structure, (3) sharply rising correlations among asset classes, a stress that while not to date long-lived can nonetheless deepen the short-term decline experienced by a fund, (4) a doubling of experienced volatility in asset class returns, and (5) shortfalls in the long-term returns earned by the fund vs. expectations embedded in the contribution levels in the fund.  In upcoming stress testing associated with a possible Asset Liability study, there are plans to expand stress scenarios to declines in the capital markets at various points occurring in future years (sequence risk) and shortfalls in contributions vs. actuarially determined levels.  Stress metrics (measures of stress on the fund) examined under these applied stress scenarios are many and include but are not limited to -- probabilities of achieving the assumed rate of return, effect of volatility on compound rates of return for the fund, payout ratios and their effect on the liquidity demands on fund structure, etc.
   * To whom are the results of stress tests provided? Results of the stress tests are provided to SERS’ Investment Office staff and to the Board.
   * How is this information used to make recommendations on asset allocation/investment strategies? As noted above, information gleaned from the stress tests has and will continue to be provided to the Board with important information affecting decisions on asset allocation, the assumed rate of return, the pursuit of higher fund returns through less liquid investment vehicles, and many others.
2. Please describe the system’s implementation of the recommendations from the Society of Actuaries Blue Ribbon Panel on stress testing. In particular:

How is your system currently conducting stress testing, if testing differs from the Society of Actuaries Blue Ribbon Panel recommendations?

The work of the Blue Ribbon Panel generated a lot of discussion in the actuarial community regarding better approaches to assessing future pension system risk. That discussion resulted in a new professional standard: the Actuarial Standard of Practice (ASOP) No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions. Recognizing that: (1) the three tests recommended by the panel are not relevant enough for most governmental plans because they consider excessively long periods of time (20 years),(2) ignore the fact that actuaries and investment consultants continuously monitor their system’s investment return experience (actual vs. expected), and (3)changes would be made long before a 3% over- or under-performance could repeat for a period of 20 years, the new professional standard identified realistic, practical scenarios against which to test risks such as investment risk, longevity and other demographic risk and contribution risk. The system’s actuary will be addressing the specifics of ASOP No. 51 in our 2018 actuarial report.

How often does the system conduct stress testing? We utilize an Excel cost projection model (provided by our actuaries) that allows a variety of scenarios to be tested. This model is updated annually and can be used to estimate the cost impact of different possible future returns, including patterns of returns that mimic investment return scenarios that have happened historically.  We use this model annually, in preparation for SERS’ budget hearings testimony to the Legislature, to assess the impact of a .5% reduction in the assumed rate of return to the current and future unfunded liability and employee contributions.   We also use this model on an ad-hoc basis in response to requests made of the system. Our model can also project costs based upon future investment returns that are either 3% higher or 3% lower than actuarially expected for 20 years, just as the Blue Ribbon Panel recommended.

Are the results of these stress tests made publicly available? Some sensitivity tests for SERS, as required in our accounting disclosures under GASB, are already published annually.  More assessments of risk will be addressed in the next actuarial valuation report.  Specific stress tests that have been performed by us internally have generally not been published, but results under certain scenarios may be made available to the public in the future, as appropriate.

**Fee transparency**

1. Please describe the system’s current practices on reporting fees to the Board and the public. For all investment managers/opportunities, the Board is asked to consider the fee structure of the manager/opportunity which is included in the material provided to each Board member before the manager is interviewed. Total monthly fees paid to investment managers are reported to the Board in the Statement of Changes in Fiduciary Net Position. The annual fees and expenses paid to each manager/fund in which SERS is invested is reported in SERS’ annual budget book, which is available to the public via our website, www.SERS.pa.gov.
2. Please describe the system’s implementation of the standardized reporting template of the Institutional Limited Partners Association (ILPA). In particular:

Does your system require all private equity managers to submit complete information as specified in the reporting template? No, however, earlier this year, the Board passed a motion to direct SERS’ Investment Office to request from general partners/managers of private equity funds to adopt and complete the ILPA fee disclosure template.

* + Is information from these reports used as a basis of the fees and expenses included in the system’s CAFR? No, but currently SERS reports investment manager fees and expenses that it tracks and pays to its managers. If so, starting with which year’s CAFR was this done? N/A
  + Are managers of other asset classes with similar legal structures required by the system to use the ILPA reporting template? No, however, earlier this year, the Board passed a motion to direct SERS’ Investment Office to request from general partners/managers of private credit funds, real estate funds, and hedge funds to adopt and complete the ILPA fee disclosure template. If so, which asset classes are included? See answer above. If not, how do these managers report fees and performance? If the ILPA template is not followed, SERS still receives most, if not all, of the information contained in the ILPA template in some other format acceptable to SERS.

1. Please provide a copy of the applicable offering document(s)/side letter(s)/investment management agreement(s) outlining the terms of the investment arrangement for each investment made within the past five years.
2. Please provide a copy of the most recent invoice showing the fee calculation (for private equity/real estate/infrastructure/etc., please additionally provide a copy of the capital statement showing the carry calculation and a copy of the ILPA report) for each investment made within the past five years.

**Asset Allocation**

1. Please provide a numerical (not a chart) history of the portfolio asset/risk allocation. Please see the attached asset allocation and standard deviation numbers that were excerpted from the strategic investment plans 2010 through 2016-2017.

**Financial Consultants / Advisors**

1. Please identify all consultants and advisors used by the system, the services they provide, the managers they oversee, the date of and a copy of their last presentation to the system, and their costs.
2. For each of the system’s consultants and advisors, please describe the contractual terms with them and how long they have been providing services to the system.

With regard to the following SERS’ consultants/advisors and service providers, each has been providing services to SERS for the following periods:

• RVK, Inc., formerly known as R.V. Kuhns & Associates, Inc. (October 10, 2011, to the present)

• StepStone Group, LLC (October 6, 2011, to the present)

• NEPC, LLC (June 1, 2017 to the present)

• Townsend Holdings LLC (June 30, 2014-June 30, 2017)

• GCM Customized Fund Investment Group (January 7, 2008 to the present – NOTE: In 2012, all names were changed to Credit Suisse Asset Management, LLC, which was the registered investment adviser of CFIG (Customized Funds Investment Group).  CFIG became GCM Customized Fund Investment Group under GCM Grosvenor in January of 2014.)

• Abel Noser Corporation (July 1, 2016, to the present)

• Institutional Shareholder Services Inc. (October 5, 2010 to the present)

• Korn Ferry Hay Group, Inc. (July 11, 2016, to the present)

• Funston Advisory Services LLC (October 15, 2015 – October 4, 2016)

Please see copies of agreements and any applicable addenda thereto for each consultant redacted pursuant to the exceptions set forth in the Pennsylvania Right-to-Know Law, 65 P.S. §§67.101-67-67.3104, and the Retirement Code, 71 Pa. C.S. §5902(e) (file names beginning with 004-9)

**Investment Performance**

1. For each investment manager, please describe how benchmarks are assigned. For example, is the benchmark determined by the system/consultant before the search for the manager is conducted, is the benchmark selected by the manager and included in its proposal, or is the benchmark an element of the negotiation process? Appropriate benchmarks are identified over the course of the due diligence process by SERS’ Investment Staff and the appropriate consultant to monitor and evaluate the investment product’s performance. Those benchmarks are presented to the Board with the potential investment and considered by the board as part of the manager hire process. Benchmarks are not selected by the investment manager. In some cases, additional secondary benchmarks may also be used in the evaluation process, particularly if necessary to reflect the asset class composite strategy contained in the Board’s Strategic Investment Plan. It is important to note that unlike public market strategies where one could invest in a passive index option, private market benchmarks are not investible.
2. Please describe the manner by which investment managers’ performance is monitored and evaluated. Provide several examples where an investment manager has been terminated for not meeting performance benchmarks. SERS’ public market managers are monitored throughout the year. Consistent with SERS’ Investment Manager Monitoring Policy, SERS’ Investment Staff and RVK provide a quarterly memo to SERS’ Board identifying the public market managers that are on the Investment Manager Evaluation List as of the most recent quarter end based on certain quantitative and/or qualitative criteria outlined in the policy. SERS’ Investment Staff and NEPC provide a similar memo for SERS’ REIT managers. Over the past couple of years SERS has terminated a number of its managers. Relative performance is one of many factors that is considered when deciding whether or not to terminate a manager.
3. For each investment manager, please provide the quartile comparison of performance for a manager that was presented to the Board at the time of hiring, and the current equivalent quartile comparison.
4. Please describe how the system monitors its managers’ use of subscription lines of credit (subscription facilities, subscription line financing, capital call facilities, or bridge lines) in order to ensure alignment of interests and to prevent any potential negative effects on the reporting of performance and expenses incurred. The use of lines of credit to enhance returns is a relatively recent phenomenon within Private Equity, and will create benchmarking challenges going forward. To combat those challenges, StepStone and SERS’ Investment Office Staff (“Staff”) review all fund performance including the use of lines of credit as well as excluding the use of those facilities (i.e, if all cash had been called from LPs the time of each investment rather than extended on a line of credit). StepStone and Staff review all cash flows for fund managers and their underlying investment vehicles during due diligence. As a part of that review, StepStone and Staff disaggregate all modified capital calls (e.g, lines of credit, capital call facilities, etc.) to create a net performance profile free of the use of such instruments. StepStone is developing a database of such net performance to use as a benchmark. It is important to note that such lines of credit do not increase the risk profile of the underlying fund investments, as they are secured by LP commitments (rather than assets) and the underlying credit worthiness of the LP base.
5. Please describe how the system measures the performance of its private market investments compared to Public Market Equivalents. During manager due diligence, StepStone benchmarks performance to public market equivalents. The exercise includes matching a manager’s strategy/geography to an appropriate public market index, and creating a synthetic series of same-date cash flows for the index to determine manger out/under-performance.

**Competitive Purchasing / RFPs**

1. Please describe the policy and process for selecting financial consultants, advisors, investment managers, and service providers, *e.g.*, which ones are selected through a public procurement, which ones are negotiated, your system’s use of placement agents, etc.

Investment consultants/advisors are procured pursuant to the Hiring and Managing Investment Consultants process (INV 0060) (see file name SERS 004-15 Hiring and Managing Investment Consultants Process). Investment managers are selected pursuant to the Hiring Investment Managers Process (INV 0080) (see file name SERS 004-15 Hiring Investment Managers Process). Service providers are selected in accordance with Commonwealth procurement policies.

With regard to placement agents, as noted in the response to SERS-003, Number 3, as part of SERS due diligence process, SERS requires the investment manager to disclose if a placement agent or third-party marketer was used by the investment manager as part of the search process. SERS does not directly work with placement agents. If and when a general partner discloses its use of a placement agent, SERS requires that it contractually agrees that SERS’ negotiated fee structure will not be altered in any way as a result of its participation.  SERS requires fund sponsors to attest that no placement agent fees have been paid to attract or obtain approval for SERS’ investment. For any investment under consideration, SERS discloses to the Board the identity of any placement agent.