MILLIMAN REPORT

Actuarial Valuation of The State Income Continuation Insurance Plan

As of December 31, 2022

April 24, 2023

Milliman

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April 24, 2023

Jim Guidry
Director
Benefit Services Bureau
Wisconsin Department of Employee Trust Funds
Madison, WI 53707

RE: Actuarial Valuation of State Income Continuation Insurance Plan as of December 31, 2022

Dear Jim:

Thank you for the opportunity to perform an actuarial valuation of the State Income Continuation Insurance (ICI) plan as of December 31, 2022. The valuation results are provided in this report, along with documentation of our calculation methods and assumptions.

The State of Wisconsin Department of Employee Trust Funds (ETF) has determined that the State ICI plan is not subject to the provisions of GASB 74, which govern the financial reporting of Other Post-Employment Benefits (OPEBs) and require the use of pension accounting methods, including the calculation of a liability for active lives. We have therefore performed this valuation based on GASB 10 guidelines ("Accounting and Reporting for Risk Financing and Related Insurance Issues") which do not require the calculation of a liability for active lives. This approach is consistent with prior valuation work performed on the State ICI plan. Ultimately it is the responsibility of ETF and its auditors to determine the applicable accounting standards for the plan.

Earlier this year, we performed experience studies for the State ICI plan, and we used the results from these studies to update the assumptions for calculating liabilities and developing financial projections for the State ICI plan (the Milliman report dated April 13, 2023 provides documentation of the experience studies and new valuation assumptions). The new assumptions include claim termination and estimated offset assumptions, and are provided in Appendix D of this report. We used a discount rate of 6.8% for estimating State ICI liabilities as of December 31, 2022 and for projecting investment income for the State ICI reserve in our financial projections. This discount rate is consistent with last year's discount rate assumption. This discount rate was specified by ETF and is based on the most recent WRS Experience Study performed by GRS. We have performed no independent assessment of the reasonableness of this assumption. ETF is solely responsible for establishing the assumption and communicating any changes to Milliman for the purpose of this valuation.

On April 17, 2023, the Board approved adopting the Safe Harbor benefit schedule established by the U.S. Equal Employment Opportunity Commission for the State ICI plan. We have estimated liabilities and developed financial projections for the State ICI plan as of December 31, 2022 based on the Safe Harbor benefit schedule, which is included in Appendix B of this report.

This report is prepared solely for the internal business use of ETF. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a release agreement, subject to the following exceptions:

a) ETF may provide a copy of Milliman's work, in its entirety, to ETF's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit ETF; and

b) ETF may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by ETF and The Hartford, including historical claim and expense data. While Milliman has not audited this data, we have reviewed it for reasonableness and it is, in our opinion, sufficient and reliable for the purposes of our calculations. If any of this information is inaccurate or incomplete, the results shown could be materially affected and this report may need to be revised.

This analysis is only an estimate of the State ICI plan's financial condition as of a single date. It can neither predict the plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of benefits, only the timing of employer contributions. While this report is based on the assumptions documented here, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. ETF has the final decision regarding the appropriateness of the assumptions and actuarial cost methods.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices.

I, Paul L. Correia, FSA, MAAA, am a consulting actuary for Milliman, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I, Daniel D. Skwire, FSA, MAAA, am a consulting actuary for Milliman, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely,

Paul L. Correia, FSA, MAAA
Principal and Consulting Actuary
Milliman, Inc.

Daniel D. Skwire, FSA, MAAA
Principal and Consulting Actuary
Milliman, Inc.

Executive Summary

The actuarial liabilities for the State ICI plan as of December 31, 2022 are summarized in Table 1.1 below:

TABLE 1.1
ACTUARIAL LIABILITIES FOR THE STATE ICI PLAN AS OF DECEMBER 31, 2022

LIABILITY COMPONENT	BASIC BENEFITS	SUPPLEMENTAL BENEFITS	$75 ADD-ON	TOTAL LIABILITY
Open Claims	$75,702,250	$3,449,704	$246,445	$79,398,399
IBNR Claims	$4,039,380	$184,072	$13,150	$4,236,602
Loss Adjustment Expense	$4,457,477	$203,124	$14,511	$4,675,113
Total	**$84,199,108**	**$3,836,900**	**$274,107**	**$88,310,114**

The values shown above include estimated liabilities for monthly ICI benefit payments (Basic Benefits and Supplemental Benefits), and for additional benefits of $75 per month to disabled members whose disability lasts longer than 12 months, to help these members with medical expenses ($75 Add-on). The liability for the $75 add-on benefit only reflects the cost for disabled members who had not yet received the benefit as of December 31, 2022. For members who had already received the $75 add-on benefit, the liability is reflected in the liability for basic benefits.

We estimated the liabilities as of December 31, 2022 using new valuation assumptions for the State ICI plan. These assumptions are based on the results of recent experience studies performed by Milliman using historical plan experience. Additional details on the experience studies and new assumptions are provided in our report dated April 13, 2023. The new valuation assumptions are also included in Appendix D of this report.

The State ICI reserve (i.e., the funds available to cover future plan obligations) increased by $8.8 million between December 31, 2021 and December 31, 2022. The reserve earned $9.7 million in investment income (6.3%) in 2022, which is 50 basis points lower than the 6.8% investment income assumption for the plan. The Group Insurance Board approved a 50% rate reduction for the State ICI plan in 2022 followed by a 20% reduction in 2023 to better align reserve balances with target levels. As of December 31, 2022, the State ICI reserve balance is equal to 185% of the actuarial liability, which is higher than the target range of 130% to 140% for the plan, as shown below:

TABLE 1.2
STATE ICI RESERVE BALANCES AND FINANCIAL EXPERIENCE FROM 2020 THROUGH 2022

BALANCE SHEET COMPONENT		2020	2021	2022
A.	**Beginning Reserve Balance**	**$90,324,629**	**$120,036,016**	**$154,290,018**
B.	Closing Adjustments	($12,720)	($7,919)	($1,791)
C.	Adjusted Beginning Reserve Balance	$90,311,909	$120,028,097	$154,288,227
D.	Premium Contributions	$39,574,554	$39,386,893	$21,181,620
E.	Investment Earnings	$10,631,235	$16,242,523	$9,720,823
F.	Insurance Claims	$17,755,981	$18,240,575	$18,834,773
G.	Administrative Expenses	$2,725,701	$3,126,920	$3,230,548
H.	**Ending Reserve Balance (C + D + E – F – G)**	**$120,036,016**	**$154,290,018**	**$163,125,349**
I.	Actuarial Liability	$89,520,857	$88,430,429	$88,310,114
J.	Surplus (H – I)	$30,515,159	$65,859,589	$74,815,235

Actuarial Valuation

The estimated liabilities for the State ICI plan consist of the following components:

- **Liability for Open Claims**: Present value of expected benefits payable to members disabled prior to December 31, 2022, whose claims had been reported to ETF on or before that date. There were 1,007 open claims and one pending claim reported as of the valuation date, for a total of 1,008 claims. We have assumed that the pending claim will transition to open status after satisfying the elimination period.

- **Liability for Incurred but not Reported (IBNR) Claims**: Present value of expected benefits payable to members disabled prior to December 31, 2022, but whose claims had not yet been reported to ETF as of that date.

- **Liability for Loss Adjustment Expenses**: Present value of expected expenses related to the ongoing management and payment of open and IBNR claims.

The following table compares the estimated liabilities for the State ICI plan as of December 31, 2021 and December 31, 2022:

TABLE 2.1
ACTUARIAL LIABILITIES FOR THE STATE ICI PLAN AS OF DECEMBER 31, 2021 AND DECEMBER 31, 2022

LIABILITY COMPONENT	DECEMBER 31, 2021	DECEMBER 31, 2022
Open Claims	$79,398,354	$79,398,399
IBNR Claims	$4,171,815	$4,236,602
Loss Adjustment Expense	$4,860,260	$4,675,113
Total	**$88,430,429**	**$88,310,114**

The total liability decreased by 0.1% from $88.4 million as of December 31, 2021 to $88.3 million as of December 31, 2022. This was driven by several factors, including the impact of updating the valuation assumptions which resulted in a 3.6% decrease in the total liability as of December 31, 2022, with all else equal.

The liability for open claims remained relatively level between December 31, 2021 and December 31, 2022. The number of open claims decreased by 6.0% from 1,072 as of December 31, 2021 to 1,008 as of December 31, 2022, and the average net benefit amount increased by 3.5% from $1,481 as of December 31, 2021 to $1,533 as of December 31, 2022. The change in valuation assumptions resulted in a 3.9% decrease in the open claim liability as of 12/31/2022, with all else equal. The impact of adopting the Safe Harbor benefit schedule is a 0.7% increase in the open claim liability, with all else equal. Also, the claim characteristics (e.g., diagnosis, demographics, etc.) typically vary from one year to the next which impacts the estimated liabilities because the claim termination rate assumptions vary by diagnosis, demographics, etc.

The liability for IBNR claims increased by 1.6% from 12/31/2021 to 12/31/2022 based on recent trends in incurred claims experience and the adoption of the Safe Harbor benefit schedule. The liability for loss adjustment expenses decreased by 3.8% primarily due to the reduction in the open claim inventory.

The liabilities were calculated based on a discount rate of 6.8%, which is the same discount rate used last year. The discount rate assumption is prescribed by ETF and we have performed no independent assessment of the reasonableness of this assumption.

The liabilities for open claims, IBNR claims, and loss adjustment expenses are discussed in greater detail below. Appendix D of this report includes additional documentation of the valuation assumptions.

Open Claims

We performed experience studies and updated the valuation assumptions for computing the December 31, 2022 liabilities for the State ICI plan (documentation of these experience studies and the new assumptions was provided in Milliman's report dated April 13, 2023). Like the prior assumptions, the new assumptions include adjustment factors to the claim termination rates from the 2012 Group Long-Term Disability Valuation Table. This table is the most recent industry valuation table for projecting long-term disability claims and is used by disability insurers for calculating long-term disability claim liabilities. The updated assumptions also include new assumptions for estimating benefits from other sources that offset the ICI benefit amount. The claim termination rate adjustment factors and estimated offset assumptions are included in Appendix D of this report. We used a 6.8% discount rate assumption for calculating State ICI liabilities which was prescribed by ETF and is the same as last year's discount rate assumption.

We tested the updated valuation assumptions by performing retrospective runoff studies using State ICI claim experience from 2017 through 2021. In performing these studies, we first calculated the liability for claims that were open on prior valuation dates using current valuation assumptions, then we determined whether those liabilities would have provided sufficient funding for the emerging claim costs. The emerging claim costs were calculated as the present value of benefit payments made during the study period, plus the present value of the remaining liability for claims still open at the end of the study period. The results from our runoff studies are shown below, summarized in terms of average annual margins from five mutually distinct 12-month studies based on ICI experience from 2017 through 2021.

TABLE 2.2
RUNOUT STUDY FOR THE ICI PLANS BASED ON EXPERIENCE FROM 2017 THROUGH 2021

CLAIM DURATION	AVERAGE ANNUAL MARGIN
1 – 12 months	4.0%
13 – 24 months	3.7%
25 – 36 months	3.7%
37 – 48 months	1.1%
49 – 60 months	1.0%
61 + months	1.6%
Total	**2.2%**

In the preceding table, a positive average annual margin indicates the estimated liability provided adequate funding for the runoff of open claims during the study period, while a negative result indicates a deficiency. For this type of plan, we typically target a positive overall average annual margin of 1% to 5%, with reasonably consistent patterns by claim duration. The results in the preceding table show that the updated assumptions produce liability estimates with these target margins in every duration and overall.

IBNR Claims

The liability for IBNR claims represents the present value of expected benefits for claims incurred on or prior to December 31, 2022 that were unreported as of that date. We have assumed that all IBNR claims were incurred in 2022, and that 25% of claims incurred in 2022 were unreported as of the valuation date. This is the same assumption as last year, and was determined from an analysis performed by Milliman in 2020 of unreported claims at various historical year-end dates, using State ICI claim experience from 2015 through 2019. We have also assumed that the total cost of claims incurred in 2022 will be $16.9 million, based on an analysis of State ICI incurred claim costs from 2016 through 2021. The calculation of the liability for IBNR claims is provided below:

TABLE 2.3
IBNR LIABILITY CALCULATION AS OF DECEMBER 31, 2022

A. Estimated Incurred Claims in 2022	$16,946,410
B. Assumed Proportion of Unreported Claims	25.0%
C. IBNR Liability as of December 31, 2022 (A x B)	$4,236,602

Loss Adjustment Expenses

The liability for loss adjustment expenses was calculated using the following administrative fees specified by The Hartford in 2020 in its response to the request for proposals for administering the ICI program.

TABLE 2.4
ASSUMED CLAIM ADMINISTRATION FEES

FEE COMPONENT	ASSUMED AMOUNT
One-time new claim fee	$1,488 per new claim
Monthly fee, first two years	$130 per month
Monthly fee, years 3 +	$66 per month

We calculated the liability for loss adjustment expenses separately for open claims and IBNR claims. For open claims, the liability represents the present value of expected future claim administration fees, projected using the same claim termination rate assumptions as those used for calculating the open claim liabilities. For IBNR claims, we assumed the one-time new claim fee applies to 268 claims unreported as of the valuation date, based on trends in claim incidence between 2016 and 2021. We estimated the loss adjustment expense liability for ongoing monthly fees for IBNR claims based on the relationship between the IBNR claim liability to the open claim liability. The estimated loss adjustment expense liabilities as of December 31, 2022 are shown below for open claims, IBNR claims, and in total.

TABLE 2.5
LIABILITY FOR LOSS ADJUSTMENT EXPENSES AS OF DECEMBER 31, 2022

LIABILITY COMPONENT	ESTIMATED LIABILITY
Open claims	$4,060,608
IBNR claims	$614,505
Total	**$4,675,113**

State ICI Funding Analysis

We performed a funding analysis based on the State ICI reserve balance as of December 31, 2022 and a projection of estimated future experience for the plan. The State ICI reserve increased by $8.8 million from $154.3 million as of December 31, 2021 to $163.1 million as of December 31, 2022. This increase was driven by the investment income on assets backing reserves. The premium contributions were slightly lower than the insurance claims and administrative expenses in 2022. The Board approved a 50% reduction in premium rates effective in 2022 and a 20% reduction in rates in 2023 to better align State ICI reserve balances with target levels. As of December 31, 2022, the State ICI reserve balance is 185% of the actuarial liability, which is higher than the 130% to 140% target range for the plan. Additional details are provided below.

TABLE 3.1
STATE ICI FUNDING ANALYSIS

BALANCE SHEET COMPONENT		2020	2021	2022
A.	**Beginning Reserve Balance**	**$90,324,629**	**$120,036,016**	**$154,290,018**
B.	Closing Adjustments	(12,720)	(7,919)	($1,791)
C.	Adjusted Beginning Reserve Balance	90,311,909	120,028,097	$154,288,227
D.	Premium Contributions	39,574,554	39,386,893	$21,181,620
E.	Investment Earnings	10,631,235	16,242,523	$9,720,823
F.	Insurance Claims	17,755,981	18,240,575	$18,834,773
G.	Administrative Expenses	2,725,701	3,126,920	$3,230,548
H.	**Ending Reserve Balance (C + D + E – F – G)**	**120,036,016**	**154,290,018**	**$163,125,349**
I.	Actuarial Liability	89,520,857	88,430,429	$88,310,114
J.	Surplus (H – I)	$30,515,159	$65,859,589	$74,815,235

We developed financial projections to demonstrate the long-term performance of State ICI reserve under different scenarios. The projections are provided in Appendix A and reflect actual experience for 2022 and projected experience for 2023 and beyond. The key elements of these projections include the following:

- **Beginning Reserve Balance**: The projected beginning reserve balance for each year is equal to the prior year's ending reserve balance.

- **Payroll**: 2022 State ICI payroll was provided by ETF. Future payroll is assumed to increase at a rate of 3.0% per year, which is consistent with the assumptions used by ETF for retirement fund projections.

- **Premium Contributions**: Annual premium contributions are modeled as a percentage of payroll. Although actual premium contributions vary by premium category, the composite rate was 0.645% of payroll in 2022.

- **Investment Income**: Smoothed investment income on assets backing reserves. The annual investment income in 2023 and beyond is projected as 6.8% of the reserve balance at the beginning of the year.

- **Insurance Claims**: Annual insurance claims are the sum of projected payments on existing claims as of December 31, 2022, and payments on expected future claims incurred after December 31, 2022. Insurance claims for 2023 and beyond are equal to 0.59% of payroll based on historical experience from 2016 through 2021, which includes explicit margin of 5%[1]. Benefit payments for these new claims are then computed using runout patterns generated from our valuation assumptions, which in turn are based on recent plan experience.

- **Administrative Expenses**: Administrative expenses are modeled as a constant percentage of paid insurance claims, based on actual values in 2022.

- **Ending Reserve Balance**: The ending reserve balance equals the starting balance, plus premiums, plus investment earnings, less claims, and less expenses.

- **Actuarial Liability**: The actuarial liability is modeled in a similar fashion to the insurance claims. It represents the sum of the decreasing liability on claims that existed as of December 31, 2022 and of the increasing liability for new claims incurred after December 31, 2022.

- **Surplus or Deficit**: The projected surplus or deficit equals the ending reserve balance less the actuarial liability.

- **Fund Ratio**: Ratio of State ICI reserve balance to the actuarial liability. The target fund ratio range for the State ICI plan is 130% to 140% of the actuarial liability.

The financial projections are included in Appendix A, along with a description of the scenarios that were assumed for projecting State ICI experience. Note that the financial projections shown below depend on a variety of actuarial assumptions about future experience, including but not limited to investment earnings, payroll growth, and disability claim experience. It is nearly certain that actual experience will vary from these assumptions, meaning that the plan's actual surplus or deficit will be higher or lower than the illustrated values.

[1] Last year, we included 10% explicit margin and adjustments for aging in our projection of new claims. Based on our recent experience studies and on a comparison of actual claims to projected claims from prior valuations, we have reduced the explicit margin from 10% to 5% and removed the aging factor. These adjustments result in lower liabilities for new claims, with all else equal.

Appendix A: Financial Projections

We developed financial projections for the State ICI plan based on the following scenarios:

1. **Baseline Scenario**: 2023 contribution rates are held level in future years, and State ICI benefit enhancements[2] become effective on January 1, 2024. In the Baseline scenario, the reserve balance is projected to remain relatively level whereas the liabilities gradually increase over time, resulting in a reduction of the fund ratio from 185% as of December 31, 2022 to 157% as of December 31, 2028.

2. **Scenario 1**: Contribution rates are reduced by 10% in 2024 then held level in future years, and State ICI benefit enhancements become effective on January 1, 2024. The fund ratio is projected to reduce to 146% by December 31, 2028.

3. **Scenario 2**: Contribution rates are reduced by 20% in 2024 then held level in future years, and State ICI benefit enhancements become effective on January 1, 2024. The fund ratio is projected to reduce to 136% by December 31, 2028.

[2] These enhancements include extending basic annual covered payroll from $64,000 to $120,000 and eliminating supplemental benefits.

Baseline Scenario: 2023 contribution rates are held level in 2024 and beyond. State ICI benefit enhancements effective on January 1, 2024.

	Actual	Projected -->					
Calendar Year	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
BOY Reserve Balance	$154,288,227	$163,125,349	$167,659,542	$172,698,418	$176,522,194	$179,456,650	$181,589,814
Premium Contributions	$21,181,620	$17,910,421	$20,510,209	$21,125,515	$21,759,280	$22,412,059	23,084,420
Investment Income	$9,720,823	$11,092,524	$11,400,849	$11,743,492	$12,003,509	$12,203,052	$12,348,107
Total Revenues	$30,902,443	$29,002,944	$31,911,057	$32,869,007	$33,762,789	$34,615,111	$35,432,528
Insurance Claims	$18,834,773	$20,886,321	$22,937,869	$24,792,765	$26,314,807	$27,726,318	$29,157,578
Carrier Administrative Expenses	$2,259,300	$2,505,391	$2,751,481	$2,973,983	$3,156,557	$3,325,873	$3,497,558
Administrative Expense	$971,248	$1,077,040	$1,182,831	$1,278,482	$1,356,969	$1,429,756	$1,503,562
Total Operating Expenses	$22,065,321	$24,468,751	$26,872,182	$29,045,231	$30,828,334	$32,481,947	$34,158,698
Net Change in Reserve Balance	$8,837,122	$4,534,193	$5,038,876	$3,823,777	$2,934,456	$2,133,164	$1,273,830
EOY Reserve Balance	$163,125,349	$167,659,542	$172,698,418	$176,522,194	$179,456,650	$181,589,814	$182,863,643
Actuarial Liability	$88,310,115	$93,746,402	$99,474,152	$104,251,875	$108,591,431	$112,619,487	$116,346,268
Surplus / (Deficit)	$74,815,234	$73,913,140	$73,224,266	$72,270,320	$70,865,219	$68,970,327	$66,517,375
Fund Ratio	**185%**	**179%**	**174%**	**169%**	**165%**	**161%**	**157%**

Scenario 1: Contribution rates are reduced by 10% in 2024 then held level in future years. State ICI benefit enhancements become effective on January 1, 2024.

	Actual	Projected -->					
Calendar Year	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
BOY Reserve Balance	$154,288,227	$163,125,349	$167,659,542	$170,647,397	$172,219,153	$172,685,073	$172,116,564
Premium Contributions	$21,181,620	$17,910,421	$18,459,188	$19,012,963	$19,583,352	$20,170,853	20,775,978
Investment Income	$9,720,823	$11,092,524	$11,400,849	$11,604,023	$11,710,902	$11,742,585	$11,703,926
Total Revenues	$30,902,443	$29,002,944	$29,860,037	$30,616,986	$31,294,255	$31,913,438	$32,479,905
Insurance Claims	$18,834,773	$20,886,321	$22,937,869	$24,792,765	$26,314,807	$27,726,318	$29,157,578
Carrier Administrative Expenses	$2,259,300	$2,505,391	$2,751,481	$2,973,983	$3,156,557	$3,325,873	$3,497,558
Administrative Expense	$971,248	$1,077,040	$1,182,831	$1,278,482	$1,356,969	$1,429,756	$1,503,562
Total Operating Expenses	$22,065,321	$24,468,751	$26,872,182	$29,045,231	$30,828,334	$32,481,947	$34,158,698
Net Change in Reserve Balance	$8,837,122	$4,534,193	$2,987,855	$1,571,756	$465,921	($568,509)	($1,678,793)
EOY Reserve Balance	$163,125,349	$167,659,542	$170,647,397	$172,219,153	$172,685,073	$172,116,564	$170,437,771
Actuarial Liability	$88,310,115	$93,746,402	$99,474,152	$104,251,875	$108,591,431	$112,619,487	$116,346,268
Surplus / (Deficit)	$74,815,234	$73,913,140	$71,173,245	$67,967,278	$64,093,642	$59,497,077	$54,091,502
Fund Ratio	**185%**	**179%**	**172%**	**165%**	**159%**	**153%**	**146%**

Scenario 2: Contribution rates are reduced by 20% in 2024 then held level in future years. State ICI benefit enhancements become effective on January 1, 2024.

	Actual	Projected -->					
Calendar Year	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
BOY Reserve Balance	$154,288,227	$163,125,349	$167,659,542	$168,596,376	$167,916,111	$165,913,497	$162,643,314
Premium Contributions	$21,181,620	$17,910,421	$16,408,167	$16,900,412	$17,407,424	$17,929,647	18,467,536
Investment Income	$9,720,823	$11,092,524	$11,400,849	$11,464,554	$11,418,296	$11,282,118	$11,059,745
Total Revenues	$30,902,443	$29,002,944	$27,809,016	$28,364,965	$28,825,720	$29,211,765	$29,527,282
Insurance Claims	$18,834,773	$20,886,321	$22,937,869	$24,792,765	$26,314,807	$27,726,318	$29,157,578
Carrier Administrative Expenses	$2,259,300	$2,505,391	$2,751,481	$2,973,983	$3,156,557	$3,325,873	$3,497,558
Administrative Expense	$971,248	$1,077,040	$1,182,831	$1,278,482	$1,356,969	$1,429,756	$1,503,562
Total Operating Expenses	$22,065,321	$24,468,751	$26,872,182	$29,045,231	$30,828,334	$32,481,947	$34,158,698
Net Change in Reserve Balance	$8,837,122	$4,534,193	$936,834	($680,265)	($2,002,614)	($3,270,182)	($4,631,416)
EOY Reserve Balance	$163,125,349	$167,659,542	$168,596,376	$167,916,111	$165,913,497	$162,643,314	$158,011,898
Actuarial Liability	$88,310,115	$93,746,402	$99,474,152	$104,251,875	$108,591,431	$112,619,487	$116,346,268
Surplus / (Deficit)	$74,815,234	$73,913,140	$69,122,224	$63,664,236	$57,322,066	$50,023,827	$41,665,630
Fund Ratio	**185%**	**179%**	**169%**	**161%**	**153%**	**144%**	**136%**

Appendix B: Plan Description

The State ICI Plan provides short-term and long-term disability benefits as summarized below:

- **Elimination Period**: University of Wisconsin faculty and academic staff select their elimination period up to 180 days. All other state employees have a 30-day elimination period. State ICI participants must use sick leave time up to a maximum of 130 working days before benefits begin.

- **Maximum Benefit Period**: The following table shows the maximum duration of benefits:

TABLE B.1

MAXIMUM BENEFIT PERIOD

AGE AT DISABLEMENT	MAXIMUM BENEFIT PERIOD
Age 60 or below	To Age 65
Above Age 60	5 Years

- **Benefit Amount**: The basic benefit provides up to 75% of a participant's average monthly earnings, capped at $4,000 per month. Supplemental coverage is available to employees whose annual salary exceeds $64,000, and provides an additional benefit up to $3,500 per month.

- **Benefit Increases**: None

- **Benefit Offsets**: The ICI plan benefit is offset by income received from other sources including, but not limited to: Social Security benefits (regular or disability), unemployment compensation, Worker's Compensation (except permanent disability awards), WRS benefits (retirement, disability retirement, Long-Term Disability Insurance, or separation), work earnings, and Duty Disability benefits.

- **Definition of Disability**: During the first 12 months of disability, the participant is disabled if unable to perform his or her job and under the care of a physician. After the first 12 months of disability, the participant is disabled if unable to engage in any substantial gainful activity for which he or she is reasonably qualified.

- **Premium Contributions**: Premiums for basic coverage are paid by the employer and the employee. Premiums for supplemental coverage are paid entirely by the employee.

Appendix C: Data for Valuation

This appendix contains demographic summaries for the open and pending open State ICI claims as of December 31, 2022. There were 1,007 open claims and one pending open claim as of the valuation date. The following tables provide distributions of State ICI claims by gender and disability year, and by gender and disability age, respectively.

TABLE C1
OPEN AND PENDING OPEN STATE ICI CLAIMS AS OF DECEMBER 31, 2022 BY DISABILITY YEAR AND GENDER

Disability Year	Male	Female	Total
2001 and earlier	13	31	44
2002	3	9	12
2003	2	14	16
2004	6	17	23
2005	8	20	28
2006	10	14	24
2007	9	19	28
2008	9	16	25
2009	11	22	33
2010	10	27	37
2011	13	25	38
2012	16	28	44
2013	22	37	59
2014	18	28	46
2015	10	36	46
2016	17	34	51
2017	18	39	57
2018	15	49	64
2019	10	22	32
2020	27	50	77
2021	27	55	82
2022	54	88	142
Total	**328**	**680**	**1,008**

TABLE C2
OPEN AND PENDING OPEN STATE ICI CLAIMS AS OF DECEMBER 31, 2022 BY DISABILITY AGE AND GENDER

Disability Age	Male	Female	Total
Under 20	0	0	0
20-24	7	14	21
25-29	9	31	40
30-34	24	59	83
35-39	44	100	144
40-44	51	128	179
45-49	72	111	183
50-54	67	123	190
55-59	40	74	114
60-64	12	36	48
65 or above	2	4	6
Total	**328**	**680**	**1,008**

The following tables show a distribution of the State ICI net monthly benefit amounts as of December 31, 2022 by year of disability and gender, and by age at disability and gender, respectively.

TABLE C3
STATE ICI NET MONTHLY BENEFIT AMOUNTS AS OF DECEMBER 31, 2022 BY YEAR OF DISABILITY AND GENDER

Disability Year	Male	Female	Total
2001 and earlier	$ 9,808	$20,914	$30,722
2002	2,775	9,440	12,216
2003	361	12,453	12,815
2004	3,445	12,473	15,918
2005	6,805	17,302	24,107
2006	9,942	8,399	18,342
2007	9,596	20,355	29,950
2008	9,026	12,907	21,934
2009	8,558	25,865	34,424
2010	11,313	31,652	42,965
2011	14,087	19,809	33,895
2012	12,159	30,242	42,401
2013	32,854	43,116	75,970
2014	14,391	33,898	48,290
2015	11,532	36,022	47,554
2016	14,438	44,048	58,486
2017	18,407	57,761	76,168
2018	25,200	67,367	92,567
2019	21,882	37,867	59,749
2020	37,101	81,608	118,710
2021	85,982	123,141	209,122
2022	182,642	256,498	439,140
Total	**$542,306**	**$1,003,137**	**$1,545,444**

TABLE C4
STATE ICI NET MONTHLY BENEFIT AMOUNTS AS OF DECEMBER 31, 2022 BY DISABILITY AGE AND GENDER

Disability Age	Male	Female	Total
Under 20	$0	$0	$0
20-24	9,183	17,655	26,838
25-29	19,103	44,804	63,906
30-34	39,096	106,779	145,875
35-39	66,263	151,928	218,191
40-44	85,375	164,710	250,085
45-49	105,991	159,159	265,149
50-54	122,109	168,193	290,302
55-59	66,274	101,780	168,054
60-64	25,805	77,688	103,493
65 or above	3,107	10,442	13,549
Total	**$542,306**	**$1,003,137**	**$1,545,444**

Appendix D: Actuarial Methods and Assumptions

- **Valuation Date**: December 31, 2022

- **Discount Rate**: 6.8%, specified by ETF. This assumption represents an expected long-term investment return for the State ICI reserve.

- **Claim Termination Rates**: Claim termination rate assumptions were derived from ICI program experience relative to the 2012 Group Long-Term Disability Valuation Table, as shown below:

TABLE D1

CLAIM TERMINATION RATE ADJUSTMENT FACTORS TO 2012 GLTD

DISABILITY DURATION	ADJUSTMENT FACTOR
1 – 12 months	1.20
13 – 24 months	1.60
25 – 36 months	0.85
37 – 48 months	0.40
49 – 60 months	0.25
61 -120 months	0.85
121 + months	1.30

- **Estimated Offset Assumptions**: Estimated Social Security, Other Disability, and Pension/retirement offset assumptions were derived from ICI program experience and are provided below:

TABLE D2

CUMULATIVE SSDI APPROVAL PROBABILITIES

	DURATION AS OF VALUATION DATE (YEARS)							
PROJECTED DURATION (YEARS)	1	2	3	4	5	6	7	8+
1	0%							
2	11%	0%						
3	29%	10%	0%					
4	43%	26%	9%	0%				
5	55%	43%	29%	13%	0%			
6	65%	55%	45%	32%	7%	0%		
7	69%	61%	52%	41%	19%	5%	0%	
8+	71%	63%	54%	44%	24%	11%	0%	0%

TABLE D3

CUMULATIVE OTHER DISABILITY APPROVAL PROBABILITIES

	DURATION AS OF VALUATION DATE (YEARS)							
PROJECTED DURATION (YEARS)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8+**
1	0%							
2	3%	0%						
3	14%	8%	0%					
4	26%	20%	6%	0%				
5	35%	30%	17%	7%	0%			
6	39%	35%	23%	13%	0%	0%		
7	39%	35%	23%	13%	0%	0%	0%	
8+	39%	35%	23%	13%	0%	0%	0%	0%

TABLE D4

CUMULATIVE PENSION/RETIREMENT APPROVAL PROBABILITIES

	DURATION AS OF VALUATION DATE (YEARS)		
PROJECTED DURATION (YEARS)	**1**	**2**	**3+**
1	0%		
2	10%	0%	
3+	21%	0%	0%

We also assumed offset amounts equal to 45% of the gross benefit amount for estimated SSDI benefits, 36% of the gross benefit amount for estimated Pension/Retirement benefits, and 50% of the gross benefit amount for estimated Other Disability benefits.

- **Incurred But Not Reported Claims**: 25% of the estimated incurred claims for the current year, determined from analyses of historical State ICI claims experience.

- **Overpayment Credit**: We assume that 75% of the December 31, 2022 overpayment balance will eventually be recovered, and we applied this amount as an offset to the total liability. This assumption is based on an analysis performed by Milliman in 2022-23 of historical overpayment balances and recoveries using historical plan experience.

- **Loss Adjustment Expenses**: Assumed claim administration fees are provided below:

TABLE D5

ASSUMED ADMINISTRATIVE FEES

FEE COMPONENT	ASSUMED FEES
New claim fee	$1,488 per new claim
Monthly fee, years 1 and 2	$130 per month
Monthly fee, years 3+	$66 per month

Appendix E: Reliance Items

In performing the valuation, we relied, without audit, on certain data and information provided by ETF and The Hartford. To the extent any of the data or other items was incomplete or inaccurate, the results of our work may be materially affected.

The principal items on which we relied included the following:

- Lists of open disability claims and related information provided by The Hartford;
- Reserve balances, premium contributions, plan expenses, covered payroll, and other financial information provided by ETF;
- Plan descriptions provided by ETF; and
- Discussions with ETF and staff at The Hartford.

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