May 19, 2026

Mr. Rodney Escobar
Director of Claims and Risk Management for the State of Tennessee
502 Deaderick Street
Nashville, TN 37243-0202

Re: Forecast Losses for Cyber Liability Coverage

Dear Rodney,

The following outlines my analysis of the forecast losses for the State of Tennessee Captive for cyber liability coverage for the upcoming 7/1/26-27 and 7/1/27-28 policy years. For this analysis, we were provided with a current loss listing, prior policy information and employee count data. For this analysis, the captive is assumed to retain aggregate losses of $10,000,000 excess of a per occurrence SIR of $1,500,000.

Exhibit 1 displays the calculation of the cyber liability forecast of losses for the forecast report period at the expected level on both a ground up basis and based on the coverage provided by the captive. Ground up severity and frequency are estimated based on the prior insurance premium, industry increased limits factors, historical frequency of claims and an adjustment factor to capture the potential increase in costs for the cyber liability market. A Monte Carlo simulation was then used to generate 100,000 projected outcomes based on the ground up severity, frequency and the coverage provided by the captive. The expected losses are calculated as the average of these outcomes. Percentile estimates based on this same Monte Carlo simulation are also shown.

Based on the data provided, we estimate that captive losses will be $682,000 during the 7/1/26-27 report period on an expected basis with aggregate losses limited to $10,000,000. This is in line with last year's forecast for 7/1/25-26. Based on the simulated results, there is a 70% chance of no losses in the captive layer during 7/1/26-27 and an 85% chance that losses in the captive layer will be less than $1,172,000. Expected losses for 7/1/27-28 are estimated at $716,000 and the 85$^{th}$ percentile estimate is $1,231,000.

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Because of the volatility of cyber liability losses and the fact that the captive began writing this coverage recently, the State may want to consider funding for the cyber liability coverage at a higher than expected loss level. A 2% assumed expense load and losses at the 85$^{th}$ percentile produce cyber coverage premiums of $1,195,000 for 7/1/26-27 and $1,255,000 for 7/1/27-28 for aggregate losses limited to $10,000,000.

Please don't hesitate to contact me should you have any questions regarding this review.

Sincerely,




Cheryl White, FCAS, MAAA

Cheryl White is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. She meets the American Academy of Actuaries Qualification Standards for Statements of Actuarial Opinion on property/casualty topics.

***Projected Losses for 7/1/26-27***
***Cyber Liability***

***Incident Limit = $10,000,000***
***Aggregate Limit = $10,000,000***
***Incident SIR = $1,500,000***
***Aggregate SIR = NA***

| | | |
|---|---|---|
| *(A) Projected Number of Employees for 7/1/26-27* | 44,718 | |
| *(B) Projected Claim Frequency for 7/1/26-27*<br>*{Based on Experience, Prior Policy and Judgment}* | 14.00 | |
| *(C) Projected Unlimited Claim Severity for 7/1/26-27*<br>*{Based on Prior Policy and Judgment}* | $246,000 | |
| *(D) Coefficient of variation (CV)*<br>*{Judgment}* | 3.0 | |
| *(E) Parameter risk*<br>*{Judgment}* | 25% | |
| *(F) Projected Ground up Losses for 7/1/26-27*<br>*{Based on Monte Carlo simulation: 100,000 iterations using parameters in lines (B) through (E)}* | $3,659,000 | |
| *(G) Adjustment Factor for Captive Coverage*<br>*{Based on results of Monte Carlo simulation}* | 0.186 | |
| | 7/1/26-27 | 7/1/27-28 |
| *(H) Projected Retained Captive Losses*<br>*{(F) * (G)}; 7/1/27-28 based on 5% trend* | $682,000 | $716,000 |
| *(I) 70th Percentile Estimate of Retained Captive Losses*<br>*{Based on results of Monte Carlo simulation}; 7/1/27-28 based on 5% trend* | $0 | $0 |
| *(J) 75th Percentile Estimate of Retained Captive Losses*<br>*{Based on results of Monte Carlo simulation}; 7/1/27-28 based on 5% trend* | $230,000 | $242,000 |
| *(K) 85th Percentile Estimate of Retained Captive Losses*<br>*{Based on results of Monte Carlo simulation}; 7/1/27-28 based on 5% trend* | $1,172,000 | $1,231,000 |
| *(L) Recommended Captive Funding*<br>*{Based on (K) and 2% Expense Load}; 7/1/27-28 based on 5% trend* | $1,195,000 | $1,255,000 |