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Correspondence Memorandum

Date: October 18, 2019

To: Group Insurance Board

From: Jim Guidry, Director
Benefit Services Bureau
Division of Retirement Services

Subject: Income Continuation Insurance Program (ICI) Reserve Policy

ETF recommends the Group Insurance Board (Board) approve the attached Income Continuation Insurance Program Reserve Policy.

ETF recommends the Board approve Milliman's recommendation of a fund reserve target of 135% for the state ICI program and a reserve target of 150% for the local ICI program.

The ICI program is a voluntary income replacement program available to all WRS enrolled state employees and employees of all local government entities that decide to participate in the program. The program offers both short-term and long-term benefits for employees who develop disabilities that prevent them from working, either temporarily or permanently. The program pays claimants a benefit of 75% of their monthly salary until they reach age 65 (or longer in some instances). The ICI program is funded solely by premiums paid by employers and employees and investment returns.

Table 1 shows the ICI program fund balance, actuarial liabilities, surplus levels and the reserve percentage for the state and local programs. The local ICI program is well funded and has been on a premium holiday since 2012. The state ICI program has been running an actuarial deficit since 2006.

State and Local ICI Program Fund Balances December 31, 2018		
	State ICI	Local ICI
Fund Balance	$71,493,483	$38,914,553
Actuarial Liability	$90,549,241	$5,966,337
Surplus/(Deficit)	($19,055,758)	$32,948,215
Reserve %	79%	652%

Table 1. State and Local ICI program fund balances

Reviewed and approved by Matt Stohr, Administrator, Division of Retirement Services

Matt Stohr Electronically Signed 10/28/19

Board	Mtg Date	Item #
GIB	11.13.19	11

In 2015, the Board approved a series of annual 20% increases in state ICI premiums beginning in 2016, with the last increase scheduled to go into effect in 2020. As a result, ETF's disability program actuaries, Milliman, Inc. (Milliman) have projected a modest surplus for the state ICI program at the end of 2020. Getting the state ICI program fund balance to a surplus position also presents an opportunity for the Board to identify and maintain fund balances that are sufficient to fund plan liabilities and develop premium rates that will meet those targeted balances.

The local ICI program, though essentially self-sustaining for now (investment performance often exceeds annual claim payments), is a smaller program that is subject to more potential volatility than the state ICI program. In addition to the advantages afforded to the state ICI program, setting a surplus target for the local ICI program will assist the Board by identifying when premium collections should resume so that the impact to enrollees and employers is minimized.

The goal of this policy proposal is to establish a reserve balance target for the state and local ICI programs to guide the Board in making decisions about changes to ICI premiums that are sufficient to fund plan liabilities, protect the fiscal integrity of the program, and maintain premium rates that are adequate, stable, and equitable.

Milliman performed an analysis using ICI claim and demographic data to calculate target reserve balances for the state and local ICI programs. The attached letter from Milliman describes the approaches they used to arrive at their recommendations (Attachment B).

ICI Program Reserve Policy
The proposed policy that accompanies this memo (Attachment A) contains two components. The first component addresses the characteristics of the reserve target. Those characteristics include:

- The Board will establish a reserve target described as a percentage of total liabilities;
- A surplus target range that is five percentage points above and below the target surplus level recommended approved by the Board;
- Premium rate adjustments can be phased in over multiple years if the Board determines that it is necessary to preserve the integrity of the fund or ease the impact of contribution rate changes; and
- Provides that the Board may, upon the advice of program actuaries, establish contribution rates that cause the reserve fund balance to fall outside the recommended target range if circumstances warrant an alternative approach.

The policy's targeted percentage range assists the Board by providing context to any variances from the target, which can guide the Board in determining how to address those variances. The policy does not prescribe how variances should be handled, instead it leaves that determination to the discretion of the Board.

The policy allows the Board to phase in contribution adjustments if doing so would preserve the integrity of the fund. This provision will assist the Board in maintaining rate stability by providing additional time for employers and employees to adjust to significant rate changes.

Under the policy, the Board can set contribution rates outside of the reserve target range if the Board determines doing so aligns with the Board's fiduciary responsibility to the WRS, the ICI program and member enrollees. The policy establishes that while the reserve target range is the ideal path, it recognizes that there can be situations that call for an alternative to strict adherence to the policy.

An example of such a situation is ETF's efforts at redesigning the ICI program. One of ETF's goals for revamping the ICI program includes growing enrollment in the state ICI program. One anticipated result of large enrollment growth in the first year is significant growth in disability claims in subsequent years. Under the policy provision, the Board could decide to set the fund balance in excess of the target in anticipation of that enhanced claim volume so that future increases in liabilities are anticipated and funded.

The second component provides that the policy is reviewed every three years. This ensures that the policy reflects the most recent experience of the program.

ICI Program Fund Reserve Target

The recommendation by Milliman is that 35% of the program's actuarial liabilities is a reasonable surplus target for the state ICI program. Based on the policy guidance, using Milliman's recommendation as the midpoint, the reserve target range would therefore be 130% to 140% of program liabilities.

Milliman also recommends that the Board establish a surplus target of 50% of program liabilities for the local ICI program. This recommendation would result in a reserve target range of 145% to 155% of program liabilities.

The state and local ICI programs are in very different positions financially. Establishing reserve targets for each program will help guide the Board's decision making to set reserve levels that are sufficient to pay current and future claims while maintaining affordable and stable premiums.

ETF staff and actuaries from Milliman will be at the Board meeting to answer any questions.

Attachment A: Reserve Policy for the Duty Disability Program
Attachment B: Milliman September 23, 2019 Letter

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September 5, 2019

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RE: Target Surplus Analysis for ICI Programs as of December 31, 2018

Dear Jim,

Thank you for asking Milliman for assistance in analyzing target surplus for the Income Continuation Insurance (ICI) programs. We took two different approaches for calculating target surplus. The first approach involved calculating surplus according to the Risk Based Capital (RBC) formula adopted by the National Association of Insurance Commissioners (NAIC). This formula is used by insurance companies to determine target surplus for disability insurance business, and takes into consideration current liabilities, asset allocations, asset balances, and premium contributions.

Our second approach involved projecting future claims and expenses for 1,000 random scenarios, and determining the level of surplus that would provide adequate funding for at least 99% of the scenarios. This approach was useful for evaluating claim runout risks, such as volatility in claim termination rates. It is an approach known as "Value at Risk" analysis, and is used by firms in the financial sector for determining the assets needed to cover unexpected future losses.

In both cases, we reflected risk surplus in our target surplus calculations. The risk surplus component is intended to provide protection against volatility in asset values and benefit costs, assuming that the underlying liability is fully funded. We assumed for both programs that future contributions could be set to fund future liabilities, and therefore did not include a premium deficiency component. This means that if surplus in the Local ICI reserve is reduced to the target level, then it is very likely that premium contributions will need to be reinstated to support plan liabilities going forward, thereby terminating the premium holiday that has been effective since 2012.

According to the results from these analyses, we believe a reasonable target surplus level would be an additional 50% of the total liability for the Local ICI program and 35% of total liability for the State ICI Program. A significant portion of this amount is related to potential volatility in the value of the assets used to back the liability, and the resulting uncertainty in annual investment returns. Table 1 below shows the amount of surplus calculated as a percentage of the December 31, 2018 liability, along with the actual surplus reported on that date.

Table 1 ICI Programs Surplus Analysis Valuation Date: December 31, 2018 ($ millions)		
Program	State	Local
A. Liabilities	$90.5	$6.0
B. Asset Balances	71.5	38.9
C. Surplus (B – A)	(19.1)	32.9
D. Target Surplus Percentage	35%	50%
E. Target Surplus (D x A)	31.7	3.0

The State ICI program is currently in a deficit position; however, surplus is expected to improve in future years according to the financial projections we developed in our most recent valuation of the program. As of December 31, 2018, however, there is a $50.7 million difference between the actual surplus and target surplus.

The Local ICI program surplus of $32.9 million is significantly higher than the target surplus estimate of $3.0 million. The Local ICI program has been on premium holiday for many years, largely due to this surplus amount. Furthermore, the surplus is expected to increase in future years according to the financial projections we developed in our most recent valuation of the program. While this may be viewed as a positive attribute from a funding perspective, it may also be perceived as excessive and could create challenges in managing the program.

Since the methods we used to compute target surplus assume that the plans are receiving premiums adequate to fund claim costs, if the surplus in the Local ICI reserve is reduced to the target level, then it is very likely that premium contributions will need to be reinstated.

The remainder of this letter provides documentation of our assumptions and methods for calculating target surplus for the ICI programs.

NAIC Risk Based Capital Formula

The NAIC Risk Based Capital formula is used by insurance companies for determining target surplus, and takes into consideration various risks related to premium contributions and the assets backing future liabilities. The formula has four components:

1. C1: (asset risk) The C1 component takes into consideration the types of assets backing the liabilities. Riskier and less liquid assets (such as real estate and equities) have higher capital factors, while less risky and more liquid assets (such as higher-rated bonds) have lower capital factors.

2. C2: (insurance risk) The C2 component takes into consideration premium contributions and liabilities, and is intended to capture risks related to inadequate funding for future liabilities.

3. C3: (disintermediation risk) The C3 component does not apply to group disability insurance.

4. C4: (operational risk) The C4 component takes into consideration miscellaneous business risks such as administrative expenses and other administrative services.

We used financial information from the ICI programs as of December 31, 2018 to compute target surplus according to the RBC formula. We made the following assumptions in our surplus calculation:

- State ICI Annual Premium: $28.4 million
- Local ICI Annual Premium: $0

- State ICI Liabilities: $90.5 million
- Local ICI Liabilities: $6.0 million
- Core Fund Asset Allocation[1]:
  - Stocks: 45%
  - Fixed income: 22%
  - Inflation sensitive: 14%
  - Private equity: 7%
  - Real estate: 7%
  - Multi-asset: 4%

Most disability insurers hold surplus equal to at least 300% of the RBC formula, but this is primarily to achieve higher ratings from rating agencies, and not solely for solvency purposes (although higher surplus levels certainly provide for greater confidence with regard to solvency). In our RBC analysis for the ICI programs, we applied a factor of 150% to the RBC formula. The details of our surplus calculation for the ICI programs are provided in Table 2 below:

Table 2
RBC Target Surplus

Item	State	Local
C1: Asset Risk	$17,402,438	$1,146,656
C2: Insurance Risk	$8,543,843	$283,135
C4: Operational Risk	$141,967	$0
Subtotal (Sqrt(C1^2+C2^2)+C4)	$19,528,614	$1,181,095
Additional RBC (50% of Subtotal)	$9,764,307	$590,547
Total RBC	$29,292,922	$1,771,642

The RBC surplus shown above represents an estimate of risk surplus—i.e., surplus intended to provide protection against volatility in asset values and benefit costs, assuming that the underlying liability is fully funded.

The State ICI RBC amount shown above ($29.3 million) is roughly 32.4% of the State ICI liability reported as of December 31, 2018 ($90.5 million). The Local ICI RBC amount ($1.8 million) is 29.7% of the Local ICI liability reported as of December 31, 2018 ($6.0 million). Note that the most significant portion of the RBC surplus amount shown above is the C1 component related to asset risk. This is because the Core Fund portfolio is comprised of high risk assets such as stocks and private equity. If the liability were backed solely by investment grade bonds, then the level of required surplus would be significantly lower, but the liability itself would be higher since the expected investment return would be much less.

Target Surplus Based on 99th Percentile Value at Risk

The C2 component of the RBC surplus calculation (insurance risk) is related to claim runout risks such as variations in claim termination rates, and hence variations in future benefit payments. We tested the C2 surplus amount shown above by performing a Value at Risk analysis of ICI claim runoff patterns. Using an inventory of open ICI claims as of December 31, 2018, we projected future benefit payments and expenses for 1,000 different random scenarios for each of the ICI programs. Each of the scenarios represented a different claim runoff pattern in which the likelihood of a claim closing in the future was determined from a random process. Therefore, the projected future benefit payments were different in each of the scenarios.

We calculated a liability corresponding to each of the scenarios in the same way that the December 31, 2018 liability was determined—i.e., by calculating the present value of projected benefit payments and

[1] Source for asset allocation of Core Fund: https://www.swib.state.wi.us/core-fund

expenses, discounted at 7.0% interest. We also included a liability for claims incurred but not reported (IBNR) as of the valuation date. In each scenario, we assumed expenses and IBNR claims would represent a fixed percentage of that scenario's future benefit payments.

We identified ten scenarios that represented the highest liability estimates (the 1% worst outcomes) from the process described above for each ICI program. The following tables show the estimated liabilities corresponding to the worst 3% of outcomes (outcomes with the highest liability estimates), in which the worst 1% are boldface:

Table 3
State ICI
Estimated Liabilities Ordered from Largest to Smallest

Percentile	Estimated Liability	Percentile	Estimated Liability
99.9%	**$96,536,822**	98.4%	$95,311,396
99.8%	**$96,284,238**	98.3%	$95,243,221
99.7%	**$96,194,611**	98.2%	$95,219,839
99.6%	**$96,059,790**	98.1%	$95,214,437
99.5%	**$96,000,394**	98.0%	$95,211,003
99.4%	**$95,694,858**	97.9%	$95,197,488
99.3%	**$95,656,509**	97.8%	$95,193,833
99.2%	**$95,562,466**	97.7%	$95,193,358
99.1%	**$95,549,885**	97.6%	$95,163,618
99.0%	**$95,544,799**	97.5%	$94,880,613
98.9%	$95,506,953	97.4%	$94,854,876
98.8%	$95,448,923	97.3%	$94,844,247
98.7%	$95,435,464	97.2%	$94,795,154
98.6%	$95,410,650	97.1%	$94,792,262
98.5%	$95,370,176	97.0%	$94,760,394

Table 4
Local ICI
Estimated Liabilities Ordered from Largest to Smallest

Percentile	Estimated Liability	Percentile	Estimated Liability
99.9%	**$8,135,530**	98.4%	$7,470,065
99.8%	**$7,952,811**	98.3%	$7,420,936
99.7%	**$7,866,828**	98.2%	$7,401,326
99.6%	**$7,786,126**	98.1%	$7,398,744
99.5%	**$7,769,022**	98.0%	$7,385,360
99.4%	**$7,636,785**	97.9%	$7,383,491
99.3%	**$7,554,949**	97.8%	$7,357,534
99.2%	**$7,533,128**	97.7%	$7,352,495
99.1%	**$7,531,765**	97.6%	$7,334,948
99.0%	**$7,514,395**	97.5%	$7,328,982
98.9%	$7,512,781	97.4%	$7,327,829
98.8%	$7,496,286	97.3%	$7,300,750
98.7%	$7,481,406	97.2%	$7,297,570
98.6%	$7,477,493	97.1%	$7,295,496
98.5%	$7,475,587	97.0%	$7,279,322

In the tables above, the top percentile resulted in a liability estimate greater than or equal to $95.5 million for State ICI and $7.5 million for Local ICI. Therefore, according to this analysis, a fund balance of $95.5 million for State ICI and $7.5 million for Local ICI would provide sufficient funding for future liabilities with 99% confidence for each respective program. The State ICI amount is approximately 6% higher and the Local ICI amount is approximately 25% higher than the liability reported as of December 31st, 2018.

In the RBC target surplus calculation described in the previous section, we included an amount equal to 5% of the liability for covering C2 risks. For State ICI, this is relatively close to the 6% result from the Value at Risk analysis, however for Local ICI 5% is considerably lower than the results from our analysis. This is not surprising given that the Local ICI block is small and therefore subject to more volatility. Furthermore, the Value at Risk analysis may understate the actual volatility (and hence required surplus), because it assumes that future claim termination rates will follow a predetermined pattern that varies by attained age and gender, but in reality, actual termination patterns may be different. Based on this analysis we feel that the $283,135 Local ICI insurance risk from the RBC formula is not appropriate for this block and we determined the Local ICI target surplus percentage by substituting $1.5 million for this value. This would yield an RBC amount of 2.8 million, which is closer to 50% of the liability amount.

Conclusion

We calculated target surplus for the ICI programs by taking into consideration various risks related to claim runout patterns, premium contributions, and the assets held in the Core Fund portfolio. Our target surplus estimate for claim runout risk is approximately 5% of the total liability for State ICI and 25% of the liability for Local ICI. However, an overall target surplus of 35% of liabilities for State ICI and 50% for Local ICI seems more appropriate for the programs due to other risks, such as asset risk. The RBC surplus estimate for asset risk (i.e., the C1 component) is a significant portion of total surplus because a large proportion of the Core Fund is invested in high risk assets such as stocks.

General

The information in this letter is intended for the internal use of Wisconsin ETF and may not be distributed to other parties without the written consent of Milliman. In preparing this information, we have relied on data provided to us by Wisconsin ETF and The Hartford, including historical claim data, plan documents, insurance files and other information. To the extent this information is inaccurate or incomplete, the results of our work may be materially affected.

In order to provide this information, we have constructed several projection models and have made assumptions about future claim experience. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. It is nearly certain that actual experience will not conform exactly to the assumptions used in this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience.

I, Paul Correia, am a consulting actuary with Milliman and a member of the American Academy of Actuaries. I meet the qualification standards of the Academy to render the actuarial opinion contained herein.

We look forward to discussing these results with you at your earliest convenience. In the meantime, please let me know if you have any questions. Thank you.

Sincerely,

Paul Correia

Paul Correia, FSA, MAAA
Principal & Consulting Actuary

cc: Cindy Klimke, Gina Fischer, Erin Esser, Megan Jeffers (ETF), Dan Skwire (Milliman)

Proposed: November 13, 2019

Reserve Policy for the Income Continuation Insurance Program

The Income Continuation Insurance ICI program is a voluntary disability income replacement benefit. ICI coverage is available to all WRS eligible state employees and all WRS local employees if their employer participates. There are separate programs for state and local employees. The programs provide short and long-term disability benefits equal to 75% of an employee's salary until the employee reaches age 65 (or longer in certain instances). Qualifying disabilities do not have to be work-related.

The ICI program is authorized by Wisconsin Statute § 40.62 and is funded by premiums paid by employees and employers. The reserve target established by the Group Insurance Board (Board) under this policy is used in determining annual premium rates to be paid by program enrollees. As required under § 40.05 (5) Wis. Stat., premium rates paid by state employees are based on an employee's annual salary and the level of their accumulated sick leave. Premium rates for local government employees and UW faculty and academic staff are determined using the employee's annual salary and an employee selected elimination period. All state and UW employees are required to exhaust their accumulated sick leave (up to 130 days) before ICI benefits are payable.

OBJECTIVE
This reserve policy is designed to provide guidance for the Board in establishing an Income Continuation Insurance Program fund reserve target that is sufficient to fund plan liabilities, protect the fiscal integrity of the program, and maintain a reasonable premium rate for employees and employers.

INCOME CONTINUATION INSURANCE RESERVE TARGET
The Board will, in consultation with ICI program actuaries, establish separate reserve targets for the state and local ICI programs that is expressed as 100% of the total program liabilities plus an additional surplus target percent. This policy establishes the reserve target range as five percentage points above and five percentage points below the reserve target approved by the board.

In order to preserve the fund integrity and ease the impact of ICI premium rate changes, the Board may decide to spread recommended rate adjustments so that the surplus target is reached over a period of years rather than in one year.

This policy does not prohibit the Board, upon the advice of ETF staff and program actuaries, from setting ICI premium rates that cause the reserve balance to fall outside the target range if the program's financial condition, claim experience, and other factors or trends indicate that a different target is necessary to fulfill the Board's fiduciary responsibility to the WRS, the ICI program and member enrollees.

RESERVE TARGET POLICY REVIEW PERIOD

The Board will review this policy and the ICI reserve targets for each plan at least every three years.