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Joint Appropriations Committee – Supplemental Information Request

Prepared by the Wyoming Department of Workforce Services

To: Joint Appropriates Committee
From: Wyoming Department of Workforce Services
Date: January 7, 2022
Re: Response to questions from Committee members during DWS Budget Hearing on December 16, 2021.

1. How many individuals with disabilities were place in community integrated employment work experiences or jobs within state government? This information covers January 2020 through the current date.

Sixty (60) individuals have been integrated with community-based work experiences. Seven (7) individuals have been hired as a result of their work experience.

Specific work experience placements include:

Local workforce centers (DWS)
Vocational Rehabilitation offices
Albany School District #1
Central Wyoming Community College
Department of Health – Lander
Eastern Wyoming Community College
Fremont County, Fremont County Road Department
Tribal Governments IHS/Wind River Cares
UW-Athletics Department
Western Wyoming Outreach BOCES
WYDOT
Disability Determination Services (DDS)
DWS-Business Training and Support Unit

2. What have been the costs to Unemployment Insurance for the technological changes, short time program and the increase of claims?

Unemployment Insurance Program	Costs	Timeframe in Effect
WYUI Technology programming costs	$3,372,370.42	April 2020 – Dec 2021
Additional temporary staff	$1,227,876.72	March 2020 – Dec 2021
External Call Center	$1,270,329.81	July 2020 – Dec 2020
Overtime paid - UI staff	$427,986.02	March 2020 – Dec 2021
Add-on pay for staff - cover additional duties	$111,700.00	June 2020 – March 2021
Total Costs	**$6,410,262.97**	

3. What is the exposure of the Workers' Compensation fund as related to the non-charge expense of the Covid-19 presumption?

Although, there is significant exposure for potentially high payouts regarding Covid-19 fatalities, the health of the Workers' Compensation Fund is such that even a $200M+ payout could be absorbed solely through the Provision for Adverse Deviation (PFAD) without affecting the employer's rates.

Attached (Attachment A) is a recent report from Oliver Wyman Actuarial Consulting titled "2021 Economic Capital Model." This report can be used to gain a more comprehensive view of the fund and assist in understanding the associated risk factors with the workers' compensation fund. It will also aid in decisions regarding potential rate holidays and determining appropriate PFAD levels and strategies.

The Capital Model report is not statutorily required at this time. The Division is certainly open to a discussion that may include a statutory provision for this report on a regular interval, as we believe it to be a necessary tool in guiding decision-making at both a departmental and legislative level.

Also, attached (Attachment B) is a December 29, 2020, memo from Oliver Wyman summarizing their report in relation to the number of Covid-19 claims, fatalities, the Division's liability and the Workers' Compensation Fund solvency.

OliverWyman

2021 ECONOMIC CAPITAL MODEL

Wyoming Department of Workforce Services
Workers' Compensation Division

12 October 2021

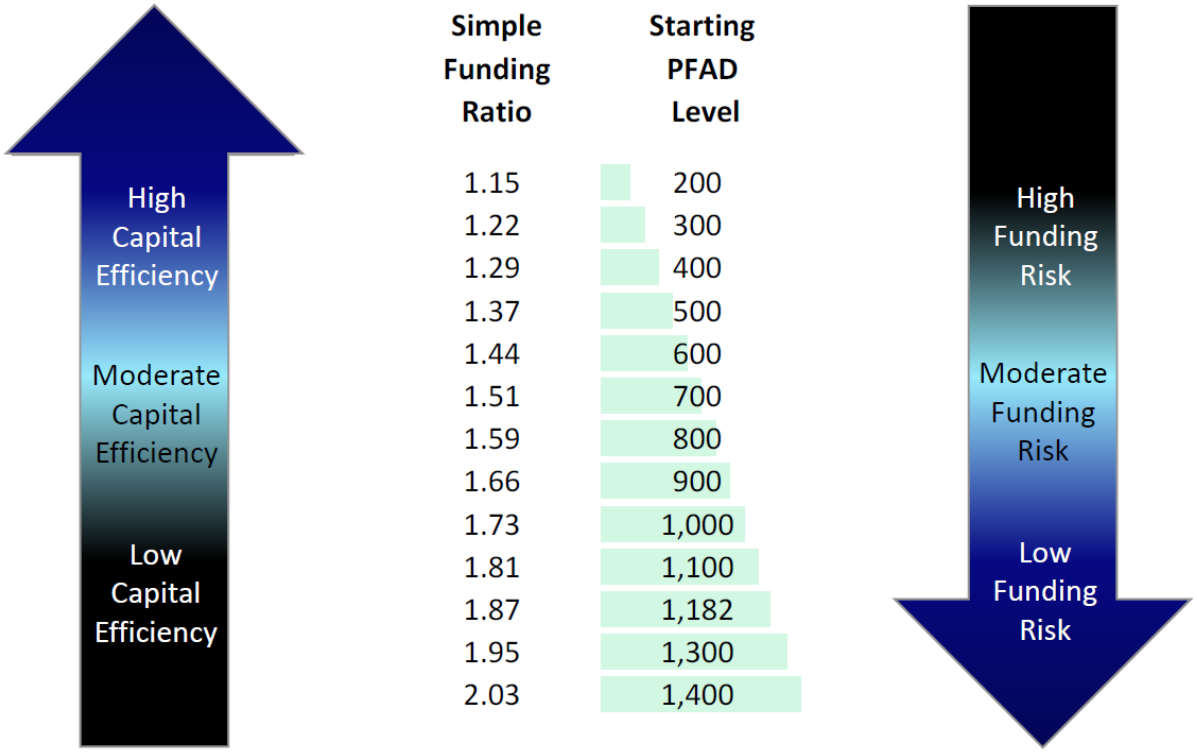
CONTENTS

1. EXECUTIVE SUMMARY

1.1. Purpose and Scope

Oliver Wyman Actuarial Consulting, Inc. ("Oliver Wyman") was engaged by the Wyoming Department of Workforce Services Workers' Compensation Division ("the Division") to produce an economic capital model ("ECM") for the purpose of assisting management in understanding the risk related to the operations associated with the Division's workers' compensation insurance program ("the program"), as measured by the Provision for Adverse Deviation ("PFAD"). Note that "PFAD" and "capital" are used interchangeably throughout this report. This report sets forth the results of the PFAD risk analysis and is accompanied by exhibits which should be considered an integral part of the report.

A key risk management challenge facing the Division is determining what range of PFAD funding meets the risk tolerances of management and its stakeholders, where the fiduciary commitment is an explicit promise to pay all claims of the employer policyholders and their injured workers. A low funding level could expose the program to the risk of having inadequate resources to pay its obligations, while a high funding level could be viewed as an inefficient use of employer capital. The goal of a PFAD plan is to find an acceptable balance, where the PFAD level provides the program's stakeholders financial security and peace of mind that all future obligations can be met, while at the same time ensuring that the capital and resources of the program are being used prudently and efficiently. The following graphic illustrates the concept of balancing capital efficiency and risk (PFAD in millions):



The scope of services for the economic capital model includes the following deliverables.

i. An enterprise risk economic capital model focused on three primary risk components:
   a. Asset / Investment Risk
   b. Loss Reserve Risk
   c. Pricing (Non-Catastrophe) Risk

ii. The model and associated results are developed using Guy Carpenter's proprietary MetaRisk® ("MetaRisk") software platform, with results presented over a five-year time horizon as follows:
   a. On a gross of reinsurance basis[1]
   b. With risk metrics including Standard Deviation, Value-At-Risk and Tail-Value-At-Risk
   c. On an aggregate basis for the program, considering all segments of employers

The model was run based on estimated financial statement balances as of June 30, 2020. It is intended that these results will be used by the Division solely as a guide in evaluating PFAD strategies and in determining appropriate PFAD levels. The conclusions in this report are related to its stated purpose only and may not be applicable for other purposes.

1.2. Actuarial Findings

The adjusted PFAD of the Division's program was $1.2 billion based on the June 30, 2020 balance sheet, with assets of $2.5 billion and discounted liabilities of $1.4 billion. The economic capital model results indicate there is approximately a 0.03% probability that the full $1.2 billion PFAD would be depleted over a five-year time horizon, as shown in Figure 1.

Figure 1: Probability of PFAD Depletion – June 30, 2020 Basis

Starting Simple Funding Ratio	Starting PFAD Level	One-Year Probability of PFAD Depletion	Three-Year Probability of PFAD Depletion	Five-Year Probability of PFAD Depletion
1.15	200	9.18%	18.70%	22.25%
1.22	300	3.30%	9.61%	12.51%
1.29	400	1.05%	4.74%	6.89%
1.37	500	0.35%	2.28%	3.68%
1.44	600	0.09%	0.99%	1.85%
1.51	700	0.02%	0.40%	0.91%
1.59	800	0.00%	0.16%	0.45%
1.66	900	0.00%	0.06%	0.22%
1.73	1,000	0.00%	0.03%	0.11%
1.81	1,100	0.00%	0.01%	0.05%
1.87	1,182	0.00%	0.00%	0.03%
1.95	1,300	0.00%	0.00%	0.02%
2.03	1,400	0.00%	0.00%	0.01%

[1] The Division does not currently purchase catastrophe reinsurance.

Based on the above model output, the program has sufficient funds to meet future obligations with a significantly high likelihood. In viewing these results, one must take account of the risks considered by the model – assets, loss reserves, and pricing – while acknowledging there are numerous other risk types faced by the program that are not contemplated in the results such as legal, legislative, operational, and similar risks that are not reasonably quantifiable. While quantifiable, the results additionally do not contemplate catastrophe risk.

The outcomes shown in Figure 1 also provide information for assessing hypothetical PFAD levels, or ranges of PFAD levels, and their associated financial security. For example, as shown in Figure 1, if the program began with a PFAD level of $0.7 billion, there would be a 0.40% chance of depleting the full PFAD over a three-year period, and a 0.91% chance of depleting the full PFAD over a five-year period.[2]

See Results in Section 4 for more detailed findings.

[2] Based on June 30, 2020 position; assumes no corrective action by the Division over the period.

1.3. Relevant Comments

The economic capital model includes three of the key financial exposures impacting the program results: asset risk, loss reserve risk, and pricing (non-catastrophe) risk. From a more complete enterprise view, the Division is exposed to many other risks of the insurance market and public domain – for example, operational, legal, legislative, cyber, catastrophe, and reputational risk are a few of the many noteworthy categories of risks not included in the economic capital model design. These additional risks are outside the scope of this model; as such, when assessing probable PFAD level changes and riskiness, the Division should keep in mind that the model results likely understate the full risk of PFAD loss.

Additionally, no provision has been included for model risk, which is the risk that the methods are not appropriate to the circumstances or the models are not representative of the specified phenomenon. We have also not included a provision for unreported COVID-19 claims with coverage under the state of Wyoming's workers' compensation COVID-19 presumption. It is our understanding that relatively few of these potential claims have been reported to date, and the Division will retain the potential for liability for two years.

With a five-year model, we use business planning information and anticipated decisions that will impact the expected net income. In particular, the model assumptions include recently approved rate level changes, along with estimates of future rate changes. Variability was incorporated in policy-year premiums as well as losses in recognition of the fact that rate changes are likely to be positively correlated with loss experience. We have also incorporated asset allocation shifts that are anticipated for the investment portfolio over the next five-year period.

The risk of PFAD depletion is more significant over the longer term (3 to 5 years), as capital market fluctuations or systemic inflation could radically impact the PFAD. A more likely downside effect of a low PFAD level is the potential impact on employers and the Wyoming economy as businesses may be asked to absorb much higher workers' compensation premiums, or possibly even capital assessments, to meet any pending shortfall in program funding levels.

Use of an economic capital model requires a considerable amount of actuarial judgment, particularly around the parameters and assumptions that are used to produce the results. Throughout the report we will note important items to consider when reviewing the results of the economic capital model.

2. BACKGROUND

The Division's workers' compensation program applies to approximately 80% of the employees in the state who serve in the statutorily defined classes that require mandatory coverage, while the other 20% have the option to purchase coverage through the Division.

3. DATA

For this study, Oliver Wyman relied upon the following information, provided by the Division, unless otherwise noted.

Pricing (Non-Catastrophe) Risk

- Loads for loss adjustment expenses ("LAE"), other operating expenses, and the provision for terrorism, sourced from Oliver Wyman's rate study as of 6/30/20
- Payroll and written premiums for the fiscal year ending 6/30/20
- Historical payroll and premium data, dating back to fiscal year ending 6/30/00
- Unlimited paid loss triangles and ultimate selections sourced from Oliver Wyman's 6/30/20 reserve study
- Unlimited paid loss and claim count triangles as of 3/31/21
- "[YYYY] 06 30 Claim in Excess of $100,000.00.xlsx" files, spanning years 2007-2020

Asset Risk

- March 31, 2021 asset portfolio values for fixed income, equities, cash, real estate, and other investments, provided by the Wyoming State Treasurer's Office
- Fixed income inputs including type, quality, par value, market value, acquisition cost, coupon rate, time to maturity, yield to maturity, duration, and convexity, provided by the Wyoming State Treasurer's Office
- Equity inputs including type, market value, and acquisition cost, provided by the Wyoming State Treasurer's Office
- Other asset inputs included market value and acquisition cost, provided by the Wyoming State Treasurer's Office
- "Investment-Policy-Oct-1-2020-final.pdf", obtained from statetreasurer.wyo.gov
- RVK Quarterly Investment Performance Analysis at December 31, 2020, obtained from statetreasurer.wyo.gov
- 3/31/2021 Economic Scenario Generator output from Moody's Analytics

Reserve Risk

- Indicated loss payment patterns from Oliver Wyman's rate study as of 6/30/20
- Unlimited paid loss triangles as of 3/31/21
- Ultimate loss selections sourced from Oliver Wyman's 6/30/20 reserve study

While we reviewed the data received for reasonableness and consistency, we have not audited or otherwise verified the information provided.

4. RESULTS

4.1. Overview

The economic capital model provides a broad framework for testing and evaluating the program funding under a variety of scenarios and economic conditions. The results of the modeling process were used to answer the following business and risk management questions:

1. How much can PFAD be expected to change over a 1- to 5-year period? What range of PFAD variability is likely, and what range of extreme PFAD variability is possible, but less likely?
2. What PFAD levels could serve as targets for developing a capital management strategy?
3. Among the three main risk categories – assets, loss reserves, and pricing – how much does each contribute to downside risk? In other words, in the scenarios where the PFAD is being consumed, which risks are driving the adverse results, and likewise, which risks are not significant?
4. What does the overall model business plan look like in terms of an income statement and balance sheet presentation?

4.2. Assessment of Enterprise Risk

Question 1: How much can PFAD be expected to change over a 1- to 5-year period? What range of PFAD variability is likely, and what range of extreme PFAD variability is unlikely?

Figure 2: PFAD (Cumulative by Fiscal Year)

Percentile	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025
0.2%	637,360,170	497,150,579	435,507,972	346,216,696	373,101,416
1.0%	777,692,976	671,548,711	627,356,405	620,657,611	625,449,796
5.0%	920,791,571	877,473,815	873,665,570	899,726,441	940,666,100
10.0%	**991,415,527**	**981,840,446**	**996,526,937**	**1,038,929,617**	**1,104,935,142**
25.0%	1,103,165,826	1,144,363,634	1,198,950,922	1,280,974,917	1,376,740,715
50.0%	**1,221,002,163**	**1,316,251,189**	**1,419,419,379**	**1,540,492,212**	**1,676,412,545**
75.0%	1,331,770,499	1,478,578,867	1,628,838,300	1,793,965,641	1,964,353,424
90.0%	**1,426,917,956**	**1,619,869,490**	**1,814,563,382**	**2,014,472,418**	**2,218,713,816**
95.0%	1,482,377,193	1,705,679,552	1,922,294,045	2,144,590,476	2,373,224,842
99.0%	1,592,223,257	1,864,111,221	2,117,917,250	2,395,624,521	2,673,464,517
99.8%	1,683,747,687	1,999,803,070	2,277,288,763	2,606,007,269	2,902,100,719

The variability in PFAD levels is illustrated in Figure 2, showing the model results by percentile level and fiscal year. In the first year (2021), the PFAD ranges from $1.0 billion to $1.4 billion as defined by 10th to 90th percentile window. In year five (2025), the same percentile range is wider at $1.1 billion to $2.2 billion.

The less likely, more extreme downside outcomes are shown at the 0.2 percentile (1 out of 500 simulated outcomes), at which the modeled PFAD is $0.6 billion after a 1-year period but drops to $0.4 billion over a 5-year exposure period. Also note that at the 99th percentile (1 out of 100 simulated outcomes), the estimated PFAD level is approximately $2.7 billion in year five (2025), which demonstrates the significant amount of variability in future program funding levels.

Figure 3 on the following page further displays the 2025 modeled PFAD distribution. As noted above, 80% of the outcomes fall between $1.1 billion (10th percentile) and $2.2 billion (90th percentile), i.e., the orange bars.

Figure 3: Projected Distribution of PFAD($000s) at June 30, 2025

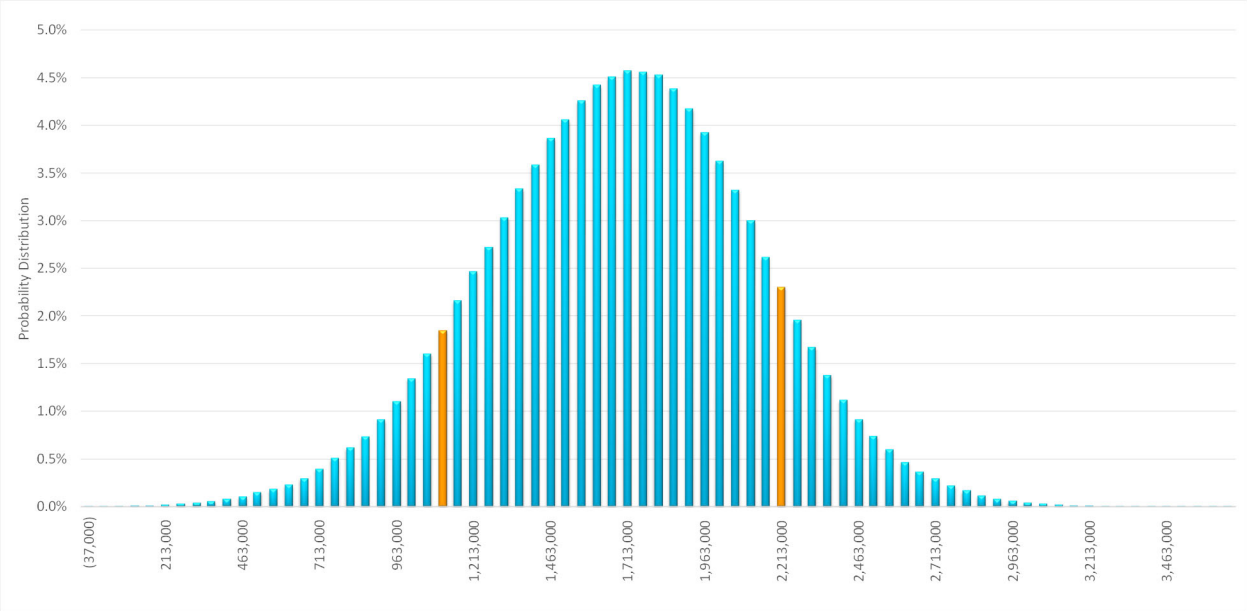


Figure 4 shows the percentile levels for changes in the PFAD over each fiscal year. For example, in fiscal year 2025, the 10th percentile change in PFAD is a loss of $0.2 billion, while the 90th percentile change is a gain of $0.4 billion. This range implies that 80% of the time (90% – 10%) we estimate the change in PFAD will range from approximately $0.2 billion to $0.4 billion.

Figure 4: Change in PFAD (Incremental by Fiscal Year)

Percentile	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025
0.2%	(544,584,515)	(538,867,759)	(580,898,394)	(629,477,724)	(660,834,057)
1.0%	(404,251,710)	(400,936,298)	(430,268,027)	(457,083,382)	(465,786,593)
5.0%	(261,153,114)	(235,758,613)	(254,156,301)	(262,302,598)	(260,096,490)
10.0%	**(190,529,158)**	**(158,439,597)**	**(169,880,669)**	**(163,524,794)**	**(165,795,496)**
25.0%	(78,778,859)	(30,384,443)	(29,065,263)	(14,223,373)	(10,211,570)
50.0%	**39,057,478**	**101,867,844**	**114,057,112**	**132,456,177**	**148,187,888**
75.0%	149,825,813	223,664,631	245,098,373	272,581,750	291,981,511
90.0%	**244,973,271**	**330,872,674**	**358,766,133**	**395,146,347**	**417,182,036**
95.0%	300,432,508	394,929,971	427,687,069	463,751,716	495,978,067
99.0%	410,278,572	519,491,605	570,646,364	615,821,902	640,452,265
99.8%	501,803,001	630,223,680	694,249,883	768,473,440	756,494,104

Question 2: What levels of the PFAD could serve as targets for developing a capital management strategy?

The Division can develop a core set of risk tolerance statements based on the economic capital model estimates. For example, the Division may choose to capitalize at a level that limits the chance of PFAD depletion to 1.0% over a 5-year period. As illustrated in Figure 5 (same as Figure 1), assuming a starting PFAD level of $0.7 billion, the estimated probability of the PFAD falling below zero over a 5-year time frame is 0.9%. Thus, a PFAD level of approximately $0.7 billion meets a hypothetical risk tolerance of having less than a 1.0% chance of PFAD depletion within five years. The following table provides a range

of PFAD depletion probabilities for various time horizons and starting PFAD levels. Note that the simple funding ratio ("SFR") in the first column is defined as assets divided by liabilities.

Figure 5: Probability of PFAD Depletion

Starting Simple Funding Ratio	Starting PFAD Level	One-Year Probability of PFAD Depletion	Three-Year Probability of PFAD Depletion	Five-Year Probability of PFAD Depletion
1.15	200	9.18%	18.70%	22.25%
1.22	300	3.30%	9.61%	12.51%
1.29	400	1.05%	4.74%	6.89%
1.37	500	0.35%	2.28%	3.68%
1.44	600	0.09%	0.99%	1.85%
1.51	700	0.02%	0.40%	0.91%
1.59	800	0.00%	0.16%	0.45%
1.66	900	0.00%	0.06%	0.22%
1.73	1,000	0.00%	0.03%	0.11%
1.81	1,100	0.00%	0.01%	0.05%
1.87	1,182	0.00%	0.00%	0.03%
1.95	1,300	0.00%	0.00%	0.02%
2.03	1,400	0.00%	0.00%	0.01%

Lower PFAD ranges may also trigger business decisions to increase capital to meet the agreed target. For example, if the PFAD falls below $0.7 billion, the Division could restrict rate level changes to be either neutral or increases, with no rate decreases until the minimum risk capital target is achieved.

Question 3: Among the three main risk categories – assets, loss reserves, and pricing – how much does each contribute to downside risk? In other words, in the scenarios where the PFAD is being consumed, which risks are driving the adverse results, and likewise, which risks are not significant?

The relative size of each risk category gives us the first indicator as to which risks expose the PFAD the most: total assets are nearly $2.5 billion; discounted liabilities are approximately $1.4 billion; and annual premiums are less than $0.2 billion. Thus a 10% decrease in assets would result in a $0.25 billion loss, while a 10% pricing loss against annual premiums would result in a loss less than $0.02 billion.

In the context of the risk modeling, we look at downside risk across a range of return periods. For example, we use the model scenarios at the 1% probability level (1 out of 100 simulated outcomes) or worse and measure how much each risk category contributes to the PFAD depletion. Specifically, in the 2023 one-year table shown in Figure 6, assets contribute 87.5% to the potential PFAD depletion while reserves contribute 11.8% to the potential loss. Pricing (non-catastrophe) is a distant third, contributing only 0.7% - all at a 100-year return period. Generally, the higher the return period, the more the PFAD depletion tends to be driven by asset risk. Conversely, pricing and reserve risk tend to play a larger role in the lower return periods.

Figure 6: 2023 One-Year Potential Risk-of-Loss Contribution by Percentile

Return Period	Percentile	Assets	Reserves	Pricing
1 in X Outcomes				
2	50.0%	3.9%	90.2%	5.9%
4	25.0%	63.6%	34.2%	2.2%
10	10.0%	77.6%	21.1%	1.3%
20	5.0%	82.0%	17.0%	1.0%
50	2.0%	85.8%	13.4%	0.8%
100	1.0%	87.5%	11.8%	0.7%
200	0.5%	89.1%	10.2%	0.6%
500	0.2%	90.5%	8.9%	0.6%
1,000	0.1%	91.5%	8.0%	0.5%

Regardless of the return period, assets are clearly the main driver of potential loss to PFAD levels, as volatility in an investment portfolio of approximately $2.5 billion can quickly erode the positive funding balance. We also note that the full risk of unpaid claim liabilities extends for decades on an ultimate cost basis; however, the economic capital model reflects only the first 5 years of the loss reserve variability. If we viewed the reserve risk on an ultimate cost basis, the contribution of loss reserves to potential downside risk would be much higher. Similarly, pricing risk is only viewed over the course of the 5-year model time horizon, where the volatility of new fiscal years is typically limited as ultimate loss estimates place heavier weight on historical a-priori experience rather than the limited experience to date over this time horizon. If viewed over the period of time it will take for all claims to settle in these new fiscal-years, downside risk would likewise be much higher.

Question 4: What does the overall model business plan look like in terms of an income statement and balance sheet presentation?

For each fiscal year modeled, a full balance sheet and income statement are produced. Exhibit 5 shows the modeled financial statements with mean values for each element. The mean net income steadily climbs over the five-year time horizon as investment income more than offsets underwriting losses.

	Ending 6/30 2021	Ending 6/30 2022	Ending 6/30 2023	Ending 6/30 2024	Ending 6/30 2025
Modeled Net Income	31,795,323	93,000,439	103,663,176	122,821,144	134,983,956

The modeled mean balance sheet totals show both PFAD and modeled total assets (= total liabilities & PFAD) increasing over the 5-year time horizon.

	Ending 6/30 2021	Ending 6/30 2022	Ending 6/30 2023	Ending 6/30 2024	Ending 6/30 2025
PFAD	1,213,740,008	1,306,740,447	1,410,403,623	1,533,224,767	1,668,208,723
Total Liabilities & PFAD	2,632,887,165	2,750,204,164	2,878,698,717	3,015,611,678	3,161,736,040

The mean financial statements help illustrate how the overall business plan is modeled and are useful for testing the reasonableness of the assumptions and results. What they do not show is the potential uncertainty in PFAD levels over time, which is why many of the model results focus on the full distribution of outcomes as opposed to solely the mean results.

Simple Funding Ratio

A balance sheet risk metric that can be calculated from the financial reports is the simple funding ratio, which is defined as the ratio of the total assets to total liabilities. A simple funding ratio distribution is derived from the model results and is summarized in Figure 7.

Figure 7: Probabilities of Falling Below Simple Funding Ratios

(1) Simple Funding Ratio	(2) One-Year Probability of Falling Below Simple Funding Ratio	(3) Three-Year Probability of Falling Below Simple Funding Ratio	(4) Five-Year Probability of Falling Below Simple Funding Ratio
1.30	0.0%	0.3%	0.8%
1.40	0.1%	1.1%	2.2%
1.50	0.6%	3.6%	5.8%
1.60	2.9%	9.8%	13.3%
1.70	11.6%	23.6%	28.1%
1.80	32.4%	46.7%	50.9%
1.87	52.3%	64.6%	67.9%
2.00	86.4%	90.9%	92.0%
2.10	97.0%	98.2%	98.4%
2.20	99.6%	99.8%	99.8%
2.30	100.0%	100.0%	100.0%
2.40	100.0%	100.0%	100.0%
2.50	100.0%	100.0%	100.0%

The current simple funding ratio is 1.87, which falls at approximately the 68th percentile of the five-year model results. The most likely simple funding ratio outcomes (middle 80 percentiles) range from approximately 1.55 to 2.00 after five years.

4.3. Individual Risk Components

A. Pricing (Non-Catastrophe) Risk

Pricing risk comes from the possibility that future losses and expenses exceed the levels anticipated in the charged premiums. This represents the risk to capital of having prices (premiums) that are too low to cover actual costs. In the scenarios where losses and expenses fall below expected levels, underwriting income will be positive, and capital will be added. The basic formula for underwriting profit is premiums less losses less expenses. Note that a negative underwriting result is consistent with the program's use of discounted loss ratios, which explicitly assumes that current and future investment income will be used to offset underwriting losses.

Figure 8 summarizes the aggregate underwriting profit/loss value at risk (VaR) across a range of percentiles. Note that this table reflects only current accident year experience on a nominal basis and does not include loss amounts from prior year reserves.

Figure 8: Nominal Gross Underwriting Profit

Nominal Percentile	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025
0.2%	(240,501,689)	(271,100,720)	(302,516,505)	(313,467,339)	(330,900,032)
1.0%	(174,543,334)	(196,402,164)	(212,886,211)	(213,509,706)	(219,587,361)
5.0%	(121,718,306)	(135,993,170)	(144,856,664)	(140,790,014)	(142,064,114)
10.0%	**(99,989,585)**	**(111,649,118)**	**(118,166,777)**	**(113,088,772)**	**(112,796,157)**
25.0%	(69,564,125)	(78,677,681)	(81,835,620)	(75,653,046)	(74,766,708)
50.0%	**(41,545,444)**	**(48,240,229)**	**(49,353,195)**	**(42,655,730)**	**(41,240,825)**
75.0%	(17,840,094)	(22,791,529)	(22,198,016)	(15,476,219)	(14,282,677)
90.0%	**640,173**	**(3,127,603)**	**(1,354,328)**	**5,227,520**	**6,394,065**
95.0%	10,628,485	7,577,681	9,811,074	16,282,827	17,144,555
99.0%	27,414,632	25,112,373	28,392,280	34,853,621	35,378,260
99.8%	39,503,339	37,855,069	41,817,500	47,917,038	48,089,848

Overall underwriting results remain reasonably stable at the 50th percentile across the five-year time frame. As noted above, a negative underwriting result is consistent with the assumption that current and future investment income will offset underwriting losses.

Consistent with the model itself, Figure 8 excludes catastrophe losses. We would expect to see total catastrophe losses equal to zero across most of the distribution; however, in the more extreme underwriting loss scenarios (i.e. below the 1.0% VaR), catastrophe loss events could be significant contributors to the modeled losses. Inclusion of catastrophe losses would be an enhancement to the model, which the Division could contemplate incorporating in the future.

Other performance measures to consider from a pricing perspective are the loss ratio, defined as losses divided by premiums, or the combined ratio, which is losses plus expenses divided by premiums. Additional exhibits provide full distributions of these metrics based on the model results on both a nominal and discounted basis.

B. Loss Reserve Risk

The distribution of loss reserves over the full five years modeled is shown in Exhibit 6, "Discounted Gross Loss and ALAE Reserves." This table incorporates two different sources of loss reserve variability – the runoff of loss reserves on claims with event dates through June 30, 2020, and the loss reserves from new claims that occur as each new accident year is modeled.

The mean income statement impact of the loss reserves can be seen in Exhibit 5a, where the "Gross Incoming Reserve Development" is a cost that ranges from $36 million to $98 million per year. The income statement figures represent the mean level and can vary significantly in the economic capital model scenarios.

With the new fiscal years ending June 30, 2021 through June 30, 2025, the model reserves are established using MetaRisk's "actuary-in-a-box" algorithm, where standard reserving methods such as paid chain-ladder and paid Bornhuetter-Ferguson ("B-F") are mechanically used to estimate the new required loss reserves at fiscal year-end. More weight is placed on the more-stable paid B-F method in the less-mature development years, while more weight is placed on the paid chain-ladder for the more-mature development years. At the mean level, the development methods are parameterized to be reasonably accurate, thus there is little balance sheet impact of prior years' loss emergence on the model. Another, more subtle, source of prior period loss emergence is the "unwinding" of the loss reserve discount factors over time. These loss amounts come through the financial statements as adverse prior claims runoff and are expected to be offset by investment gains on the assets supporting the loss reserves.

C. Asset Risk

Investment returns are a key source of revenue from an income statement perspective, as investment income averages approximately $170 million each year, while the capital gains (sum of realized and unrealized) average a loss of approximately $7 million across the 5-year period. See Exhibit 5a for more details.

The components of the investment returns (including capital gains) break down as follows by investment category – note that realized capital gains result from asset sales based on the reinvestment strategy:

Bonds – Investment returns are equal to the sum of investment income / coupon interest, unrealized capital gains, and realized capital gains.

Equities – Investment returns are equal to the sum of dividends, unrealized capital gains, and realized capital gains.

Property – Investment returns are equal to the sum of unrealized capital gains and realized capital gains.

Cash – Investment returns are equal to investment income / interest.

5. METHODOLOGY

Oliver Wyman performed the economic capital analysis using Guy Carpenter's proprietary MetaRisk software platform. The core model risk components measure the variability in the program's PFAD by collectively modeling the financial impact of asset risk, loss reserve risk, and pricing (non-catastrophe) risk.

Many of these risk components are reviewed or measured separately in other studies. For example, Oliver Wyman reviews the program's loss reserves annually. Additionally, the pricing risk parameters rely on Wyoming workers' compensation claims experience and are validated against the estimated loss costs underlying Oliver Wyman's annual rate studies. The overall model methodology / assumptions are described below, along with key assumptions underlying each of the major insurance risk components.

Model Structure and Components

- Time horizon for the modeling period is five years
- Structured on a fiscal year basis starting at June 30, 2020
- Analysis is performed considering all employer types combined
- Model results are run stochastically on a gross of reinsurance basis – the Division does not currently purchase reinsurance
- Risk metrics include Standard Deviation, Value-At-Risk ("VaR"), Tail-Value-At-Risk ("TVaR"), and Co-TVaR for measuring risk allocations
- Operational, legal, legislative, catastrophe, and reputational risk are not included in the model design

Asset Risk

Asset risk is incorporated by utilizing economic scenarios from Moody's analytics, applied to the Division's portfolio of investments in fixed income funds, equities funds, real estate funds, and cash.

Asset inputs were based on asset portfolio data as of March 31, 2021. Fixed income inputs included type, quality, par value, market value, acquisition cost, coupon rate, yield to maturity, time to maturity, duration, and convexity. Fixed income assets with missing quality code (Moody's and S&P) were assigned an average quality of 'B', as such assets are investments in emerging market debt which tends to be below investment grade. Inputs for equity assets included type, market value, and acquisition cost. Inputs for cash and real estate included market value and acquisition cost.

The following additional assumptions underlie the asset risk modeling.

- Cash – Applied Muni AAA returns (Moody's)
- Fixed Income – Held at market value, applying Moody's rates and yield curves
- Real Estate – Held at market value, applying Moody's returns
- Stocks – Applied Moody's returns
- Unrealized gains – Reported as income
- Bonds are held in perpetuity, except as designated in the reinvestment strategy

- The starting portfolio value for the model of $2.5 billion does not incorporate consideration of financial statements provided by the Wyoming State Treasure's Office, as the accounting standards utilized were incongruent with standard insurance accounting statements available for use within MetaRisk. A potential future enhancement to this analysis would be the incorporation of more insurance-specific financial statements that can be used to validate the starting balance sheet for the purposes of this capital model.
- The reinvestment strategy in both positive and negative cash flow scenarios is based on asset allocations as per the Division's October 2020 Investment Policy Statement

Pricing (Non-Catastrophe) Risk

All employer types were modeled together, and based on the following approach and assumptions:

- Written premium for the 2019/2020 fiscal year was provided by the Division
- Deterministic rate changes as summarized in the following table

Fiscal Year Ending 6/30	Rate Level Change
2021	0%
2022	0%
2023	0%
2024	-3%
2025	-3%

  A stochastic element is introduced to the rate level changes by applying the same inflation variability to premium as is used for losses
- Premium cash flow and earning patterns follow uniform monthly earning distributions
- Claim frequency and severity distributions were parameterized from the Division's historical claims experience from fiscal years ending 6/30 of 2000 through 2020
- Assumed payroll and pure premium trends as follows:

Fiscal Year Ending 6/30	Payroll Trend	PP Trend
2021	-10.0%	-10.0%
2022	+6.0%	+6.0%
2023	+5.0%	+5.0%
2024	+1.7%	+1.7%
2025	+1.7%	+1.7%

- The threshold for splitting large and attritional losses is $250,000, where all claims below $250,000 are modeled in the aggregate, and all claims over $250,000 are modeled individually
- Attritional losses are modeled using a lognormal distribution, with a coefficient of variation of 18% and starting mean aggregate loss value of $72.2MM

- For large losses, the following were derived from empirical data:
  - Claim counts excess of $250,000 were selected based on review of two estimation methods: factor-developed excess counts and as a percentage of total lost-time counts (selected 6.3%, the indicated long-run percentage)
  - Claim severity data is trended to a 2020 cost level and represents the ground-up dollars for all claims that exceed $250,000 on a trended basis; selected mean large claim severity is $1.05 million
- To model the large loss process, a negative binomial distribution is used for claim counts, while a Weibull distribution is used for claim severity
- In the MetaRisk model, loss severity is trended at 2.4% per year and the estimated number of large claims is trended based on the selected pure premium, payroll, and severity trends
- Contagion parameters [3] are part of the loss modeling process and are used to establish appropriate correlations between the modeled losses for large and attritional
- The contagion index uses a normal aggregate copula, and was validated by comparing the resulting correlations with empirical data
- Payment patterns were based on those derived in Oliver Wyman's rate-level studies
- Loss inflation is based on Moody's economic scenario sets (based on medical consumer price index)
- LAE is 10.4% of earned premium, and is based on loads from Oliver Wyman's rate-level studies
- Other Expenses are 8.0%, including the provision for terrorism from our rate studies, and are treated in the model as 100% variable

Loss Reserving Risk

Loss reserve risk measures the uncertainty in future claim payment timing and in unpaid claim liabilities for all events occurring through June 30, 2020. The model reserve components and parameters were derived using MetaRisk Reserve[4], with aggregate loss emergence results that track with the estimated ultimate loss selections from our 6/30/2020 reserve study. The loss reserve model structure uses the following segments:

- All Employers Medical
- All Employers Indemnity

Key assumptions of the loss reserve risk portion of the model include:

- Unpaid losses are presented on a discounted basis, meaning with consideration of the time value of money using an interest rate of 3.5%; note that this rate is assumed to remain constant regardless of the macro-economic environment, where actual investment returns could be much higher or lower than 3.5%
- Initial balance sheet nominal loss reserves posted in the model are scaled lower to account for the difference between the reserve discount factors in the model and the discount factors used

[3] For efficiency, ground-up loss distributions were separated into large and attritional; these are treated as independent processes in MetaRisk. The normal copula pulls the separate distributions back together, effectively recreating the single, combined distribution.

[4] Using a Generalized Linear Model structure.

for financial reporting; each uses the same interest rate, however, there are minor differences in the estimated payment patterns

- Medical and CPI[5] inflation variability is based on Moody's economic scenarios, with a scaling factor applied to medical to approximate the loss reserving inflation models; the mean change in reserve estimates follows the underlying generalized linear model parameters
- The selected baseline mean medical inflation is 5.0% per year
- The selected baseline mean indemnity inflation is 4.0% per year
- Payment patterns and the associated uncertainty are derived from MetaRisk Reserve model estimates, and are independent of Oliver Wyman's loss reserving studies used for financial reporting
- Reserve risk is limited to a 5-year time horizon and is not on an ultimate runoff basis

[5] Refers to Consumer Price Index for all Urban Consumers for all goods and services.

6. DISTRIBUTION AND USE

Usage and Responsibility of Client – Oliver Wyman prepared this report for the sole use of the client named herein for the stated purpose. This report includes important considerations, assumptions, and limitations and, as a result, is intended to be read and used only as a whole. All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client named herein.

Distribution, Circulation, and Publication – This report is not intended for general circulation or publication, nor is it to be used, quoted or distributed to others for any purpose other than those that may be set forth herein or in the written agreement pursuant to which we issued this report without the prior written consent of Oliver Wyman. Neither all nor any part of the contents of this report, any opinions expressed herein, or the firm with which this report is connected, shall be disseminated to the public through advertising media, public relations, news media, sales media, mail, direct transmittal, or any other public means of communications, without the prior written consent of Oliver Wyman.

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7. CONSIDERATIONS AND LIMITATIONS

Data Verification – For our analysis, we relied on data and information provided by the client named herein without independent audit. Though we have reviewed the data for reasonableness and consistency, we have not audited or otherwise verified this data. Our review of data may not always reveal imperfections. We have assumed that the data provided is both accurate and complete. The results of our analysis are dependent on this assumption. If this data or information is inaccurate or incomplete, our findings and conclusions might therefore be unreliable.

Prospective Policy / Accident Period Estimates – We estimated the prospective policy/accident period estimates developed in this analysis using estimated loss costs and the projected exposures. Prospective period estimates are directly related to the projected exposures. Therefore, if actual exposures differ from the projection, we would need to adjust the prospective period estimates accordingly.

Supplemental Data – Where historical data of the client named herein was (i) not available, (ii) not appropriate or (iii) not sufficiently credible to develop our actuarial assumptions, we supplemented it with external information, as we deemed appropriate. Although we believe these external sources may be more predictive of future experience of the client named herein than any other data of which we are aware, the use of external data adds to the uncertainty associated with our projections.

Exclusion of Other Program Costs – The scope of the project does not include the estimation of any costs other than those described herein. Such ancillary costs may include unallocated loss adjustment expenses (ULAE); excess insurance premiums; the costs of trustee, legal, administrative, risk management and actuarial services; fees and assessments; and costs for surety bonds or letters of credit pertaining to claim liabilities.

Funding of Claim Payments – We have not examined, nor do we express an opinion regarding, the maturity or liquidity of the assets that are used to provide for the payment obligations associated with the estimates presented in this report. This examination is beyond the scope of our review.

Interest Rates and Yield Curves – The interest rate(s) and yield curves for fixed income assets used in this analysis are based on the economic scenario sets from Moody's. An assessment of the reasonableness of the interest rate and yield assumption(s) is beyond the scope of our analysis.

Discounting – Discounted estimates are subject to additional uncertainty that results from the following:

- In addition to the risk of underestimating or overestimating the overall amount of the nominal unpaid loss, there is the additional risk that the timing of the future payments will differ from the expected payout.
- There is the risk the actual future yield on the underlying assets (if any) will differ from the assumed yield rate used for determining present value factors.

We have not included any specific provision for this additional risk.

The Company provided the interest rate(s) used in this analysis. An assessment of the reasonableness of the interest rate assumption(s) is beyond the scope of our analysis. As a result, we express no opinion on the appropriateness of the interest rate(s) used in the discounting calculation.

Probability Levels – We have calculated estimates of the statistical uncertainty associated with the process risk inherent in our estimates. However, unless otherwise indicated, our probability level estimates do not address parameter or model risk. To the extent that the probability estimates do not address parameter risk or model risk, the true variability of results is greater than the range of outcomes presented. The client named herein may wish to consider this additional uncertainty in evaluating the estimates presented in this report.

Rounding and Accuracy – Our models may retain more digits than those displayed. Also, the results of certain calculations may be presented in the exhibits with more or fewer digits than would be considered significant. As a result, there may be rounding differences between the results of calculations presented in the exhibits and replications of those calculations based on displayed underlying amounts. Also, calculation results may not have been adjusted to reflect the precision of the calculation.

Unanticipated Changes – We developed our conclusions based on an analysis of the data of the client named herein and on the estimation of the outcome of many contingent events. We developed our estimates from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new types of losses not sufficiently represented in historical databases or which are not yet quantifiable. Also, we assumed that the client named herein will remain a going concern, and we have not anticipated any impacts of potential insolvency, bankruptcy, or any similar event.

Internal / External Changes – The sources of uncertainty affecting our estimates are numerous and include factors internal and external to the client named herein. Internal factors include items such as changes in claim reserving or settlement practices. The most significant external influences include, but are not limited to, changes in the legal, social, or regulatory environment surrounding the claims process. Uncontrollable factors such as general economic conditions also contribute to the variability.

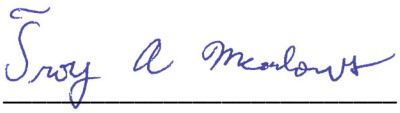
Uncertainty Inherent in Projections – While this analysis complies with applicable Actuarial Standards of Practice [and Statements of Principles], users of this analysis should recognize that our projections involve estimates of future events and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, we do not guarantee that the emergence of actual losses will correspond to the projections in this analysis.

COVID-19 Pandemic – The COVID-19 pandemic and response have had a significant impact on the economic environment and the resulting potential impact on workers' compensation exposures is highly uncertain. The unprecedented nature of the pandemic, the numerous potential impacts on claims experience, and the uncertainty associated with activities and actions intended to temper the impact (such as company-specific actions or more general governmental interventions) increase the uncertainty underlying the estimates contained in this report.

We further note that there is currently no definitive data on the pandemic's ultimate impact on workers' compensation risks: either on the settlement of existing claims or the reporting of new claims. With the exception of projected payroll levels, we have not made any adjustments to our analysis for the potential impact on the Company's exposures.

8. ACKNOWLEDGEMENT OF QUALIFICATIONS

I, Troy Meadows, am a Principal with Oliver Wyman Actuarial Consulting, Inc. I am a Fellow of the Casualty Actuarial Society and a member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial report contained herein.



Troy Meadows, FCAS, MAAA

APPENDIX A. GLOSSARY

Accident Period

The period in which the event giving rise to a claim occurred, regardless of when the claim is actually reported.

Accounting Date

The point in time at which the estimate of unpaid claims and ACAE is evaluated.

Actuarial Central Estimate

An estimate that represents an expected value over the range of reasonably possible outcomes. Such range of reasonably possible outcomes may not include all conceivable outcomes.

Allocated Loss Adjustment Expense (ALAE)

Expense costs associated with the handling and settling of an individual claim that can be directly attributed to the particular claim. Fees paid to outside defense attorneys and investigation firms are examples of this expense cost.

Case Reserves

The unpaid claim estimates established by adjusters on an individual claim basis.

Claim

A demand for payment under the coverage provided by a plan or contract. As used throughout this Glossary, it also includes suits, potentially compensable events, notifications, and unasserted claims.

Claim Frequency

The number of claims that occur over a period of time per unit of exposure.

Claim Reporting Pattern

The rate at which claims are assumed to be reported over time.

Claim Severity

The average cost per claim.

Coefficient of Variation

A statistical measure of dispersion. The coefficient of variation is calculated as the standard deviation of the random process divided by the expected value (mean).

Confidence Level

The probability that the outcome of a random process will not exceed an associated estimate. For example, a 75% confidence level for an unpaid claim estimate of $10 million would indicate that there is a 75% probability that the actual claim payments will be less than or equal to $10 million. The estimate is defined in the context of the risks modeled in our analysis and may not consider all factors contributing to variability of outcomes.

Development

The change between valuation dates in the observed values of certain fundamental quantities that may be used in the unpaid claim estimation process.

For example, the number of reported claims associated with events occurring within a particular period will change from one valuation date to the next until all claims have been reported. In a similar fashion, the paid claim amounts for events occurring within a particular period will change from one valuation date to the next until all claims have been reported and closed. The change in the number of reported claims or the change in the paid claim amounts is referred to as development. The concept of development also applies to reported incurred losses.

Discounted Unpaid Loss Estimate

The unpaid loss amount estimate presented on a basis that reflects the time value of money. In other words, how much would need to be invested as of the accounting date such that principal and interest would be equal to the expected future claim payments as they come due.

Estimated Ultimate Incurred Losses

The estimated cost of claims during a period. Ultimate incurred losses represent the total of paid claim amounts, case reserves, and IBNR.

Event

The incident or activity that triggers potential for claim or allocated claim adjustment expense payment.

Exposure

A measure of the underlying potential for claim costs.

IBNR

The unpaid claim estimate for: (a) events that have occurred for which claims have not been reported as of the accounting date, (b) future development of the case reserves, (c) claims that have been reported but not yet recorded in the loss listing, and (d) claims that have been closed but that will be reopened.

Loss

The cost associated with a claim. The cost may or may not include loss adjustment expenses.

Loss Adjustment Expenses

The costs of administering, determining coverage for, settling, or defending claims. Loss adjustment expenses include allocated loss adjustment expenses and unallocated loss adjustment expenses.

Loss Cost

The loss amount per exposure unit.

Method

The systematic procedure for developing an actuarial estimate.

Model

A mathematical or empirical representation of a specified phenomenon.

Model Risk
The risk that the methods are not appropriate to the circumstances or the models are not representative of the specified phenomenon.

Paid Losses
The total aggregate dollar amount paid on all reported claims as of a certain date.

Parameter Risk
The risk that the assumptions or parameters used in the methods or models are not representative of future outcomes.

Payment Pattern
The rate at which claims are paid over time.

Process Risk
The uncertainty associated with the projection of future contingencies that are inherently variable, even when the parameters are known with certainty.

Review Date
The date through which information is considered in the unpaid claim estimate analysis.

Risk Margin
An amount that may be added to the unpaid claim estimate to recognize the uncertainty in the estimate.

Unallocated Loss Adjustment Expense (ULAE)
Loss adjustment expenses that cannot be attributed to an individual claim. Typically includes salaries, utilities, and rent apportioned to the claim adjustment expense function but not readily assignable to specific claims.

Undiscounted Unpaid Loss Estimate
The unpaid loss estimate presented on a basis that does not reflect the time value of money.

Unpaid Loss Estimate
The estimate of the obligation for future payments resulting from losses due to past events.

Valuation Date
The date through which transactions are included in the data used in the unpaid claim estimate analysis.

APPENDIX B. EXHIBITS

Exhibit 1a

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Discounted (000,000's)
Risk of PFAD Depletion

(1) Starting Simple Funding Ratio	(2) Starting PFAD Level	(3) One-Year Probability of PFAD Depletion	(4) Three-Year Probability of PFAD Depletion	(5) Five-Year Probability of PFAD Depletion
1.15	200	9.2%	18.7%	22.3%
1.22	300	3.3%	9.6%	12.5%
1.29	400	1.1%	4.7%	6.9%
1.37	500	0.3%	2.3%	3.7%
1.44	600	0.1%	1.0%	1.8%
1.51	700	0.0%	0.4%	0.9%
1.59	800	0.0%	0.2%	0.5%
1.66	900	0.0%	0.1%	0.2%
1.73	1,000	0.0%	0.0%	0.1%
1.81	1,100	0.0%	0.0%	0.1%
1.87	1,182	0.0%	0.0%	0.0%
1.95	1,300	0.0%	0.0%	0.0%
2.03	1,400	0.0%	0.0%	0.0%

Column Notes

(2) Selected hypothetical starting PFAD for measuring risk of depletion

(3), (4) & (5) probabilities of PFAD depletion based on model results

Exhibit 1b

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Discounted (000,000's)
Probability of Changes in PFAD Based on $1.182B Starting Point

(1) Starting Simple Funding Ratio	(2) Ending PFAD Level	(3) $ Difference From Starting PFAD Level	(4) One-Year Probability of Falling Below PFAD Level	(5) Three-Year Probability of Falling Below PFAD Level	(6) Five-Year Probability of Falling Below PFAD Level
1.15	200	(982)	0%	0%	0%
1.22	300	(882)	0%	0%	0%
1.29	400	(782)	0%	0%	1%
1.37	500	(682)	0%	0%	1%
1.44	600	(582)	0%	1%	2%
1.51	700	(482)	0%	3%	4%
1.59	800	(382)	1%	5%	8%
1.66	900	(282)	4%	11%	14%
1.73	1,000	(182)	11%	21%	25%
1.81	1,100	(82)	24%	37%	40%
1.87	1,182	0	41%	53%	56%
1.95	1,300	118	68%	76%	78%
2.03	1,400	218	87%	90%	91%
2.10	1,500	318	96%	97%	98%
2.17	1,600	418	99%	99%	99%
2.25	1,700	518	100%	100%	100%

Column Notes

(2) Starting PFAD is from Division's financial statements as of June 30, 2020

(4), (5) & (6) probabilities of surplus changes based on PFAD model results

Exhibit 2a

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Probability of Future PFAD Outcomes

6/30/20 PFAD: $87,493,046

Percentile	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025
0.2%	637,360,170	497,150,579	435,507,972	346,216,696	373,101,416
1.0%	777,692,976	671,548,711	627,356,405	620,657,611	625,449,796
5.0%	920,791,571	877,473,815	873,665,570	899,726,441	940,666,100
10.0%	**991,415,527**	**981,840,446**	**996,526,937**	**1,038,929,617**	**1,104,935,142**
25.0%	1,103,165,826	1,144,363,634	1,198,950,922	1,280,974,917	1,376,740,715
50.0%	**1,221,002,163**	**1,316,251,189**	**1,419,419,379**	**1,540,492,212**	**1,676,412,545**
75.0%	1,331,770,499	1,478,578,867	1,628,838,300	1,793,965,641	1,964,353,424
90.0%	**1,426,917,956**	**1,619,869,490**	**1,814,563,382**	**2,014,472,418**	**2,218,713,816**
95.0%	1,482,377,193	1,705,679,552	1,922,294,045	2,144,590,476	2,373,224,842
99.0%	1,592,223,257	1,864,111,221	2,117,917,250	2,395,624,521	2,673,464,517
99.8%	1,683,747,687	1,999,803,070	2,277,288,763	2,606,007,269	2,902,100,719

Exhibit 2b

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
One Year Change in PFAD

Mean	31,795,323	93,000,439	103,663,176	122,821,144	134,983,956
Standard Deviation	172,280,284	193,315,982	209,441,488	222,575,228	231,845,617
CV	541.84%	207.87%	202.04%	181.22%	171.76%
Min	(843,487,929)	(781,989,809)	(924,924,110)	(991,351,920)	(1,075,755,561)
Max	695,758,752	932,085,611	1,044,254,878	1,169,963,157	981,199,727

Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	(544,584,515)	(538,867,759)	(580,898,394)	(629,477,724)	(660,834,057)
1.0%	(404,251,710)	(400,936,298)	(430,268,027)	(457,083,382)	(465,786,593)
5.0%	(261,153,114)	(235,758,613)	(254,156,301)	(262,302,598)	(260,096,490)
10.0%	**(190,529,158)**	**(158,439,597)**	**(169,880,669)**	**(163,524,794)**	**(165,795,496)**
25.0%	(78,778,859)	(30,384,443)	(29,065,263)	(14,223,373)	(10,211,570)
50.0%	**39,057,478**	**101,867,844**	**114,057,112**	**132,456,177**	**148,187,888**
75.0%	149,825,813	223,664,631	245,098,373	272,581,750	291,981,511
90.0%	**244,973,271**	**330,872,674**	**358,766,133**	**395,146,347**	**417,182,036**
95.0%	300,432,508	394,929,971	427,687,069	463,751,716	495,978,067
99.0%	410,278,572	519,491,605	570,646,364	615,821,902	640,452,265
99.8%	501,803,001	630,223,680	694,249,883	768,473,440	756,494,104

Exhibit 2c

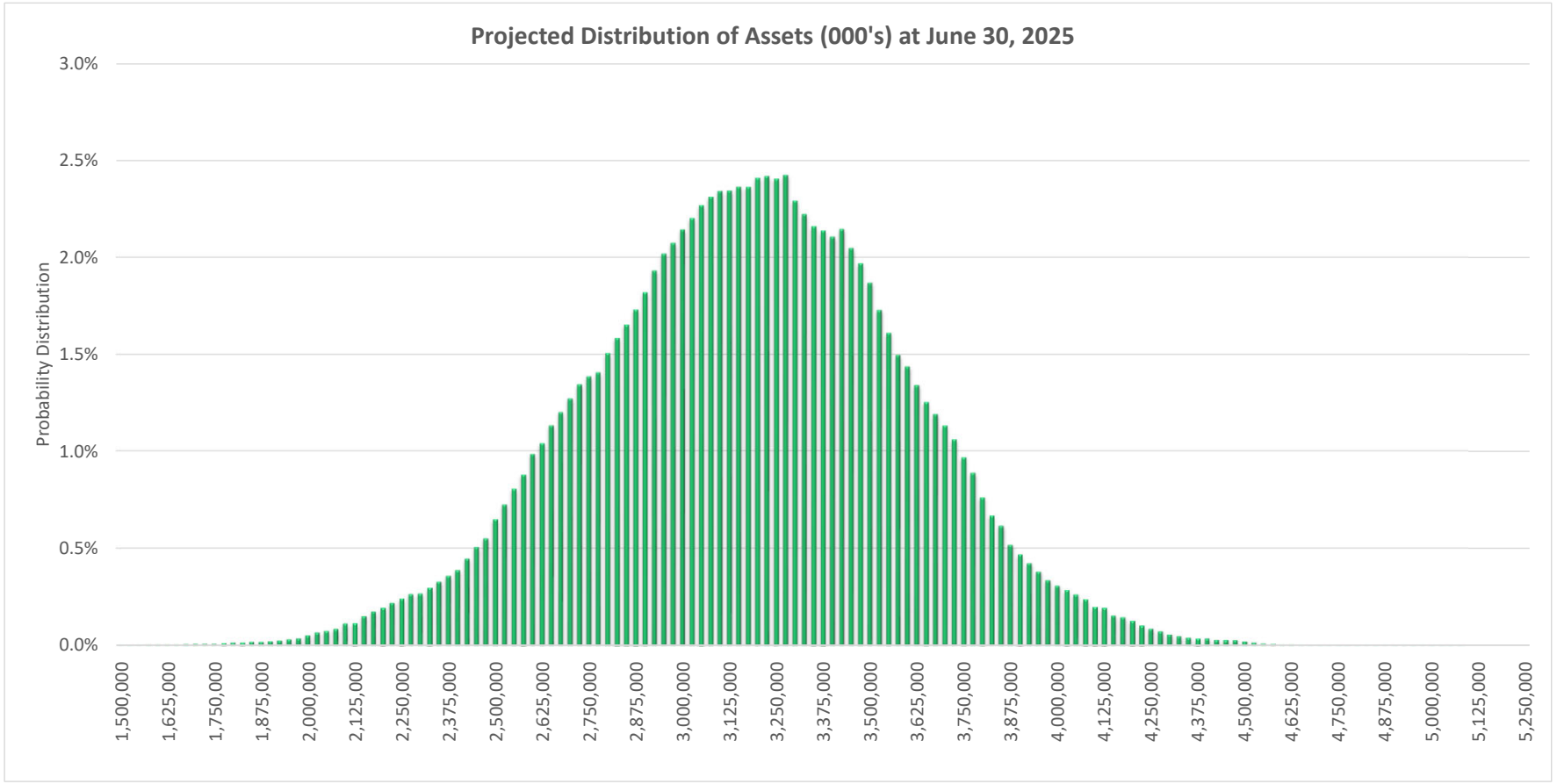

Projected Distribution of Assets (000's) at June 30, 2025
Probability Distribution
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
1,500,000
1,625,000
1,750,000
1,875,000
2,000,000
2,125,000
2,250,000
2,375,000
2,500,000
2,625,000
2,750,000
2,875,000
3,000,000
3,125,000
3,250,000
3,375,000
3,500,000
3,625,000
3,750,000
3,875,000
4,000,000
4,125,000
4,250,000
4,375,000
4,500,000
4,625,000
4,750,000
4,875,000
5,000,000
5,125,000
5,250,000

Exhibit 2d

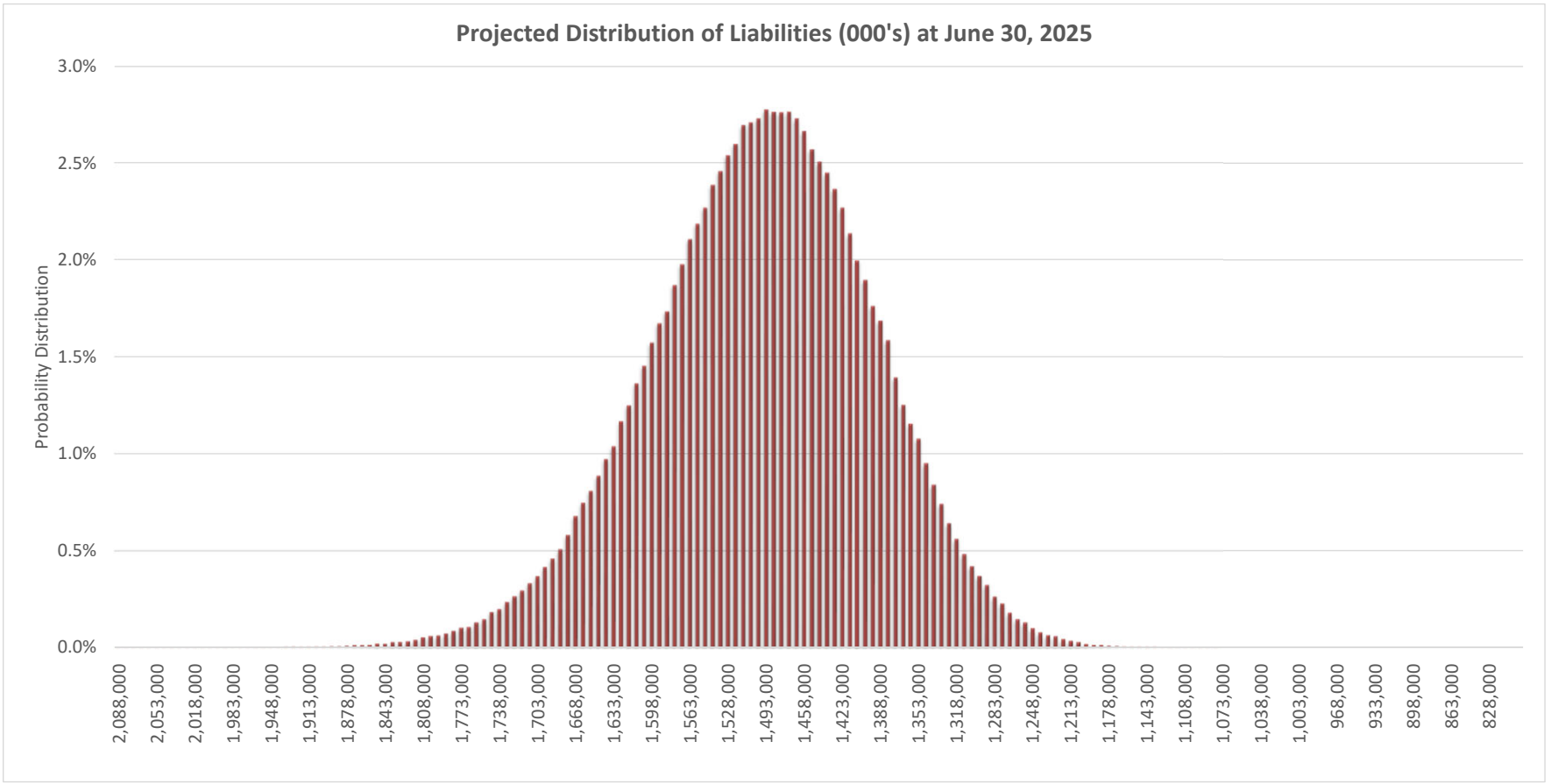
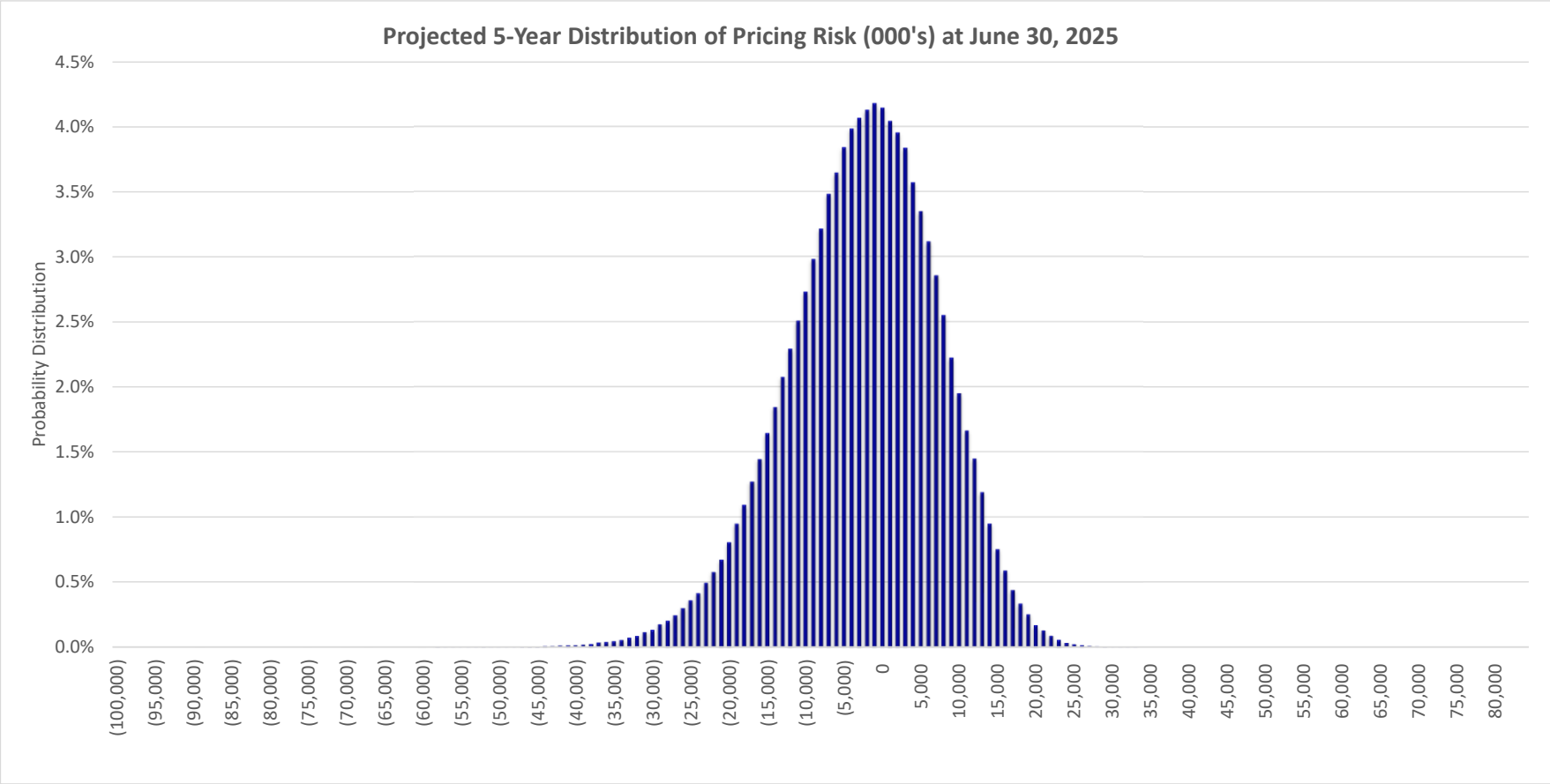

Projected Distribution of Liabilities (000's) at June 30, 2025
Probability Distribution
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
2,088,000
2,053,000
2,018,000
1,983,000
1,948,000
1,913,000
1,878,000
1,843,000
1,808,000
1,773,000
1,738,000
1,703,000
1,668,000
1,633,000
1,598,000
1,563,000
1,528,000
1,493,000
1,458,000
1,423,000
1,388,000
1,353,000
1,318,000
1,283,000
1,248,000
1,213,000
1,178,000
1,143,000
1,108,000
1,073,000
1,038,000
1,003,000
968,000
933,000
898,000
863,000
828,000

Exhibit 2e


Projected 5-Year Distribution of Pricing Risk (000's) at June 30, 2025
Probability Distribution
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
(100,000)
(95,000)
(90,000)
(85,000)
(80,000)
(75,000)
(70,000)
(65,000)
(60,000)
(55,000)
(50,000)
(45,000)
(40,000)
(35,000)
(30,000)
(25,000)
(20,000)
(15,000)
(10,000)
(5,000)
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000

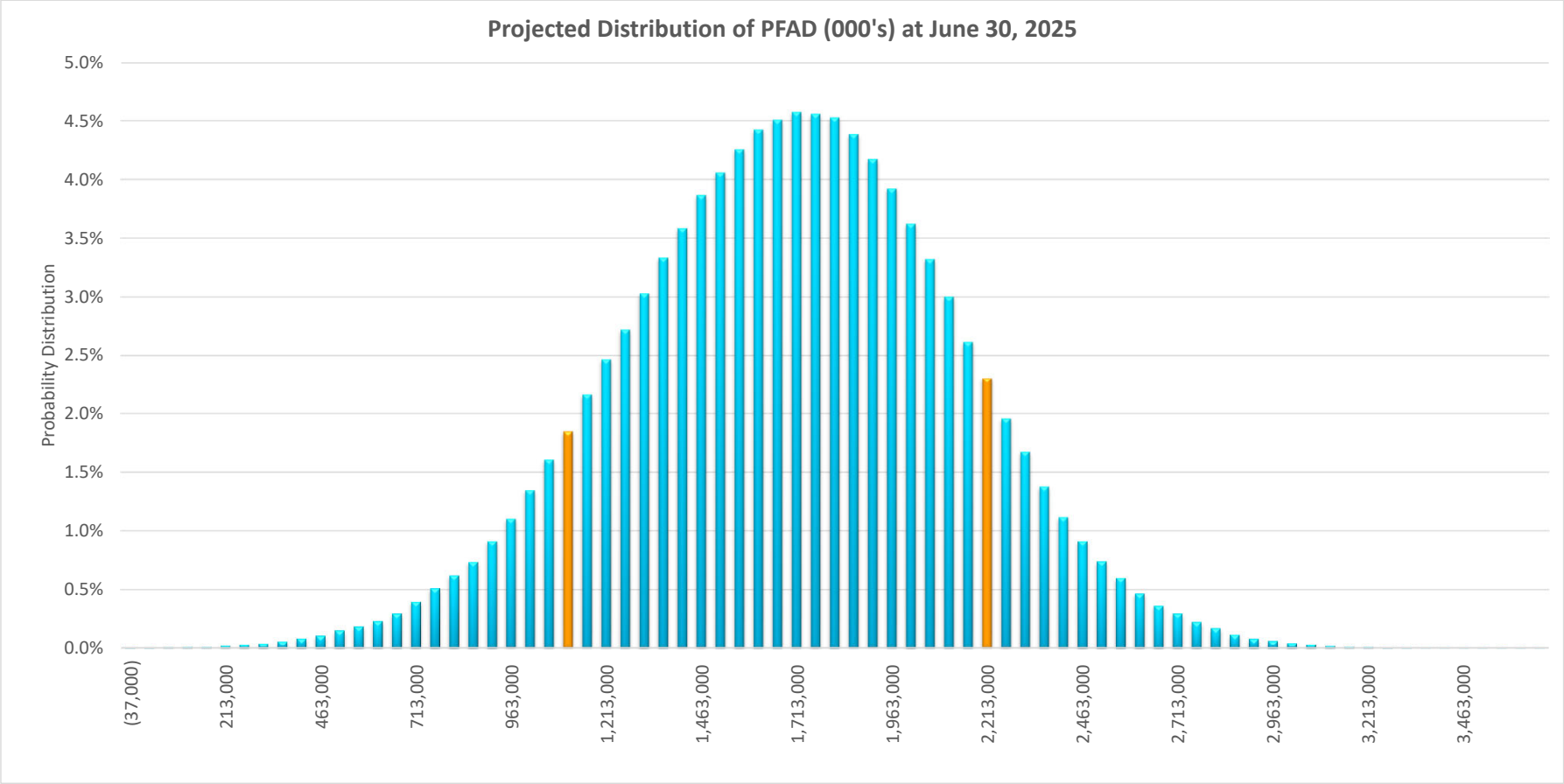
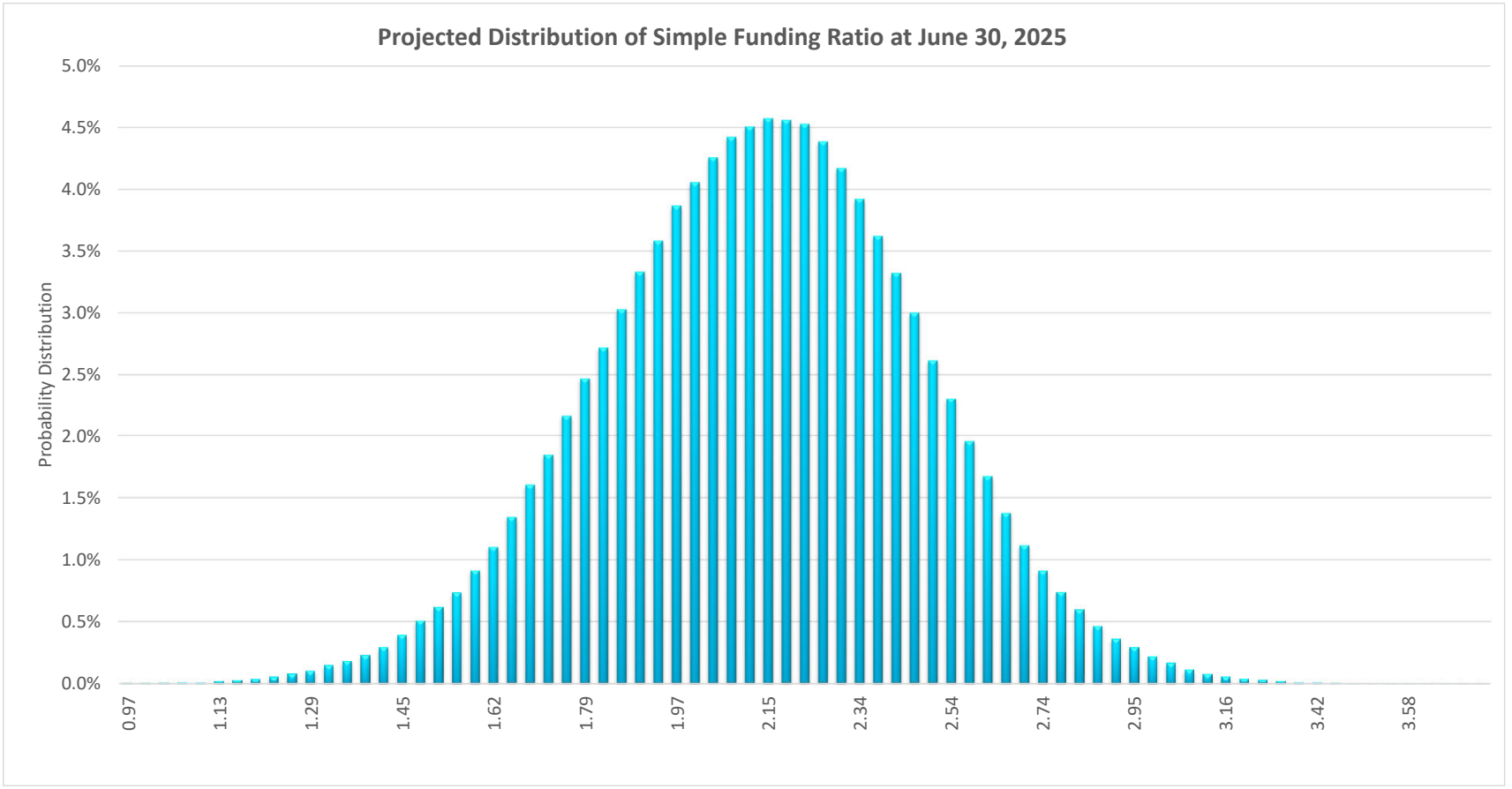
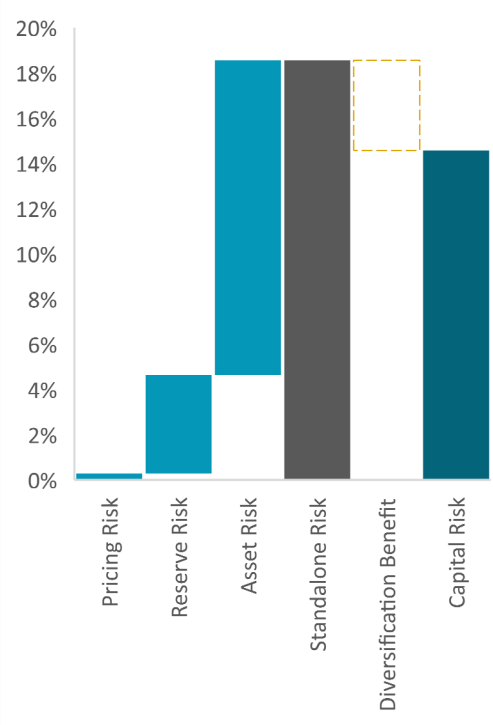

Projected Distribution of PFAD (000's) at June 30, 2025
Probability Distribution
5.0%
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
(37,000)
213,000
463,000
713,000
963,000
1,213,000
1,463,000
1,713,000
1,963,000
2,213,000
2,463,000
2,713,000
2,963,000
3,213,000
3,463,000

Exhibit 2g

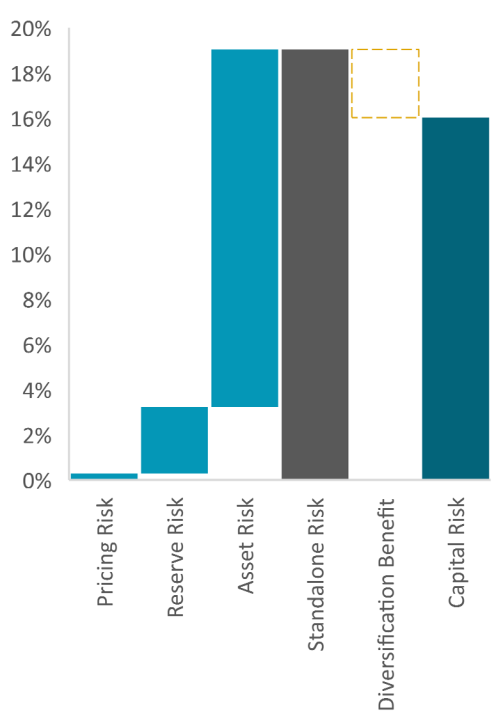

Projected Distribution of Simple Funding Ratio at June 30, 2025
Probability Distribution
5.0%
4.5%
4.0%
3.5%
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
0.97
1.13
1.29
1.45
1.62
1.79
1.97
2.15
2.34
2.54
2.74
2.95
3.16
3.42
3.58

Gross of Reinsurance - PFAD Volatility Contribution by Risk Type

1-Year Time Frame



3-Year Time Frame



5-Year Time Frame

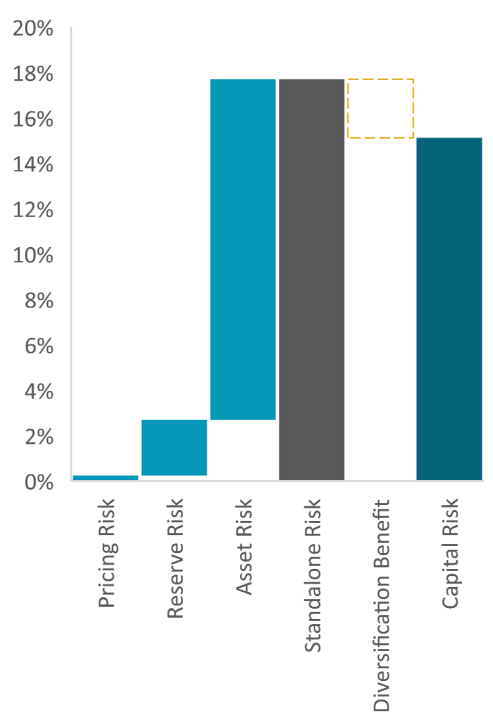


Exhibit 4

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Risk Type Contributions

2021 ONE-YEAR Potential Risk-of-Loss Contribution by Return Period

Return Period	Percentile	Assets	Reserves	Pricing
1 in X Outcomes				
2	50.0%	-5.4%	105.8%	0.4%
4	25.0%	39.2%	61.0%	0.2%
10	10.0%	57.2%	42.9%	0.1%
20	5.0%	64.0%	36.1%	0.1%
50	2.0%	69.8%	30.3%	0.1%
100	1.0%	73.5%	26.5%	0.1%
200	0.5%	76.4%	23.7%	0.1%
500	0.2%	78.1%	22.0%	0.1%
1,000	0.1%	78.6%	21.5%	0.1%

2023 ONE-YEAR Potential Risk-of-Loss Contribution by Return Period

Return Period	Percentile	Assets	Reserves	Pricing
1 in X Outcomes				
2	50.0%	3.9%	90.2%	5.9%
4	25.0%	63.6%	34.2%	2.2%
10	10.0%	77.6%	21.1%	1.3%
20	5.0%	82.0%	17.0%	1.0%
50	2.0%	85.8%	13.4%	0.8%
100	1.0%	87.5%	11.8%	0.7%
200	0.5%	89.1%	10.2%	0.6%
500	0.2%	90.5%	8.9%	0.6%
1,000	0.1%	91.5%	8.0%	0.5%

2025 ONE-YEAR Potential Risk-of-Loss Contribution by Return Period

Return Period	Percentile	Assets	Reserves	Pricing
1 in X Outcomes				
2	50.0%	-15.4%	119.5%	-4.1%
4	25.0%	66.2%	35.0%	-1.1%
10	10.0%	80.3%	20.4%	-0.6%
20	5.0%	84.5%	16.0%	-0.5%
50	2.0%	87.7%	12.6%	-0.4%
100	1.0%	88.9%	11.4%	-0.3%
200	0.5%	89.9%	10.4%	-0.3%
500	0.2%	90.7%	9.5%	-0.2%
1,000	0.1%	91.3%	8.9%	-0.2%

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Mean Income Statement

Income Statement (Means)	Ending 6/30	Ending 6/30	Ending 6/30	Ending 6/30	Ending 6/30
Name	**2021**	**2022**	**2023**	**2024**	**2025**
Gross Written Premium	174,981,055	185,475,616	194,746,379	192,035,812	189,362,003
Ceded Written Premium	-	-	-	-	-
Net Written Premium	174,981,055	185,475,616	194,746,379	192,035,812	189,362,003
Gross Earned Premium	174,983,574	180,228,336	190,110,997	193,391,096	190,698,908
Ceded Earned Premium	-	-	-	-	-
Net Earned Premium	174,983,574	180,228,336	190,110,997	193,391,096	190,698,908
Gross Current AY Loss and ALAE	142,317,849	150,697,901	158,208,385	155,909,716	153,642,539
Ceded Current AY Loss and ALAE	-	-	-	-	-
ULAE Incurred	18,215,790	18,761,770	19,790,555	20,132,013	19,851,756
Net Current AY Loss and LAE	160,533,639	169,459,671	177,998,940	176,041,730	173,494,296
Gross Prior AY Development	-	2,232,383	8,966,564	13,114,135	16,308,529
Ceded Prior AY Development	-	-	-	-	-
Net Prior AY Development	-	2,232,383	8,966,564	13,114,135	16,308,529
Gross Incoming Reserve Development	98,174,055	42,664,248	40,755,151	38,443,916	36,257,055
Ceded Incoming Reserve Development	-	-	-	-	-
Net Incoming Reserve Development	98,174,055	42,664,248	40,755,151	38,443,916	36,257,055
Gross Losses and ALAE	240,491,904	195,594,531	207,930,100	207,467,767	206,208,123
Ceded Losses and ALAE	-	-	-	-	-
ULAE Incurred	18,215,790	18,761,770	19,790,555	20,132,013	19,851,756
Net Losses and LAE	258,707,694	214,356,301	227,720,655	227,599,781	226,059,880
Gross Underwriting Expenses	13,998,484	14,838,049	15,579,710	15,362,865	15,148,960
Change In Deferred Acquisition Costs	-	-	-	-	-
Ceding Commissions	-	-	-	-	-
Net Underwriting Expenses	13,998,484	14,838,049	15,579,710	15,362,865	15,148,960
Underwriting Gain	(97,722,605)	(48,966,015)	(53,189,368)	(49,571,550)	(50,509,932)
Investment Income	162,497,185	166,225,572	170,266,535	174,449,157	178,737,108
Investment Expense	5,427,095	5,792,352	6,050,449	6,333,137	6,634,346
Premium Balances Charged Off	-	-	-	-	-
Realized Capital Gains	21,053,187	15,139,831	15,623,464	17,056,768	17,794,832
Change in Unrealized Capital Gains	(48,605,350)	(33,606,598)	(22,987,005)	(12,780,094)	(4,403,706)
Dividends To Policyholders	-	-	-	-	-
Pretax Income	31,795,323	93,000,439	103,663,176	122,821,144	134,983,956
Net Income	31,795,323	93,000,439	103,663,176	122,821,144	134,983,956
Change In PFAD	31,795,323	93,000,439	103,663,176	122,821,144	134,983,956

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Mean Balance Sheet

Balance Sheet (Means)	Ending 6/30	Ending 6/30	Ending 6/30	Ending 6/30	Ending 6/30	Ending 6/30
Name	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Assets						
Bonds Statement Value	1,558,980,460	1,698,212,222	1,773,881,691	1,856,760,683	1,945,069,549	2,039,319,767
Bonds Held at Market Value	1,558,980,460	1,698,212,222	1,773,881,691	1,856,760,683	1,945,069,549	2,039,319,767
Bonds Held at Amortized Cost	-	-	-	-	-	-
Stocks	685,720,824	710,879,543	742,555,135	777,248,667	814,215,169	853,668,749
Property	222,160,057	223,795,409	233,767,355	244,689,392	256,326,995	268,747,566
Cash	77,932,002	-	-	-	-	-
Other Invested Assets	-	-	-	-	-	-
Total Cash and Invested Assets	2,544,793,343	2,632,887,173	2,750,204,181	2,878,698,742	3,015,611,712	3,161,736,083
Premium Uncollected	-	-	-	-	-	-
Ceded Unearned Premium Reserves	-	-	-	-	-	-
Ceded Current AY Loss and ALAE Reserves	-	-	-	-	-	-
Ceded Prior AY Loss and ALAE Reserves	-	-	-	-	-	-
Ceded Incoming Loss and ALAE Reserves	-	-	-	-	-	-
Ceded Loss and ALAE Reserves	-	-	-	-	-	-
Deferred Acquisition Costs	-	-	-	-	-	-
Other Assets	-	-	-	-	-	-
Total Assets	**2,544,793,343**	**2,632,887,173**	**2,750,204,181**	**2,878,698,742**	**3,015,611,712**	**3,161,736,083**
Liabilities						
Gross Current AY Loss and ALAE Reserves	-	130,506,155	138,175,221	145,058,838	142,953,295	140,864,649
Gross Prior AY Loss and ALAE Reserves	-	-	97,079,158	177,775,567	252,599,016	318,515,484
Gross Incoming Loss and ALAE Reserves	1,275,355,612	1,201,150,475	1,115,471,530	1,048,087,499	990,816,694	939,466,182
Gross Loss and ALAE Reserves	1,275,355,612	1,331,656,630	1,350,725,910	1,370,921,904	1,386,369,005	1,398,846,315
Gross Unearned Premium Reserves	87,493,046	87,490,528	92,737,808	97,373,190	96,017,906	94,681,002
Debt	-	-	-	-	-	-
Dividends Declared To Policyholders	-	-	-	-	-	-
Other Liabilities	-	-	-	-	-	-
Total Liabilities	**1,362,848,658**	**1,419,147,157**	**1,443,463,717**	**1,468,295,094**	**1,482,386,911**	**1,493,527,317**
PFAD						
PFAD	**1,181,944,685**	**1,213,740,008**	**1,306,740,447**	**1,410,403,623**	**1,533,224,767**	**1,668,208,723**
Total Liabilities & PFAD	2,544,793,343	2,632,887,165	2,750,204,164	2,878,698,717	3,015,611,678	3,161,736,040
Net Loss and ALAE Reserves	1,275,355,612	1,331,656,630	1,350,725,910	1,370,921,904	1,386,369,005	1,398,846,315
Net Unearned Premium Reserves	87,493,046	87,490,528	92,737,808	97,373,190	96,017,906	94,681,002

Exhibit 6

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Discounted Gross Loss and ALAE Reserves

Mean	1,331,656,630	1,350,725,910	1,370,921,904	1,386,369,005	1,398,846,315
Standard Deviation	44,888,832	57,024,044	69,350,349	83,136,024	97,807,331
CV	3.37%	4.22%	5.06%	6.00%	6.99%
Min	1,132,228,664	1,105,434,309	1,069,359,008	1,013,033,093	1,003,159,795
Max	1,560,830,336	1,656,750,973	1,742,416,608	1,865,019,560	2,015,176,234

Discounted Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	1,209,101,097	1,195,774,976	1,183,316,596	1,162,851,605	1,139,127,670
1.0%	1,232,215,818	1,224,408,887	1,217,260,385	1,203,902,009	1,185,822,560
5.0%	1,260,086,044	1,259,929,420	1,260,411,051	1,254,482,203	1,244,597,384
10.0%	**1,275,207,657**	**1,278,978,582**	**1,283,756,241**	**1,281,968,764**	**1,276,571,749**
25.0%	1,300,852,319	1,311,602,200	1,323,398,411	1,329,263,785	1,331,494,802
50.0%	**1,330,403,770**	**1,349,077,980**	**1,368,849,680**	**1,383,762,672**	**1,395,250,326**
75.0%	1,361,118,419	1,388,122,825	1,416,337,010	1,440,650,457	1,462,333,868
90.0%	**1,389,920,696**	**1,424,529,000**	**1,460,847,654**	**1,494,261,467**	**1,525,958,059**
95.0%	1,407,629,440	1,447,124,583	1,488,119,667	1,527,221,967	1,564,831,064
99.0%	1,441,878,219	1,490,890,881	1,541,496,117	1,592,866,293	1,642,659,872
99.8%	1,469,707,878	1,526,951,647	1,586,865,674	1,647,462,670	1,710,078,791

Exhibit 7

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Discounted Gross Current AY Loss and ALAE

Mean	142,317,849	150,697,901	158,208,385	155,909,716	153,642,539
Standard Deviation	3,330,338	4,026,216	5,539,841	7,255,934	9,150,536
CV	2.34%	2.67%	3.50%	4.65%	5.96%
Min	132,027,728	135,928,083	136,077,098	125,247,595	118,024,979
Max	165,486,677	178,561,663	193,945,399	197,368,931	202,539,200

Discounted Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	134,948,489	140,955,785	143,838,564	136,625,465	129,354,920
1.0%	136,006,985	142,520,293	146,338,769	140,029,487	133,634,114
5.0%	137,475,686	144,594,464	149,544,118	144,466,665	139,191,482
10.0%	**138,341,468**	**145,777,553**	**151,311,470**	**146,838,141**	**142,232,715**
25.0%	139,947,633	147,882,884	154,370,308	150,898,758	147,328,180
50.0%	**141,983,276**	**150,415,876**	**157,963,889**	**155,645,649**	**153,325,035**
75.0%	144,323,372	153,210,793	161,775,600	160,629,183	159,595,626
90.0%	**146,724,895**	**155,976,456**	**165,408,036**	**165,345,885**	**165,471,757**
95.0%	148,303,470	157,750,471	167,708,727	168,257,185	169,255,991
99.0%	151,577,061	161,414,803	172,279,030	173,944,873	176,477,047
99.8%	154,531,176	164,573,762	176,212,460	178,878,344	182,830,920

Exhibit 8

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Nominal Gross Underwriting Profit

Mean	(46,891,851)	(54,378,974)	(56,298,478)	(50,202,909)	(49,500,359)
Standard Deviation	42,159,861	45,993,628	49,988,290	51,348,533	52,650,306
CV	-89.91%	-84.58%	-88.79%	-102.28%	-106.36%
Min	(585,594,864)	(634,706,273)	(791,805,132)	(834,057,628)	(885,381,392)
Max	74,067,390	72,749,946	70,114,874	84,752,836	83,292,140

Nominal Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	(240,501,689)	(271,100,720)	(302,516,505)	(313,467,339)	(330,900,032)
1.0%	(174,543,334)	(196,402,164)	(212,886,211)	(213,509,706)	(219,587,361)
5.0%	(121,718,306)	(135,993,170)	(144,856,664)	(140,790,014)	(142,064,114)
10.0%	**(99,989,585)**	**(111,649,118)**	**(118,166,777)**	**(113,088,772)**	**(112,796,157)**
25.0%	(69,564,125)	(78,677,681)	(81,835,620)	(75,653,046)	(74,766,708)
50.0%	**(41,545,444)**	**(48,240,229)**	**(49,353,195)**	**(42,655,730)**	**(41,240,825)**
75.0%	(17,840,094)	(22,791,529)	(22,198,016)	(15,476,219)	(14,282,677)
90.0%	**640,173**	**(3,127,603)**	**(1,354,328)**	**5,227,520**	**6,394,065**
95.0%	10,628,485	7,577,681	9,811,074	16,282,827	17,144,555
99.0%	27,414,632	25,112,373	28,392,280	34,853,621	35,378,260
99.8%	39,503,339	37,855,069	41,817,500	47,917,038	48,089,848

Exhibit 9

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Nominal Gross Combined Ratio

Mean	127%	130%	129%	126%	126%
Standard Deviation	24%	25%	26%	26%	27%
CV	19%	20%	20%	21%	22%
Min	58%	60%	62%	55%	54%
Max	438%	461%	525%	531%	607%

Nominal Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	77%	79%	78%	75%	74%
1.0%	84%	86%	85%	82%	81%
5.0%	94%	96%	95%	92%	91%
10.0%	**100%**	**102%**	**101%**	**97%**	**97%**
25.0%	110%	112%	112%	108%	108%
50.0%	**124%**	**127%**	**126%**	**122%**	**122%**
75.0%	140%	143%	143%	139%	139%
90.0%	**157%**	**162%**	**162%**	**158%**	**159%**
95.0%	170%	175%	175%	172%	173%
99.0%	200%	208%	211%	209%	213%
99.8%	237%	250%	259%	261%	272%

Exhibit 10

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Discounted Gross Combined Ratio

Mean	101%	103%	103%	100%	100%
Standard Deviation	15%	16%	16%	16%	17%
CV	15%	16%	16%	16%	17%
Min	51%	52%	54%	46%	48%
Max	241%	245%	275%	288%	326%

Discounted Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	77%	79%	78%	75%	74%
1.0%	71%	72%	72%	70%	69%
5.0%	78%	80%	79%	77%	76%
10.0%	**82%**	**84%**	**83%**	**81%**	**81%**
25.0%	90%	92%	91%	89%	88%
50.0%	**99%**	**102%**	**101%**	**98%**	**98%**
75.0%	110%	113%	112%	109%	109%
90.0%	**121%**	**124%**	**124%**	**121%**	**121%**
95.0%	128%	132%	132%	129%	130%
99.0%	144%	149%	149%	147%	149%
99.8%	237%	250%	259%	261%	272%

Exhibit 11

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Nominal Gross Loss Ratio

Mean	108%	111%	111%	107%	107%
Standard Deviation	24%	25%	26%	26%	27%
CV	22%	23%	24%	25%	25%
Min	39%	41%	44%	37%	36%
Max	420%	442%	506%	512%	589%

Nominal Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	59%	60%	59%	57%	56%
1.0%	66%	67%	66%	63%	63%
5.0%	76%	77%	76%	73%	73%
10.0%	**81%**	**83%**	**82%**	**79%**	**78%**
25.0%	92%	94%	93%	90%	89%
50.0%	**105%**	**108%**	**107%**	**104%**	**103%**
75.0%	121%	125%	124%	121%	121%
90.0%	**139%**	**143%**	**143%**	**140%**	**140%**
95.0%	151%	157%	157%	154%	155%
99.0%	181%	190%	193%	191%	194%
99.8%	219%	231%	240%	242%	254%

Exhibit 12

WYOMING DEPARTMENT OF WORKFORCE SERVICES
Economic Capital Model
Discounted Gross Loss Ratio

Mean	82%	85%	84%	82%	82%
Standard Deviation	15%	16%	16%	16%	17%
CV	19%	19%	19%	20%	21%
Min	32%	34%	36%	28%	30%
Max	222%	227%	257%	269%	308%

Discounted Percentile	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**	**Fiscal Year 2025**
0.2%	47%	49%	48%	46%	45%
1.0%	53%	54%	53%	51%	51%
5.0%	60%	61%	61%	58%	58%
10.0%	**64%**	**66%**	**65%**	**63%**	**62%**
25.0%	71%	73%	73%	70%	70%
50.0%	**81%**	**83%**	**83%**	**80%**	**80%**
75.0%	91%	94%	94%	91%	91%
90.0%	**102%**	**106%**	**105%**	**103%**	**103%**
95.0%	110%	113%	113%	111%	111%
99.0%	125%	130%	131%	129%	131%
99.8%	141%	148%	150%	150%	154%

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Mr. Jason Wolfe
Administrator, Compliance & Standards
Wyoming Workforce Services
1510 E. Pershing Blvd
Cheyenne, WY 82002

December 29, 2021

COVID-19 Presumption Exposure

Dear Mr. Wolfe,

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) was requested by the Wyoming Department of Workforce Services, Workers' Compensation Division (the Division) to outline the risk exposure of the Workers' Compensation Fund with regard to the one-year statute of limitations on the COVID-19 presumption (W.S. 27-14-503). It is our understanding that the Wyoming Joint Appropriations Committee will utilize this memo to assist in its consideration of whether to inject American Rescue Plan Act of 2021 (ARPA) funds into the Workers' Compensation Fund.

Through December 17, 2021, $7.3M has been paid on COVID-19-related workers' compensation claims. Nearly half ($3.1M) of these dollars are arising from COVID-19 fatalities, which represent only 23 accepted and pending claims out of 1,291 total accepted and pending claims. Considering there have been a total of 1,526 COVID-19-related deaths as of December 27, 2021 in Wyoming and only 23 accepted and pending death claims, there is potential for a substantial amount of unreported COVID-19 fatal (and non-fatal) claims exposure to the Division through March 31, 2023 (one year after the presumption is scheduled to end).

The Division has requested our estimate of the impact of a hypothetical $200M liability arising from these claims on the workers' compensation rates and the Divisions' solvency. From a solvency perspective, it is helpful to refer to Exhibit 1a of our 2021 Economic Capital Model Report issued on October 12, 2021 (copied on the following page for reference).

(1) Starting Simple Funding Ratio	(2) Starting PFAD Level	(3) One-Year Probability of PFAD Depletion	(4) Three-Year Probability of PFAD Depletion	(5) Five-Year Probability of PFAD Depletion
1.15	200	9.2%	18.7%	22.3%
1.22	300	3.3%	9.6%	12.5%
1.29	400	1.1%	4.7%	6.9%
1.37	500	0.3%	2.3%	3.7%
1.44	600	0.1%	1.0%	1.8%
1.51	700	0.0%	0.4%	0.9%
1.59	800	0.0%	0.2%	0.5%
1.66	900	0.0%	0.1%	0.2%
1.73	1,000	0.0%	0.0%	0.1%
1.81	1,100	0.0%	0.0%	0.1%
1.87	1,182	0.0%	0.0%	0.0%
1.95	1,300	0.0%	0.0%	0.0%
2.03	1,400	0.0%	0.0%	0.0%

Column 2 of the above table represents various hypothetical starting PFAD levels, and Columns 3 through 5 represent the probability of insolvency over one-, three-, and five-year time horizons, respectively, given each starting PFAD level. As the table illustrates, even a $282M decrease in PFAD (from $1,182M to $900M) would only produce a nominal increase in the five-year probability of PFAD depletion from 0.0% (rounded) to 0.2%. The results of our capital model indicate that the Division is well-capitalized to withstand even a significant volume of COVID-19 fatality claims.

As there is a large degree of uncertainty related to potential COVID-19 fatality claim filings, it may make more sense to account for this through PFAD rather than through rate increases, given the healthy level of surplus there. However, if there was an expectation of $200M of additional costs to the workers' compensation system during the 2022 rate year, and this was to be accounted for solely through the rates, there would be nearly a 90% increase in the indicated average rate level relative to our analysis as of June 30, 2021 (all else equal). Further, this would assume no contingency provision to account for the significant volatility associated with these COVID-19 fatality claims. If such a provision were to be included, the impact to rates would be even higher.

If ARPA funds were to be made available to cover these potential COVID-19 fatality claim filings, the need for rate increases and the risk of PFAD depletion would decrease commensurately with the funds injected. If no large volume of COVID-19 claim filings were to be reported before the exposure to the presumption ends, then these funds could be made available to support a rate holiday or dividend payout.

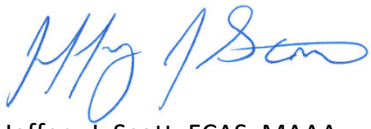
With that said, given the high level of PFAD currently available ($1,025M as of June 30, 2021), it may be more advisable to utilize these ARPA funds elsewhere, as the Division is likely to be able to withstand even a large amount of these COVID-19 fatality claims solely through PFAD, were they to be reported before the exposure to the presumption ends.

It should be understood that our conclusions are based on the available data and on informed judgment. Actual results may vary significantly from our estimates.

We have enjoyed working with the Division on this assignment and look forward to working with you in the future. Please let us know if we can be of further assistance.

Sincerely,

Troy A. Meadows, FCAS, MAAA



Jeffery J. Scott, FCAS, MAAA