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October 2, 2023

Mr. Steve Wendling
Audit Manager
Washington State Auditor's Office
3200 Capitol Boulevard
P.O. Box 40031
Olympia, WA 98504

RE: Carried Liability for Retrospective Premium Refund as of June 30, 2023

Dear Mr. Wendling,

Deloitte Consulting LLP ("Deloitte Consulting") has completed its review of the State of Washington Department of Labor & Industries' ("the Department") actuarial methodologies, processes and assumptions used in estimating the amount recorded for Retrospective Premium Refunds as of June 30, 2023. This letter summarizes the findings and conclusions of our review.

The Deloitte Consulting team appreciates the time and effort dedicated by the Department's actuarial team to help us understand their Retrospective Premium Refund estimation process, as well as the resources devoted to providing us with the appropriate data needed to perform our review.

Executive Summary

The Department's carried liability for its Retrospective Premium Refunds as of June 30, 2023 is set at \$204.483 million. This amount has been selected by Department management based on an internal analysis performed by the Department's actuarial team.

Based on our review of the Department's actuarial methodologies for estimating the Retrospective Premium Refunds, and subject to the limitations and reliances discussed below in *Distribution and Limitations*, we believe that the Department's process is consistent with actuarial standards of practice as issued by the Actuarial Standards Board. Therefore, we conclude that the Department's actuarial estimate of the Retrospective Premium Refunds is reasonable. Similarly, because Department management selected the actuarial estimate as its carried liability, we further conclude that the Department's carried liability for its Retrospective Premium Refunds is reasonable.

Process Overview – Estimating Retrospective Premium Refunds

The Department's Retrospective Premium Refunds review is performed for retrospectively-rated policies issued during the four most recent years through the current evaluation period. The review only includes the most recent four years because the retrospective contracts are closed out within four years after inception. Retrospective contracts have three adjustments with the first occurring 21 months from inception, the second occurring 33 months from inception and the final adjustment occurring at 45 months from inception. Therefore, the current June 30, 2023 review considers retrospectively rated policies incepting from October 1, 2019 through June 30, 2023. It is noted that policies with enrollment dates prior to October 1, 2019 may still have a payable or receivable as of June 30, 2023, but the

Department assumes that these policies have been finalized and no additional activity is expected to occur except to finalize the cash flow. The following is a brief description of the Department's analysis performed to estimate the retrospective premium refunds:

1. *Net premium refunds for retrospectively-rated policies incepting October 1, 2019 through March 31, 2022*

The net ultimate premium refund for these policies is based on the Department's interim retrospective performance report ("IRPR"). This report calculates, on an individual retro policy basis, the ultimate losses as of the evaluation date and then runs them through the policy's specific retrospective rating formula to estimate the individual retro policy ultimate premium. Ultimate loss calculations are performed within the mainframe system using claim level detail and loss development factors by loss type (e.g. Timeloss, PPD, etc.) and by fund (e.g. Medical Aid Fund, Accident Fund). The report later compares the estimated ultimate premium to the actual premium collected to date and calculates the difference as the expected refund (or collection) amount for that policy.

The calculations underlying this report are performed on the Department's mainframe systems. We reviewed a random selection of 20 of the sample claim spreadsheets designed by the Department that recreate the calculations performed on the mainframe and found the calculations in these spreadsheets to be reasonable.

We note that for retrospectively-rated policies incepting in the quarter from January 1, 2022 through March 31, 2022, the Department gives 67% weight to the results of the IRPR calculated liability described above in Item #1 and 33% weight to the method described in Item #2 below. This is consistent with the analyses performed last year.

2. *Estimate ultimate refund for policies incepting April 1, 2022 through June 30, 2023*

For the most recent fifteen policy months, the estimated premium refund is based on an annual target refund ratio. The target refund ratio is based on the following items:

- a) *The average of the difference in the loss ratios between employers participating in the retro program and employers that do not participate in the retro program.* The Department calculates a four-year smoothed average of the difference in the loss ratios for employers participating in the retro program and employers that do not participate in the retro program. This difference was calculated as of June 30, 2023 to be 26.9%, which is a decrease compared to a difference of 27.7% seen last year.

This is a critical assumption in the analysis and estimates of the difference have been historically volatile. We note that over the last 5 years, this assumption has ranged from 19.6% to 27.7% and has been steadily increasing since 2012. If the Department selected the lowest indicated ratio over the last 5 years of 19.6%, the indicated liability would decrease by \$52.8 million or 25.8%.

The Department believes that this gradual increase in the indicated ratio has occurred for several reasons. First, the current year being added to the four-year smoothed average is substantially higher than the oldest year which is no longer being included in the average.

Second, the Department believes the effects of the pandemic and the shutdown most likely impacted smaller employers to a greater degree than larger employers, and that those smaller employees are more likely to not participate in the retro program. Third, there has been a steady increase, and possible stabilization, in the use of the Kept-on-Salary and Stay at Work programs for employers participating in the retro program.

And finally, when estimating the loss ratios difference, the Department assumes that the loss development pattern for employers participating in the retro program is the same as the loss development pattern for employers that do not participate in the retro program. In performing our review, we noticed that estimates of the loss ratio difference tend to grow over time for a particular calendar year. This may occur if the loss development pattern for retro participants are lower (or shorter) than the loss development pattern for non-retro participants.

Below is a summary of the prior and current/latest estimates of the loss ratio difference for enrollment calendar years 2012 through 2021 (unsmoothed).

Enrollment Year	Loss Ratio Difference			
	1 st adjustment	2 nd adjustment	3 rd adjustment	4 th adjustment
2012			17.58%	16.10%
2013		21.75%	23.72%	24.21%
2014	20.05%	21.36%	23.21%	21.82%
2015	15.92%	16.52%	17.61%	16.54%
2016	16.83%	19.06%	19.00%	20.36%
2017	22.57%	26.63%	28.43%	28.41%
2018	19.83%	23.96%	24.81%	22.86%
2019	27.78%	28.36%	28.00%	
2020	30.24%	32.76%		
2021	25.67%			

Therefore, we recommend that when forecasting the eventual loss ratio difference at the third adjustment, the Department consider accounting for changes currently seen in the loss ratio difference between adjustments. As we consider the Department's selection of the loss ratio difference of 26.9%, we believe it is reasonable compared to the differences seen and the volatility of those differences. Therefore, we conclude that the selection of the loss ratio difference is reasonable.

- b) An adjustment for investment income. The target refund ratio is increased for the investment income arising from the timing difference between the collections of the premiums and disbursement of the refunds. The investment income adjustment is calculated to be 4.7% as of June 30, 2023. We note this year's adjustment is higher than the 2.7% adjustment as of June 30, 2022.
- c) An adjustment for actuarial bias. The actuarial bias occurs from choosing to have the final retro adjustment occur during the third adjustment period: the Department conducted a study which shows that if adjustments subsequent to the current third and final adjustment were made that the refunds would be lower. The study performed indicated that if the final adjustment had

been made two years later then the refunds would have been on average approximately 3.0% less. The Department uses this study as a proxy to adjust for actuarial bias and correct for further development that would be captured if more than three adjustments were made. We note that the 3.0% adjustment is consistent with the 3.0% adjustment as of June 30, 2022.

The selected target refund ratio is then seasonally adjusted to reflect historically observed quarterly variations in retro policy refunds. The seasonally adjusted target refund ratio is then applied to the standard premiums to estimate the ultimate refund for policies incepting April 1, 2022 through June 30, 2023.

Some occupational disease claim losses are excluded from the calculation of the loss ratio differential between non-retro and retro employers. Occupational diseases often develop over multiple years of employee exposure and additionally have the potential to subject employers to liability for preexisting conditions. The Department prorates occupational disease claims between employers that historically employed the worker during the worker's exposure. When this is done, some of the proration may fall outside the rating periods and these costs are assigned to a unique business code. Since these costs should not be considered non-retro but are unable to be considered retro due to falling outside the rating period, they are excluded from the loss ratio differential calculation to minimize their impact on the retro calculation.

Deloitte Consulting's review process entailed reviewing the internal actuarial analyses and calculations for estimating the Retrospective Premium Refunds performed by the Department's actuarial group. The internal analyses were comprised of a series of Excel worksheets as well as a brief description of the Department's analyses and assumptions used. Both the internal review work papers and write-up were provided to us directly by the Department.

Our review was supplemented with information obtained through discussions with Bill Vasek, the Department's chief actuary, and other members of the Department's actuarial team. In addition, we performed reasonability checks on the calculations/formulas shown in the Department's internal analyses and found no apparent errors in their calculations.

COVID-19 Impact

The Retrospective Premium Refunds analysis does not consider any potential direct or indirect effects of the COVID-19 pandemic and the Department has made the decision to exclude all COVID-19 claims from the data when performing this analysis. We note that the majority of the experience period (10/1/2019 through 6/30/2023) now includes the direct effects of the pandemic. The data used in this analysis is as of June 30, 2023 and we believe that most of the indirect effects of the pandemic have stabilized. Therefore, we believe the impact of the COVID-19 pandemic is not material to this analysis. We also conclude that it is reasonable to exclude an estimate of the indirect effects of the pandemic and to exclude the actual COVID-19 claims when performing this analysis. We also note that this exclusion is consistent with the approach occurring in the broader insurance industry in other states.

Conclusion

We have reviewed the Department's Retrospective Premium Refunds analyses and believe that the Department used appropriate actuarial methods and reasonable factors and assumptions in their analyses and that the Department's estimated Retrospective Premium Refunds appears consistent with

actuarial standards of practice as issued by the Actuarial Standards Board. Furthermore, we found no material errors in their calculations. Therefore, we conclude that the Department's estimated Retrospective Premium Refunds appear reasonable.

Distribution & Limitations

This letter has been prepared for the internal use of the State Auditor's Office and the Department solely for the purpose of evaluating the appropriateness of the Retrospective Premium Refunds estimated by the Department actuaries. It is neither intended nor necessarily suitable for any other purpose. We have prepared this letter for use by individuals who have a degree of technical competence in insurance matters. This letter should be studied in its entirety before any judgments are made about the conclusions in the letter. It is our intention that this letter be used in its entirety, as a whole, and not segmented for other purposes. Deloitte Consulting personnel are available to discuss any questions or concerns regarding this letter.

To the extent that this report is requested and distributed beyond the State of Washington as required by law, we request a listing of those receiving the report. Deloitte Consulting shall have no liability, regardless of form, to any person or entity other than the State of Washington for any action taken or omitted to be taken by such parties in respect to this report. Third parties should recognize that the furnishing of this letter is not a substitute for their own due diligence and may not place any reliance on this letter or data contained herein that would result in the creation of any duty or liability by Deloitte Consulting to any third party.

Deloitte Consulting has relied upon data provided by the Department for this analysis. A specific audit to verify the accuracy or completeness of the data is beyond the scope of this letter. While we have reviewed the data with regard to its reasonableness and consistency, we have relied on such data without audit or verification and our conclusions are based on the assumption that it is accurate and complete. In addition, Deloitte Consulting reviewed the process, calculations, and assumptions underlying the Retrospective Premium Refunds analysis prepared by the actuarial team of the Department. If the underlying information provided is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

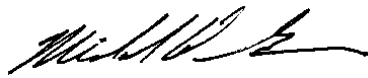
The services we performed throughout this engagement do not constitute an audit, review, examination, or other form of attestation as those terms are defined by the American Institute of Certified Public Accountants ("AICPA"). Any use of the word "review" within this letter should be interpreted in the common use of that term, and not in the definition of "review" promulgated by the AICPA.

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Please contact us at the following numbers if you would like to discuss any aspect of this letter or have any questions or comments.

Michael Green is an Associate of the Casualty Actuarial Society. Rod Morris and Matthew Crofts are Fellows of the Casualty Actuarial Society. All are Members of the American Academy of Actuaries. These organizations have professional standards that, among other provisions, require an actuary perform only assignments for which they are qualified. Michael Green, Rod Morris, and Matthew Crofts meet their qualification standards for rendering the opinions in this letter. They have also attested compliance with the Casualty Actuarial Society's Continuing Education Policy as of December 31, 2022 to perform services in 2023.

Sincerely,



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