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South Dakota Retirement System

July 19, 2018

ASOP No. 4 Revision
Actuarial Standards Board
1850 M Street, NW, Suite 300
Washington, DC 20036

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Members of the Actuarial Standards Board:

Thank you for the opportunity to comment on the Exposure Draft of proposed revisions to ASOP No. 4 Measuring Pension Obligations and Determining Pension Plan Costs or Contributions.

The South Dakota Retirement System (SDRS) is a government sponsored, cost-sharing, multiple-employer hybrid retirement plan covering almost all public employees in South Dakota. The undersigned have prepared this response on behalf of SDRS with input from others in our organization. Because SDRS is a public-sector pension plan, our focus is primarily on the impact of the proposed ASOP No. 4 revision on public-sector plans.

Investment Risk Defeasement Measure

Our comments primarily pertain to Section 3.11 of the proposed ASOP No. 4 revision, the Investment Risk Defeasement Measure (IRDM).

ASOP No. 1 is the introductory ASOP and Section 3 of ASOP No. 1 is titled "Purpose and Format of Actuarial Standards of Practice." Section 3.1.4 in its entirety reads:

> 3.1.4
>
> The ASOPs are principles-based and do not attempt to dictate every step and decision in an actuarial assignment. Generally, ASOPs are not narrowly prescriptive and neither dictate a single approach nor mandate a particular outcome. Rather, ASOPs provide the actuary with an analytical framework for exercising professional judgment, and identify factors that the actuary typically should consider when rendering a particular type of actuarial service. The ASOPs allow for the actuary to use professional judgment when selecting methods and assumptions, conducting an analysis, and reaching a conclusion, and recognize that actuaries can reasonably reach different conclusions when faced with the same facts.

In addition, the Appendix of ASOP No. 1 features a section on "The Role and Scope of ASOPs" which includes the following statement:

> Because the ASOPs are not overly prescriptive and allow for disclosed deviations, the ASOP framework is designed to accommodate the actuary's judgment in providing high-quality actuarial services and acting with integrity.

Therefore, the purpose, format, role and scope of the ASOPs:

1. Are principle-based and not narrowly prescriptive.
2. Provide the actuary with an analytical framework for exercising professional judgment, including the selection of methods and assumptions.
3. Identify relevant factors to consider.

The Investment Risk Defeasement Measure (IRDM) in Section 3.11 of the proposed revision to ASOP No. 4 conflicts with the ASOP No. 1 framework for actuarial standards and deviates from a clear focus on the purpose of the measurement as emphasized in recently revised or adopted ASOPs.

The proposed IRDM measure prescribes actuarial methods and assumptions regardless of plan circumstances, structure, or legal environment. The measure values accrued benefits using the unit credit actuarial cost method and discount rates matching yields for a hypothetical bond portfolio. If it is possible to freeze benefit accruals, and if it is possible to construct a bond portfolio exactly matching the expected payouts of the frozen benefits over several decades, then arguably the IRDM gives a theoretical measure of the assets required at the measurement date to eliminate investment risk for benefits already accrued. But because the IRDM is based on a different actuarial cost method than the funding valuation, includes only accrued and not projected benefits, and is based on different actuarial assumptions than the funding valuation, it is certainly not a measure of the investment risk, or the cost to defease the investment risk, inherent in ongoing plan funding.

The ostensible purpose of the proposed IRDM is an investment risk measure, even though a robust framework for identifying, assessing, and disclosing risk was recently adopted in ASOP No. 51. Consistent with the purpose, format, role and scope of ASOPs laid out in ASOP No. 1, ASOP No. 51 appropriately addresses identifying, assessing, and communicating plan funding risks, including investment risk and:

1. Lists investment risk as the first example of risks to be identified and assessed.
2. Presents an analytical framework for exercising professional judgment.
3. Provides guidance on the process, methods, and considerations to assess risk, all of which would actually be effective in assessing investment risk, unlike the proposed IRDM measure.

An effective investment risk assessment should consider the plan's actual asset allocation and its potential impact on future funding measurements when complying with ASOP No. 51. As an example, we have attached an investment risk assessment disclosure for SDRS that we intend to begin including in the annual valuation reports. Such a risk assessment provides meaningful and relevant plan funding information, as contrasted with the proposed IRDM measure.

Because the IRDM would be based on yields on a theoretical bond portfolio reflecting market rates at the measurement date, it would provide no meaningful funding trend information from year to year. Instead, it would produce results that may vary significantly from year to year, not based on the progress to date towards funding promised plan benefits including the actual investment performance of the plan, but based on bond market volatility. Such a measure is inconsistent with the purpose of a funding valuation – determining or evaluating the adequacy of plan contributions to support benefits. Furthermore, the proposed IRDM would be a required element of funding valuations regardless of whether a plan is considering or even legally able to cease plan accruals, and would prescribe assumptions and methods that may be entirely inappropriate or unreasonable for the funding of many plans.

The proposed IRDM mandates the discount rate and funding method to value the benefits accrued as of the measurement date. Other assumptions are those used in the funding valuation or "based on estimates inherent in market data, in accordance with ASOPs Nos. 27 and 35." But there may be no market data on other assumptions and the other assumptions used in the funding valuation may be wholly inappropriate in the context of liability defeasement. In addition, the use of other funding valuation assumptions for plans with risk-sharing or variable benefit features are likely to be inconsistent with the investment return of a theoretical bond portfolio. Adherence to Section 3.11 of the proposed revision to ASOP No. 4 may therefore conflict with adherence to the assumption consistency requirements of ASOP No. 27 Section 3.12 and ASOP No. 35 Section 3.7.

ASOP No. 51 Investment Risk Assessment Example

We agree with the PTF report that additional disclosure could avoid the potentially misleading practice of showing one traditional value of a plan's funded status or contribution requirements. We also agree that additional disclosure could provide important information about risk and encourage better understanding of funding requirements and affordable benefits.

We applaud the ASB for the work done developing ASOP No. 51. It provides the appropriate analytical framework for considering funding risks, including investment risk. ASOP No. 51 provides multiple methods for assessing risk that would truly measure risk, unlike the proposed IRDM measure. For example, scenario testing with a projection of funding results based on a range of future investment returns and liabilities calculated on a consistent basis would be an effective and realistic measure of investment risk.

ASOP No. 51 supports such an analysis. The attached examples for both SDRS and a model typical public-sector plan include a projection of funding results with liabilities measured on the same actuarial assumptions and investment returns modeled with three scenarios for SDRS and for a model typical public-sector plan:

1. The assumed annual net investment return,
2. The expected 25th percentile annual net investment return over a 15-year period, based on the assumed investment return and the expected standard deviation of the asset allocation, and
3. The expected 75th percentile annual net investment return over a 15-year period, based on the assumed investment return and the expected standard deviation of the asset allocation.

As would be expected under ASOP No. 51, the investment risk assessment example is adapted to the specifics of each plan. SDRS includes risk-sharing benefit features that makes our example disclosure somewhat more complex, but better reflects expected experience considering actual plan benefits, investment strategy, and governing statutes. As noted above, the proposed IRDM measure does not measure risk or permit the customization of the measure to reflect the actual benefit structure, circumstances, and environment of each plan as would be standard under the measures of ASOP No. 51.

These example projections would be consistent with the recently revised ASOP No. 51. They would also be consistent with the ASBs' recent focus on the "purpose of the measurement" since they accurately reflect the impact of investment return variability on projected funding measurements.

For SDRS, and for many public-sector plans, investment risk is by far the largest risk to adequate future funding and as such, has been the focus of our risk assessment example. But many plans are subject to multiple,

simultaneous risks, some of which may be correlated and others not. The ASOP No. 51 framework supports the assessment of multiple simultaneous risks and allows modeling of the real-world impact of those risks. Conversely, the proposed IRDM calculates a theoretical measure of the cost to eliminate investment risk that is subject to volatile bond market fluctuations unrelated to actual plan experience.

Reasonable Actuarially Determined Contribution

Other than the proposed IRDM measure, we agree with most of the changes in the proposed revision to ASOP No. 4. We note the requirement to calculate and disclose a reasonable Actuarially Determined Contribution (ADC) in Section 3.20. We believe it is important that the Contribution Allocation Procedure that is defined in Section 2.8 and referenced in Section 3.20 continue to explicitly permit a range of values. For many public-sector pension plans, the ADC determined based on the Contribution Allocation Procedure is often viewed by sponsors, contributing entities, or other stakeholders as the one contribution requirement that will sufficiently fund plan benefits within a specified timeframe. Outside readers of plan information, including government officials and regulators, have interpreted the ADC as a maximum reasonable contribution. We therefore believe that the maintenance of a range of values in the Contribution Allocation Procedure used in the development of the ADC, is crucial for understanding the possible range of future plan funding requirements.

Section 2.8 of ASOP No. 4 allows the Contribution Allocation Procedure to be a range of values and cites an ERISA minimum required contribution and a maximum tax-deductible amount as an example. Enumerating additional examples of factors that would produce a Contribution Allocation Procedure range would be constructive. Additional factors could include:

1. Consideration of adverse deviation, in addition to any consideration given in specific assumptions.
2. Variable benefits that are supported by fixed, or limited, contributions.
3. Funding policy decisions that may vary based on funded status or economic conditions.

With more public-sector plans using variable benefit features combined with fixed funding rates, the consideration of a range of contribution requirements in the Contribution Allocation Procedure is even more important. An ADC for plans with fixed contribution rates may well be the fixed contribution rate if within a Contribution Allocation Procedure range determined independent of the fixed contribution rate.

Standard Setting Process

We are unable to comment on the proposed revisions to ASOP No. 4 without addressing the apparent departure from the typical standard setting process.

ASOPs Nos. 4, 27, and 35 were adopted in 2013 and 2014 after rounds of exposure drafts and comment opportunity. The background notes in the proposed revision to ASOP No. 4 indicates that actions to consider additional changes were initiated before the recent changes were fully implemented and that the ASB directed the Pension Committee to implement the suggestions of the Pension Task Force (PTF), a committee of four individuals, rather than to consider the suggestions in the context of the professional judgment of the pension professionals on the Pension Committee.

ASOP No. 51 was also finalized and adopted during this same time period, yet no requirement for the IRDM was included as a mandatory risk measure. Instead, the proposed IRDM appears to be closer to a market-based value of liability measure suggested in the PTF report.

In its justification for a market-based value of liabilities, the PTF report includes advancing the actuarial profession and "incorporating widely accepted and intellectually compelling arguments from other professionals" but specifically does not imply that the market-based liability measurement is "the one true answer." Unfortunately, publications and reports that have estimated and published market-based liability figures for plans often make that exact statement. Furthermore, the inclusion of the proposed IRDM measure as a required element of the plan's funding valuation implies such a measure is endorsed as an official plan or industry measure. Adopting the proposed revisions to ASOP No. 4 may force many public pension actuaries to choose whether to comply with the proposed IRDM measure requirement or to comply with Precept 8 of the Code of Professional Conduct requirement to take reasonable steps to ensure actuarial services are not used to mislead other parties.

This series of events and the apparent mischaracterization of a market-based liability measure as an investment risk measure raises serious questions about the transparency, consistency, and purpose of the proposed revisions.

Conclusion

For the reasons stated above, we ask that the Actuarial Standards Board remove the Investment Risk Defeasement Measure from the proposed revision of ASOP No. 4. ASOP No. 51 already provides a more appropriate and robust framework for identifying, assessing, and disclosing investment risk and its impact on future funding measurements.

The increasing maturity of public retirement plans, the movement towards flexible benefit designs, and the frequency of fixed or limited contribution rates require the consideration of a range of values in the Contribution Allocation Procedure and accordingly we agree that the development of the ADC should continue to not be prescriptive and consider these factors and others.

Thank you for the opportunity to address these issues on behalf of the South Dakota Retirement System. We would be more than willing to provide any additional information that may be helpful in your deliberations.

Sincerely,



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June 30, 2017 Projected SDRS Funding Results
Example Valuation Report Excerpt

The SDRS funded status and Actuarially Determined Employer Contributions (ADC) are based on numerous actuarial assumptions that have been selected based on the system's experience and future expectations, including the expected annual investment return of 6.5%. The basis for the 6.5% investment return assumption has been developed elsewhere in this report.

Table 2.5 illustrates the projected Fair Value Funded Ratio (FVFR) and ADC over the next five years assuming alternative investment returns on the fair value of assets. The projections are based on actuarial assumptions (other than investment returns), methods and plan provisions that are the same as reflected in this June 30, 2017 valuation, including plan provisions that vary automatically with the FVFR.

Three scenarios of projected results are shown assuming annual net investment returns equal to:

1. The expected 25th percentile annual investment return over a 15-year period, based on the assumed investment return of 6.5% and an assumed standard deviation of 15.4% (3.82%)
2. The annual investment return assumed in this June 30, 2017 valuation of 6.5%
3. The expected 75th percentile annual investment return over a 15-year period, based on the assumed investment return of 6.5% and an assumed standard deviation of 15.4% (9.18%)

Table 2.5 – June 30, 2017 Projected Funding Results

	Projected Investment Return					
	3.82%		6.50%		9.18%	
June 30,	Fair Value Funded Ratio	Actuarially Determined Employer Contribution	Fair Value Funded Ratio	Actuarially Determined Employer Contribution	Fair Value Funded Ratio	Actuarially Determined Employer Contribution
2017	100.1%	6.274%	100.1%	6.274%	100.1%	6.274%
2018	100.1%	6.274%	100.1%	6.274%	100.0%	6.274%
2019	100.7%	6.274%	100.3%	6.274%	101.6%	6.274%
2020	100.5%	6.274%	100.4%	6.274%	104.3%	6.274%
2021	100.7%	6.272%	100.1%	6.272%	107.2%	6.272%
2022	100.0%	6.271%	100.2%	6.271%	110.2%	6.271%

Table 2.5 results recognize the automatically adjusting features of SDRS. The COLA is the primary flexible feature of SDRS benefits and variations in the restricted maximum COLA are key to understanding the projected future funded ratios. Table 2.6 projects future baseline FVFRs and restricted maximum COLAs based on the same scenarios presented in Table 2.5.

Table 2.6 – June 30, 2017 Projected Baseline Fair Value Funded Ratio and Restricted Maximum COLA

	Projected Investment Return					
	3.82%		6.50%		9.18%	
June 30,	Baseline Fair Value Funded Ratio	Restricted Maximum COLA	Baseline Fair Value Funded Ratio	Restricted Maximum COLA	Baseline Fair Value Funded Ratio	Restricted Maximum COLA
2017	96.4%	1.89%	96.4%	1.89%	96.4%	1.89%
2018	94.1%	1.65%	96.5%	1.90%	99.0%	2.15%
2019	91.9%	1.35%	96.7%	1.90%	101.6%	None*
2020	89.8%	1.15%	96.9%	1.90%	104.3%	None*
2021	87.9%	0.90%	97.0%	1.95%	107.2%	None*
2022	86.1%	0.75%	97.2%	1.95%	110.2%	None*

*When the SDRS FVFR is 100% or greater under the baseline COLA assumption of 2.25%, no restricted maximum COLA is applicable and the SDRS COLA is equal to the increase in the CPI-W with a minimum of 0.5% and a maximum of 3.5%.

SDRS benefits will vary with system experience and both member and employer contributions are fixed. The risk of investment results less than anticipated under SDRS is borne by members because it results in reduced benefits. That risk is best illustrated by considering the likelihood of various investment returns based on the benchmark asset allocation of the SDRS trust fund over shorter time periods because benefits vary automatically as required, and additional benefit reductions will be recommended as required by statue if the variable benefits are not adequate to meet statutory requirements. The risk of benefit reductions is illustrated elsewhere in this report. Conversely, better than expected investment results provide the opportunity for increased benefits under Board of Trustees' policies.

SDRS' current FVFR as of June 30, 2017 is 100.1% based on the assumed investment return of 6.5% and a restricted maximum COLA of 1.89%. Future investment returns will vary from the expected 6.5% and future restricted maximum COLAs will vary as a result. Five years of annualized net investment returns of approximately 3.3% or less will exhaust the variability built into the SDRS COLA and, by statute, require a recommendation to the South Dakota Legislature for corrective actions (benefit reductions). Likewise, five years of annualized net investment returns of approximately 11.0% or more will satisfy the Board of Trustees' policy for benefit improvements and trigger consideration of a recommendation to the Legislature for a benefit increase subject to additional policy restrictions on type and timing of improvement.

Historical annual investment returns and inflation are shown in Table 2.7:

Table 2.7 – Historical Investment Returns and Inflation

Period Ending June 30, 2017	Annualized Net Investment Returns	Annualized Inflation
1 Year	13.84%	1.50%
5 Years	10.96%	1.11%
10 Years	6.14%	1.59%
15 Years	8.49%	2.06%
20 Years	7.97%	2.11%

June 30, 2017 Projected Model Plan Funding Results
Example Valuation Report Excerpt

The Model Plan funded status and Actuarially Determined Employer Contributions (ADC) are based on numerous actuarial assumptions that have been selected based on the system's experience and future expectations, including the expected annual investment return of 7.5%. The basis for the 7.5% investment return assumption has been developed elsewhere in this report.

Table 2.5 illustrates the projected Fair Value Funded Ratio (FVFR) and ADC over the next five years assuming alternative investment returns on the fair value of assets. The projections are based on actuarial assumptions (other than investment returns), methods and plan provisions that are the same as reflected in this June 30, 2017 valuation, including plan provisions that vary automatically with the FVFR.

Three scenarios of projected results are shown assuming annual net investment returns equal to:

1. The expected 25th percentile annual investment return over a 15-year period, based on the assumed investment return of 7.5% and an assumed standard deviation of 15.4% (4.80%)
2. The annual investment return assumed in this June 30, 2017 valuation of 7.5%
3. The expected 75th percentile annual investment return over a 15-year period, based on the assumed investment return of 7.5% and an assumed standard deviation of 15.4% (10.20%)

Table 2.5 – June 30, 2017 Projected Funding Results

	Projected Investment Return					
	4.80%		7.50%		10.20%	
June 30,	Fair Value Funded Ratio	Actuarially Determined Employer Contribution	Fair Value Funded Ratio	Actuarially Determined Employer Contribution	Fair Value Funded Ratio	Actuarially Determined Employer Contribution
2017	74.3%	18.887%	74.3%	18.887%	74.3%	18.887%
2018	72.9%	19.097%	74.8%	18.903%	76.8%	18.708%
2019	71.6%	19.560%	75.4%	18.919%	79.4%	18.267%
2020	70.3%	20.263%	76.0%	18.936%	82.1%	17.564%
2021	69.0%	21.193%	76.7%	18.954%	84.9%	16.595%
2022	67.9%	22.342%	77.4%	18.974%	87.8%	15.357%

The risk of investment results less than or greater than the actuarial assumption anticipated will impact future FVFRs and ADCs. Model Plan's current FVFR as of June 30, 2017 is 74.3% based on the assumed investment return of 7.5%. Future investment returns less than the actuarial assumption will reduce future FVFRs and increase future ADCs. Conversely, future investment returns greater than the actuarial assumption will increase future FVFRs and decrease future ADCs.

Historical annual investment returns and inflation are shown in Table 2.7:

Table 2.7 – Historical Investment Returns and Inflation

Period Ending June 30, 2017	Annualized Net Investment Returns	Annualized Inflation
1 Year	12.5%	1.50%
5 Years	8.9%	1.11%
10 Years	5.3%	1.59%
15 Years	7.3%	2.06%
20 Years	7.0%	2.11%