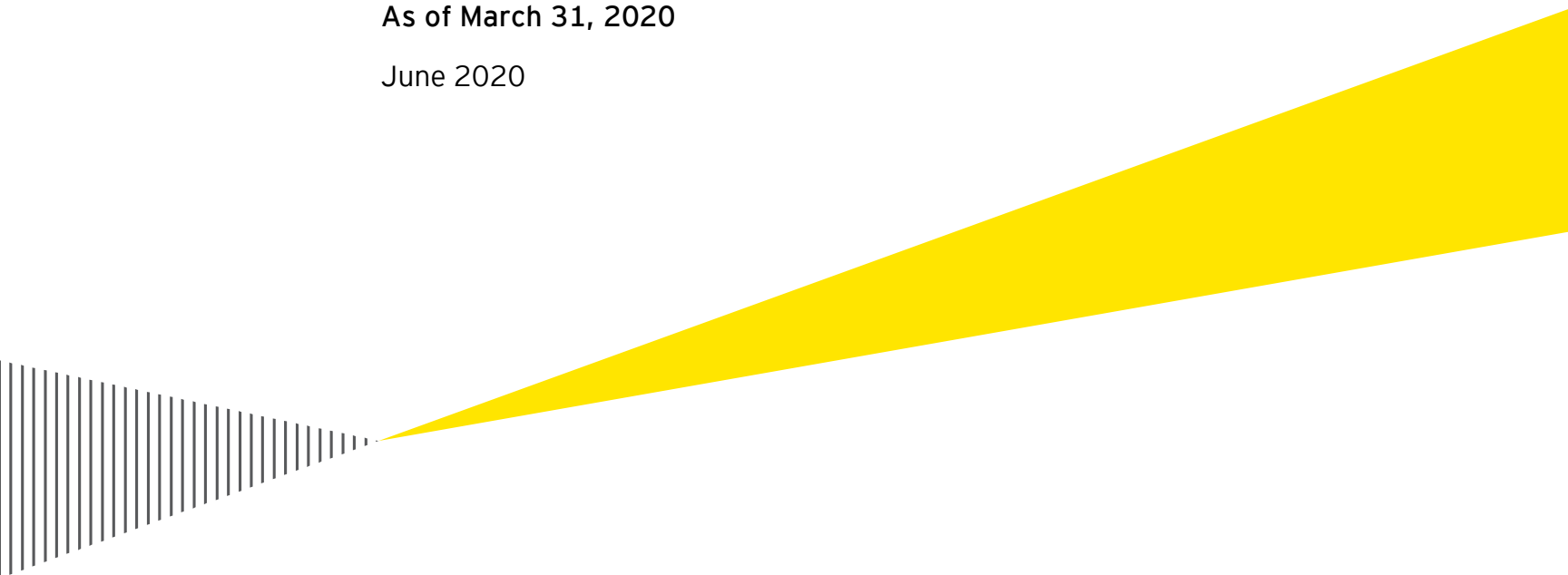


# State of Ohio - Office of Risk Management Self-Insured Judges' Liability Program

Actuarial analysis of  
loss and allocated loss adjustment expense reserves

As of March 31, 2020

June 2020



Building a better  
working world



Ernst & Young LLP  
155 North Wacker Drive  
Chicago, IL 60606-1787

Tel: (312) 879-2000  
Fax: (312) 879-4000  
www.ey.com

Ms. Traci Heyer, ARM, AU, AINS  
Risk Manager, Underwriting & Analytics  
Ohio Department of Administrative Services  
General Services Division - Office of Risk Management  
4200 Surface Road  
Columbus, OH 43228

23 June 2020

Dear Ms. Heyer:

We have completed our engagement to provide estimates of the unpaid loss and allocated loss adjustment expenses (“ALAE”) as of March 31, 2020 for the State of Ohio’s self-insurance program (the “Program”), specifically as it relates to its self-insured judges’ liability program, and to provide estimates of the ultimate loss and ALAE for the fiscal year ending June 30, 2021 (“Fiscal/Accident Year 2021”) using data evaluated as of March 31, 2020. Our engagement was performed in accordance with our engagement agreement made effective December 8, 2017 and amended March 29, 2018 and September 1, 2019, and our procedures were limited to those described in that agreement.

#### **Results of our work/Period covered by our procedures/Recommendations**

During the period April 2020 through June 2020, Ernst & Young (“EY”) performed an actuarial unpaid claim liability projection for the Program’s self-insured judges’ liability exposures on both an undiscounted and discounted basis, using data through March 31, 2020. Our work also included an ultimate loss and ALAE estimate for fiscal year ending June 30, 2021. The ultimate loss and ALAE estimate for the upcoming event year (now in-line with fiscal year) was estimated on an undiscounted and discounted basis. Our findings resulting from our work are provided in this report.

## Background

The State of Ohio Office of Risk Management (“ORM”) manages and administers the Judges’ Self-Insured Liability Program for the Supreme Court of Ohio. The Program provides professional liability and employment practices liability coverage to all Ohio judges acting in their personal and/or individual capacity while performing their judicial duties. The Program also provides contingent coverage for disciplinary related claims. The Program also provides an allotted amount of “hotline” hours per judge/court that allows for confidential exchange on any matter of concern with defense counsel, which can be used preemptively before a claim is made against a judge.

Prior to event year 2016, the Supreme Court of Ohio paid defense costs and attorney fees related to the Judges’ self-insured liability claims; however, these costs and fees were still applied against any claim limits or sub-limits. These costs and fees were typically considered loss adjustment expenses. These costs and fees are not included in our estimates for event years 2016 and prior since the Program did not incur any expenses for these years. However, the Program began to incur such expenses beginning in event year 2017; thus, a provision was included in the estimates of unpaid claims for event years 2017 and subsequent (i.e. event years 2017-2020 and projected year 2021). ALAE are included in the liability estimates for the years outlined above, as well as the estimate of ultimate claims for the upcoming fiscal year ending June 30, 2021. Other loss adjustment expenses associated with administering the program such as hotline charges (“other Expenses”) have been included in the estimate for the upcoming fiscal year for consideration in final premium to charge the Supreme Court of Ohio.

The ORM has engaged EY to provide an unpaid claims estimate as of March 31, 2020 and estimates of ultimate loss and ALAE for the upcoming fiscal year. In addition, it is our understanding that the estimates are also to be presented on an undiscounted and discounted basis showing anticipated future cash flows with expected payments per period. Finally, the estimate for the upcoming fiscal year was also requested by the ORM to include other expenses, in particular hotline expenses, to estimate the premium needed from the Supreme Court of Ohio for the upcoming fiscal year July 1, 2020 to June 30, 2021.

## **Scope of our work**

As outlined in our engagement agreement, our estimate of total judges' self-insured liability outstanding loss and ALAE as of March 31, 2020 and estimates of ultimate loss and ALAE for the next fiscal year were based on inquiries of, and discussions with, the ORM. We have not sought to confirm the accuracy of the data or the information and explanations provided by the ORM.

This report contains a reasonable range of estimates of the unpaid loss and ALAE limited to the Program's self-insured retentions for event years 2012 through 2020, evaluated as of March 31, 2020. These estimates are presented on both an undiscounted and discounted basis, utilizing a discount rate provided by the ORM. Also contained within this report is an estimate of ultimate loss and ALAE for the next fiscal year beginning July 1, 2020 and ending June 30, 2021. The expected ultimate loss for this year is also shown on an undiscounted and discounted basis.

Our work has been limited in scope and time and we stress that more detailed procedures may have revealed issues that this engagement has not. The procedures performed throughout this engagement were advisory in nature and were performed under the American Institute of Certified Public Accountants ("AICPA") consulting standards. The procedures performed did not constitute an audit, a review, examination, or other form of attestation or assurance as those terms are defined by the AICPA. Accordingly, we do not express any form of assurance. Any use of the term "review" within this report should be interpreted in the common use of that term, and not in the definition of "review" promulgated by the AICPA. Also, this report/work product does not constitute a legal opinion or advice.

## **Restrictions on the use of our work product**

Our estimate of total judges' self-insured liability outstanding loss and ALAE as of March 31, 2020 and our estimate of ultimate loss and ALAE for the next fiscal year beginning July 1<sup>st</sup> are intended solely for the information and use of the management of the ORM. They are not intended to be and should not be used by anyone other than these specified parties.

**EY personnel responsible for our work product**

Kishen Patel, FCAS, MAAA, and Thomas Conway, ACAS, MAAA are responsible for this report. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to perform this engagement and provide the findings contained herein. Comments or questions regarding this report should be directed to Kishen Patel at 312-879-2988, who is also available to provide supplemental information and/or explanation as requested.

We appreciate the cooperation and assistance provided to us during the course of our work.

Very truly yours,

*Ernst + Young LLP*

# Table of contents

- I. Introduction and scope.....1
- II. Distribution and use .....2
- III. Reliances and limitations .....3
- IV. Findings.....7
- V. Company background .....9
- VI. Analysis.....10
- VII. Description of methods .....18
- VIII. Exhibits .....20

## I. Introduction and scope

Ernst & Young (“EY”) has been retained by The State of Ohio - Office of Risk Management (the “ORM”) to provide an unpaid claim estimate for judges’ self-insured liability claims incurred from September 1, 2011 through March 31, 2020 evaluated as of March 31, 2020. Additionally, EY was asked to provide estimates of ultimate loss and ALAE for the fiscal accident year beginning July 1, 2020 and ending June 30, 2021. These estimates are presented on both an undiscounted and discounted basis.

As outlined in our engagement agreement, our estimate of total judges’ self-insured liability outstanding loss and ALAE as of March 31, 2020 and estimates of ultimate loss and ALAE for the next fiscal year beginning July 1<sup>st</sup> were based on inquiries of, and discussions with, the ORM. We have not sought to confirm the accuracy of the data or the information and explanations provided by the ORM.

Our work has been limited in scope and time and we stress that more detailed procedures may have revealed issues that this engagement has not. The procedures performed throughout this engagement were advisory in nature and were performed under the AICPA consulting standards. The procedures performed did not constitute an audit, a review, examination, or other form of attestation or assurance as those terms are defined by the AICPA. Accordingly, we do not express any form of assurance. Any use of the term “review” within this report should be interpreted in the common use of that term, and not in the definition of “review” promulgated by the AICPA. Also, this report/work product does not constitute a legal opinion or advice.

Kishen Patel, FCAS, MAAA and Thomas Conway, ACAS, MAAA are responsible for this report. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to perform this engagement and provide the findings contained herein. Comments or questions regarding this report should be directed to Kishen Patel at 312-879-2988, who is also available to provide supplemental information and/or explanation as requested.

## **II. Distribution and use**

This report is intended solely for the information and use of the management of the ORM. The report is not intended to be and should not be used by anyone other than these specified parties. This report should not be relied upon for any other purpose. Any other use or distribution of this report without our express written consent is not authorized.



### III. Reliances and limitations

#### Use of the term “review” in our workproduct

The services we performed throughout this engagement were advisory in nature; therefore, this report/work product does not represent an assurance report or opinion, nor does it constitute an audit, review, examination, or other form of attestation as those terms are defined by the American Institute of Certified Public Accountants. Any use of the term “review” within this report should be interpreted in the common use of that term, and not in the definition of “review” promulgated by the AICPA. Also, this report/work product does not constitute a legal opinion or advice.

#### Data and qualitative information

The report presents an analysis of data, conditions, and practices communicated to EY personnel involved in this engagement and described herein.

In preparing our analysis, we relied on data and qualitative information provided to us under the direction of Ms. Traci Heyer, Risk Manager, Underwriting & Analytics, of the State of Ohio - Office of Risk Management. We have relied on the oral and/or written statements of Ms. Heyer regarding the quality, accuracy, and completeness of the data and information supplied to us. Any inaccuracies or inconsistencies in the data could have a significant effect on our results.

We relied on industry benchmarks based on industry aggregated insurance company data as of December 31, 2019 in our analysis of the self-insured program’s unpaid loss and ALAE. A list of the companies used in the compilation of industry data are listed below:

- ▶ Attorneys Insurance Mutual of the South, Inc., RRG (AL, TN)
- ▶ Bar Plan Mutual Insurance Company (MO, KS, IN, NM, TN)
- ▶ Florida Lawyers Mutual Insurance Company
- ▶ IL State Bar Association Mutual Insurance Company
- ▶ Lawyers Mutual Liability Insurance Company of North Carolina
- ▶ Lawyers Mutual Insurance Company of Kentucky
- ▶ Lawyers' Mutual Insurance Company (California)
- ▶ Minnesota Lawyers Mutual Insurance Company
- ▶ Ohio Bar Liability Insurance Company

- ▶ Oklahoma Attorneys Mutual Insurance Company
- ▶ Texas Lawyers' Insurance Exchange
- ▶ Wisconsin Lawyers Mutual Insurance Company

In accordance with ASOP 23, *Data Quality*, we performed “an informal examination of the obvious characteristics of the selected data to determine if such data appear reasonable and consistent for purposes of the assignment.” This “informal examination” did not constitute an audit of data. Rather, the procedures that we performed on the data provided to us were as follows: compared incurred and paid loss and ALAE to that of the prior year evaluation for reasonability/consistency purposes. We note that the review procedures performed may not always uncover existing defects, as they did not constitute an audit. Should any defects be found in the data, by management, through the ORM’s financial audit, or through any other external review, we should be notified so that our analysis can be adjusted accordingly.

## Evaluation date

The evaluation date is March 31, 2020. Our review considered information provided to us through the date of this report.

## Uncertainty or risk

In determining the estimates, EY has used a measure known as the Actuarial Central Estimate. The Actuarial Central Estimate represents an expected value over the range of reasonably possible outcomes. Such a range of reasonably possible outcomes may not include all conceivable outcomes, as, for example, it would not include conceivable extreme events where the contribution of such events to an expected value is not reliably estimable.

The actuarial central estimates in the report are based on assumptions and procedures described in the section of the report entitled "Analysis." Considerable uncertainty and variability are inherent in the estimation of unpaid claim liabilities. The uncertainty of the findings contained herein is increased by the need to use external/industry data and benchmarks due to the small volume of claims history. As a result, it is possible that actual experience may be different than the estimates promulgated in this report, and such difference may be material. As such, we cannot provide any determination that future experience will be as expected in this report or recorded by the Program. We have assumed that indemnity losses for Professional Liability will be zero under the assumption that absolute judicial immunity applies in any situation triggering coverage under the Program. Every Professional Liability claim to date has been successfully dismissed. Should judicial immunity cease to apply or should new scenarios be determined where coverage is provided under the Program and judicial immunity does not apply, the estimates within this analysis would be understated.

The level of uncertainty in our actuarial central estimates, for both the unpaid claim liability estimate as of March 31, 2020 and for the ultimate loss and ALAE estimate for the next fiscal year, was increased due to the potential impacts from COVID-19, a coronavirus first identified in December 2019 in Wuhan China and later declared a pandemic by the World Health Organization ("WHO") on March 11, 2020, and the economic downturn that ensued. Within a week of the WHO declaration, most major economies had announced significant and increasing restrictions on the movement and interaction of people. On March 25, 2020 it was estimated that a quarter of the world's population was under some form of lockdown or stay-at-home order.

At the time of publication of this report there are many issues arising from COVID-19 that could impact claims incurred by the ORM on or before March 31, 2020. These include:

- A number of states, including Ohio, are under directives to stay-at-home, many courts and arbitration systems are closed, potentially limiting the ability to report claims and the ORM's ability to settle claims thus causing increases in duration and severity.

This list of potential effects may not be exhaustive and at this time we are unable to provide any quantification of the impact from COVID-19 on claims incurred as of March 31, 2020.

## Other reliances or limitations

The ORM selected a 2.0% discount rate for purpose of discounting its self-insurance judges' liability reserve. This assumption provided by the ORM in the prior year was 2.5%. EY relied on this discount rate supplied to us by ORM. An appropriate discount rate should reflect the expected returns on invested assets of similar size and duration as the claim payments, as well as the uncertainty associated with future returns and the timing and amount of eventual payments. Assessing the reasonableness for the Program's selection of 2.0% is outside the scope of our analysis. The ORM noted that 2.0% was selected based on a longer-term view of the interest rate environment so as not to overreact to the recent volatility and reduction observed in the U.S. treasury yield curve. We note that the comparable duration-matched risk-free rate is 0.24% on the U.S. treasury yield curve rates as of March 31, 2020 based on an estimated duration of payments of 2.2 years, which reflects the lower U.S. treasury yield curve compared to prior years resulting from actions taken by the Federal Reserve to stimulate the economy after the financial downturn from COVID-19.

## IV. Findings

The EY Summary of total net loss and ALAE reserves for the ORM's Judges' Self-Insured Liability ("JPL") program at March 31, 2020 is as follows:

<b>(1) Undiscounted</b>	Low	ACE	High
Professional Liability	184,194	219,248	263,238
Employment Practices	308,889	373,799	436,768
Disciplinary	68,938	84,736	100,788
Total	562,021	677,782	800,794

<b>(2) Discounted at 2.0%</b>	Low	ACE	High
Professional Liability	176,618	210,230	252,410
Employment Practices	296,184	358,424	418,804
Disciplinary	67,087	82,461	98,082
Total	539,889	651,114	769,297

Based on our review, we find the range of reasonable unpaid claim estimates to be from \$562K to \$801K on an undiscounted basis, and \$540K to \$769K on a discounted basis. The high and low estimates were determined after consideration of the variability observed across the various ultimate loss indications as well as consideration of the nature of the underlying exposure, the inherent variability in this type of coverage, the magnitude of the liabilities, the limits being retained, and our experience with similar exposures with other clients. The above table is also displayed on Exhibit Judges Liability Summary-3.

We performed an actual versus expected analysis based on the assumptions underlying our prior actuarial analysis as of March 31, 2019. For Professional Liability, incurred loss and ALAE emerged by \$42K more than expected while paid loss and ALAE emerged by \$32K more than expected on fiscal/event years 2019 and prior. This slight adverse emergence on both an incurred and paid basis is driven by higher than expected development in fiscal year 2019 offset by lower than expected development in fiscal years 2018 and prior. Our revised ultimate loss estimates imply an increase in estimates on those same years of \$60K, which reflects the observed adverse emergence. For Employment Practices, incurred loss and ALAE emerged by \$13K more than expected and paid loss and ALAE emerged by \$50K more than expected on fiscal/event years 2019 and prior. This adverse emergence is primarily driven by fiscal year 2016 for which the Company incurred higher than average legal expenses over the year. Our estimates imply an increase in estimates on those same years of

\$9K, which reflects the observed adverse emergence. For Disciplinary, incurred ALAE emerged by \$40K less than expected and paid ALAE emerged by \$35K less than expected on fiscal/event years 2019 and prior. This favorable emergence was driven by all fiscal years 2016 through 2019. Our estimates imply a decrease in estimates on those same years of \$53K, which reflects the favorable emergence. The actual versus expected diagnostic is also displayed on Exhibits 21 and 22 for each of the Professional and Employment sections of the report and Exhibits 13 and 14 for the Disciplinary section of the report.

The EY estimate of expected ultimate loss and ALAE for the ORM's Judges' Self-Insured Liability program for fiscal/event year 7/1/2020-6/30/2021 is as follows:

<b>(1) Undiscounted</b>	<b>ACE</b>
Professional Liability	142,952
Employment Practices	218,800
Disciplinary	108,379
Hotline	52,000
<b>Total</b>	<b>522,132</b>
<b>(2) Discounted at 2.0%</b>	<b>494,563</b>

The above numbers are presented in more detail on Exhibit Judges Liability Summary-1. The estimates presented herein are based on the assumption that exposures in fiscal accident year 7/1/2020-6/30/2020 will be comparable to the current exposures observed in the data as of March 31, 2020. Given the level of uncertainty in exposures created by COVID-19, we have assumed a "normal" year and have not made an adjustment for the impacts of COVID-19.

## V. Company background

The Program was established on September 1, 2011, whereby the Supreme Court of Ohio began to self-insure its judges up to certain limits of liability. Prior to September 1, 2011, Judges' Liability coverage had been provided by various private insurers including XL and Ironshore. Ohio Office of Risk Management ("ORM") manages the Program for the Supreme Court of Ohio. The Program provides professional liability and employment practices liability coverage to all Ohio judges acting in their personal and/or individual capacity while performing their judicial duties. The Program also provides contingent coverage for disciplinary related claims. The Program also provides an allotted amount of "hotline" hours per judge/court that allows for confidential exchange on any matter of concern with defense counsel, which can be used preemptively before a claim is made against a judge.

Currently, there are 856 judges residing in 388 courts under the Supreme Court of Ohio's self-insured judges' liability program.

## VI. Analysis

### General approach

We prepared an independent estimate of net loss and ALAE liabilities for fiscal/event years 2012 through 2020, using data provided by the ORM as of March 31, 2020. Liability estimates were limited to historical self-insured retentions. Additionally, we prepared expected ultimate loss and ALAE projections for the next fiscal accident year beginning July 1, 2020 and ending June 30, 2021.

We utilized data provided by the ORM, supplemented with benchmarks derived from industry aggregated data.

### Responsible party for methods and assumptions

Ernst & Young is responsible for each material assumption and method used in this analysis, except as noted below:

- As discussed above, the data are the responsibility of the ORM
- The discount rate utilized was provided by the ORM
- We relied on industry aggregated insurance company data for consideration of Judges' Professional Liability loss development

### Detailed description of analysis

#### 1. Organization of Data

The claims data was stated separately for loss and ALAE. Prior to event year 2016 ending, the Supreme Court of Ohio paid defense costs and attorney fees related to the Judges' self-insured liability claims; however, these costs and fees were applied against any claim limits or sub-limits. These costs and fees are not included in our estimates for event years prior to 2016 since the Program did not incur any of those expenses for these years. However, the Program began to incur such ALAE beginning in event year 2016; thus, a provision is included in the estimates of unpaid claims for event years 2016 and subsequent (i.e. event year 2016 through 2020 and upcoming fiscal/event year 2021). Data is through, and evaluated as of, March 31, 2020. In our analysis, the loss data is organized by historical event year, as the Program had historically been effective from



September 1 through August 31 of each year. In 2016, the Program transitioned to a July 1 through June 30 period to align with the fiscal year beginning and end dates. Thus, prior to 2016 data is grouped by periods September 1 through August 31, event year 2016 is a partial year, and subsequent years are grouped from July 1 through June 30. For example, event year 2016 covers all claims incurred from September 1, 2015 to June 30, 2016, whereas event year 2017 would line up with the fiscal year and include claims incurred from July 1, 2016 through June 30, 2017. Our analysis is based upon data beginning September 1, 2011 through March 31, 2020.

## 2. Estimation Methodologies

We computed independent estimates of loss and ALAE liabilities limited to historical retentions by applying the following generally accepted actuarial methods to paid and incurred loss and ALAE data as of March 31, 2020:

### Loss

1. Paid and Incurred Loss Development Method
2. Paid and Incurred Bornhuetter-Ferguson Method ("BF")
3. Expected Loss Method

### ALAE

1. Paid and Incurred ALAE Development Method
2. Paid and Incurred Bornhuetter-Ferguson Method ("BF")
3. Expected ALAE Method

The above methods were utilized for the Professional Liability, Employment Practices, and Disciplinary analysis segments aligning with the offered coverages. For Disciplinary, only ALAE coverage is offered. To analyze hotline costs, we utilized an Expected Expense Method by examining historical paid data by year. A description of each of the methodologies used is included in Section VII of this report.

### 3. Procedures performed

#### Loss and ALAE liability/reserve estimates

The paid and incurred loss patterns used in the first three methods listed above are derived from loss development triangles derived from aggregated industry data compiled from several companies that specialize in Legal Professional Liability. Refer to Exhibits Judges Professional/ Employment-7 and 9 for the resulting industry Loss & ALAE emergence patterns. From the compiled data, we selected paid and incurred loss development factors. The selected patterns were applied to both loss and ALAE, separately, as the underlying aggregated industry data was for loss and ALAE combined. Exhibits Judges Professional/ Employment-6 through 9 contain backup and details on these methods.

The key assumption for the BF methods is the “a priori” loss estimate. We have derived a set of expected loss rates based on comparing the ultimate loss indications from the development methods described above. These loss rates are then trended to the fiscal/event year 2021 level for severity and frequency. We have applied a net trend of 0% for JPL. The trend rates were selected based on Company historical data and our knowledge of recent industry development for the type of risk exposure. The selected expected loss rate at the fiscal year 2021 level was also de-trended to the respective accident period to derive the a priori loss rate estimate by year. The a priori loss estimate was then calculated as the a priori loss rate for each year multiplied by the exposure base (number of judges). Ultimate losses were derived by multiplying the percent unreported (or unpaid) for each accident year, based on our selected patterns, by the a priori loss estimate, and adding reported (or paid) to date. Thus, this method relies more heavily on the exposure to loss, and our initial expectations, for accident periods where there has not yet been a considerable amount of loss reported (or paid).

For ALAE, a similar procedure was utilized where an expected developed ultimate ALAE was selected based on historical event years’ development methods mentioned above, coupled with a review of an a-priori ultimate ALAE to ultimate loss rate. The selected expected ALAE at the fiscal year 2021 level was de-trended to the respective event period to derive the a priori ALAE estimate by year. Exhibits Judges Professional/ Employment-11 through 13 contain backup and details on these methods.

Ultimate loss and ALAE were selected for each period by giving different weights to the indications produced by the methods described above and detailed further in Section VII. The weights were selected based on actuarial judgement. In general, for immature accident periods, more weight was given to methods that incorporate expectations, such as the BF methods. As accident periods mature, and more claims for that period are reported to date, more weight was given to paid and incurred development methods. Exhibit Judges Professional/ Employment-5 and 15 display indicated ultimate loss and ALAE from each actuarial method, along with our selected ultimate loss and ALAE.

The ultimate loss and ALE projection for the upcoming fiscal/event year beginning July 1, 2020 through June 30, 2021 was established using the a-priori ALAE selected for the BF method. The initial selected expected ALAE at fiscal/accident year 2021 level was used as the expectation for ultimate ALAE for the Program for the upcoming year.

#### **Actual versus expected analysis ("AvE")**

As part of our review, we have performed hindsight analyses for fiscal/event periods 2019 and prior, by comparing the actual paid and incurred loss emergence since the prior year review at March 31, 2019, to what the expected loss emergence was based on the incurred and paid loss development patterns selected at the time of the prior review. We used this comparison of actual loss development versus expected loss development as a reasonability check for the changes in our current year selected ultimate losses compared to the prior year's selected ultimate losses for all accident periods 2019 and prior

For Professional Liability, incurred loss and ALAE emerged by \$42K more than expected while paid loss and ALAE emerged by \$32K more than expected on fiscal/event years 2019 and prior. This slight adverse emergence on both an incurred and paid basis is driven by higher than expected development in fiscal year 2019 offset by lower than expected development in fiscal years 2018 and prior. Our revised ultimate loss estimates imply an increase in estimates on those same years of \$60K, which reflects the observed adverse emergence. For Employment Practices, incurred loss and ALAE emerged by \$13K more than expected and paid loss and ALAE emerged by \$50K more than expected on fiscal/event years 2019 and prior. This adverse emergence is primarily driven by fiscal year 2016 for which the Company incurred higher than average legal expenses over the year. Our estimates imply an increase in estimates on those same years of \$9K, which reflects the observed adverse emergence. For Disciplinary, incurred ALAE emerged by \$40K less than expected and paid ALAE emerged by \$35K less than expected on fiscal/event years 2019 and prior. This favorable emergence was driven by all fiscal years 2016 through 2019. Our estimates imply a decrease in estimates on those same years of \$53K, which reflects the favorable emergence. The actual versus expected diagnostic is also displayed on Exhibits 21 and 22 for each of the Professional and Employment sections of the report and Exhibits 13 and 14 for the Disciplinary section of the report.

#### **Prospective period estimates**

The ultimate loss estimate for the next fiscal accident year beginning July 1, 2020 through June 30, 2021 was established using the a-priori loss rate selected for the BF method. The initial selected expected losses at fiscal accident year 2021 level was selected under the assumption that the exposure (number of judges) to be covered under the Program for the upcoming year would be relatively stable. A second assumption is that the same level of coverage and limits would be offered for the upcoming fiscal/event year. The estimates are summarized on Exhibit Judges Summary-1. The estimates by coverage are included within the underlying Bornhuetter-Ferguson exhibits for Professional, Employment, and Disciplinary. Hotline costs are also included within the loss and ALAE estimates and are discussed below.

## Discounting

Estimates for the outstanding liability and the ultimate loss for the prospective year are presented on a discounted basis to reflect the time value of money. Exhibit 2 for each of the Professional and Employment sections of the report show the calculation for the unpaid claims liability. Exhibit Judges Summary-1 shows the calculation for the fiscal/event year 2020. EY utilized a discount rate of 2.0%, supplied to us by the ORM, and the annual payment pattern implied by our paid loss development factor selections to discount future cash flows from reserves to 3/31/2020, and the future payments associated with the ultimate loss and ALAE of the prospective period back to July 1, 2020 (the beginning of that period). When necessary, interpolation was used to develop cumulative loss development factors at interim ages/maturities not explicitly selected in our analyses.

We make note that actual future rates of return may be greater than or less than the rate of 2.0% supplied to us by the ORM. Additionally, the actual timing of claim payments emanating from the reserves and ultimate loss at 3/31/2020 may be different than the expected timing that is underlying the discounted estimates. An appropriate discount rate should reflect the expected returns on invested assets of similar size and duration as the claim payments, as well as the uncertainty associated with future returns and the timing and amount of eventual payments. An examination of the assets of the Fund and an evaluation of the reasonableness of the discount rate assumption of 2.0% were beyond the scope of the assignment and we are therefore unable to comment on the reasonableness of this assumption. We note that the comparable duration-matched risk-free rate is 0.24% on the U.S. treasury yield curve rates as of March 31, 2020 based on an estimated duration of payments of 2.2 years, which reflects the lower U.S. treasury yield curve compared to prior years resulting from actions taken by the Federal Reserve to stimulate the economy after the financial downturn from COVID-19.

## Other expenses

The Supreme Court previously paid the hotline costs directly, so limited data is available from ORM for our actuarial analysis. ORM now pays the hotline costs directly, up to the allotted limit per court and judge, so it needs to be included as part of the premium to be charged to the Supreme Court. These costs are treated as an expense and not as a liability. These hotline charges are separate from, and cannot be allocated to, the claims as the idea is for the judge, or the court, to call the hotline for advice as a means of preventing a claim. We took into account the fact that each judge is allotted 5 hours, and in addition each court has 10 allotted hours, per year to utilize the hot line. There are two law firms, with varying rates per hour, that participate in offering the legal advice for the hot line. As there is no liability associated with these expenses, estimates have only been made for the prospective period.

We estimated the annual hotline expense by reviewing the historical paid expense data as of March 31, 2020 including annualizing the 2020 fiscal/event year to a full year. This estimate was added to the loss and ALAE estimate for the upcoming fiscal/event year.

## 4. Assumptions

We relied on aggregated industry data to supplement our analysis due to the lack of credible history of the Program's businesses. This included industry incurred and paid loss development patterns compiled from experience from several companies that specialize in legal professional liability. We also relied on a discount rate of 2.0% provided by ORM.

The industry data were obtained from aggregated lawyers professional liability data available through an insurance industry data aggregator as of December 31, 2019. Exhibits Judges Professional/ Employment-7 and Judges Professional/ Employment-9 display the resulting paid and incurred loss & ALAE emergence patterns we selected based on the data. The companies that were included are listed below:

- ▶ Attorneys Insurance Mutual of the South, Inc., RRG (AL, TN)
- ▶ Bar Plan Mutual Insurance Company (MO, KS, IN, NM, TN)
- ▶ Florida Lawyers Mutual Insurance Company
- ▶ IL State Bar Association Mutual Insurance Company
- ▶ Lawyers Mutual Liability Insurance Company of North Carolina
- ▶ Lawyers Mutual Insurance Company of Kentucky

- ▶ Lawyers' Mutual Insurance Company (California)
- ▶ Minnesota Lawyers Mutual Insurance Company
- ▶ Ohio Bar Liability Insurance Company
- ▶ Oklahoma Attorneys Mutual Insurance Company
- ▶ Texas Lawyers' Insurance Exchange
- ▶ Wisconsin Lawyers Mutual Insurance Company

## VII. Description of methods

### Loss development methods

The reported (case incurred) loss and ALAE (“losses”) development method relies on the assumption that, at any given state of maturity, ultimate losses can be predicted by multiplying cumulative reported losses (paid losses plus case OS) by a cumulative development factor. The validity of the results of this method depends on the stability of claim reporting and settlement rates, as well as the consistency of case OS levels. Case OS do not have to be adequately stated for this method to be effective; they only need to have a fairly consistent level of adequacy at all stages of maturity.

Historical “age-to-age” loss development factors (“LDFs”) were calculated to measure the relative development of an accident year from one maturity point to the next. We then indicated appropriate age-to-age LDFs based on these historical factors. We used the indicated factors to project the ultimate losses.

The paid loss development method is mechanically identical to the incurred loss development method described above. The paid method does not rely on case OS or claim reporting patterns in making projections.

The validity of the results from using a loss development approach can be affected by many conditions, such as internal claim department processing changes, a shift between single and multiple payments per claim, legal changes, or variations in a company’s mix of business from year to year. Also, since the percentage of losses paid for immature years is often low, development factors are volatile. A small variation in the number of claims paid can have a leveraging effect that can lead to significant changes in estimated ultimates. Therefore, ultimate values for immature accident years are often based on alternative estimation techniques.



### **Bornhuetter-Ferguson expected loss projection methods**

The Bornhuetter-Ferguson expected loss and ALAE (“losses”) projection method based on reported loss data relies on the assumption that remaining unreported losses are a function of the total expected losses rather than a function of currently reported losses. The expected losses used in this analysis are based on the ultimate estimates of older accident years. The expected losses are multiplied by the unreported percentage to produce expected unreported losses. The unreported percentage is calculated as one minus the reciprocal of the indicated cumulative incurred LDFs. Finally, the expected unreported losses are added to the current reported losses to produce ultimate losses.

The calculations underlying the Bornhuetter-Ferguson expected loss projection method based on paid loss data are similar to the incurred Bornhuetter-Ferguson calculations with the exception that paid losses and unpaid percentages replace reported losses and unreported percentages.

The Bornhuetter-Ferguson method is most useful as an alternative to other models for immature accident years. For these immature years, the amounts reported or paid may be small and unstable and therefore not predictive of future development. Therefore, future development is assumed to follow an expected pattern that is supported by more stable historical data or by emerging trends. This method is also useful when changing reporting patterns or payment patterns distort historical development of losses.

Similar to the development methods, the Bornhuetter-Ferguson method may be applied to loss and ALAE on a combined or separate basis.

### **Expected loss projection methods**

The expected loss projection method utilizes only the a-priori expected loss to determine ultimate loss. The expected losses used in this analysis are based on the ultimate estimates of older accident years. The initial selected expected loss is selected as the ultimate loss.

This technique is most often used when there is a lack of appropriate past claims occurrence data due to change in product mix, low volumes of past data, or when there is little to no amount of loss reported to date for immature years on longer-tailed lines.

## VIII. Exhibits

### Summary Exhibits: Contains all coverages

Exhibit Judges Liability Summary-1: Estimate for 7/1/2020-6/30/2021

Exhibit Judges Liability Summary-2: Hotline Expenses

Exhibit Judges Liability Summary-3: Range Summary

Exhibit Judges Liability Summary-4: Change in Ultimate Estimates

### Professional and Employment Exhibits:

Exhibit Judges Professional/Employment-1: Range Summary

Exhibit Judges Professional/Employment-2: Payout of Unpaid Claim Liabilities as of 3/31/2020

Exhibit Judges Professional/Employment-3: Loss + ALAE Reserves

Exhibit Judges Professional/Employment-4: Summary of Loss Reserves

Exhibit Judges Professional/Employment-5: Summary of Ultimate Loss Estimates

Exhibit Judges Professional/Employment-6: Paid Loss Development Method

Exhibit Judges Professional/Employment-7: Industry Paid Loss Triangle

Exhibit Judges Professional/Employment-8: Incurred Loss Development Method

Exhibit Judges Professional/Employment-9: Industry Incurred Loss Triangle

Exhibit Judges Professional/Employment-10: Incurred IBNR to Case Development Method for Loss

Exhibit Judges Professional/Employment-11: Bornhuetter-Ferguson Method using Paid Loss

Exhibit Judges Professional/Employment-12: Bornhuetter-Ferguson Method using Incurred Loss

Exhibit Judges Professional/Employment-13: Loss Rate Helper: Selection for Bornhuetter-Ferguson Method

Exhibit Judges Professional/Employment-14: Summary of ALAE Reserves

Exhibit Judges Professional/Employment-15: Comparison of Ultimate ALAE Estimates

Exhibit Judges Professional/Employment-16: Paid ALAE Development Method

Exhibit Judges Professional/Employment-17: Incurred ALAE Development Method

Exhibit Judges Professional/Employment-18: Bornhuetter-Ferguson Method Using Paid ALAE

Exhibit Judges Professional/Employment-19: Bornhuetter-Ferguson Method Using Incurred ALAE

Exhibit Judges Professional/Employment-20: Loss Rate Helper: Selection for Bornhuetter-Ferguson Method - ALAE

Exhibit Judges Professional/Employment-21: Actual vs Expected - Incurred Loss & ALAE

Exhibit Judges Professional/Employment-22: Actual vs Expected - Paid Loss & ALAE

**Disciplinary Exhibits:**

Exhibit Judges Disciplinary-1: Range Summary

Exhibit Judges Disciplinary-2: Payout of Unpaid Claim Liabilities as of 3/31/2020

Exhibit Judges Disciplinary-3: ALAE Reserves

Exhibit Judges Disciplinary-4: Summary of ALAE Reserves

Exhibit Judges Disciplinary-5: Comparison of Ultimate ALAE Estimates

Exhibit Judges Disciplinary-6: Paid ALAE Development Method

Exhibit Judges Disciplinary-7: Paid ALAE Triangle

Exhibit Judges Disciplinary-8: Incurred ALAE Development Method

Exhibit Judges Disciplinary-9: Incurred ALAE Triangle

Exhibit Judges Disciplinary-10: Bornhuetter-Ferguson Method Using Paid ALAE

Exhibit Judges Disciplinary-11: Bornhuetter-Ferguson Method Using Incurred ALAE

Exhibit Judges Disciplinary-12: Loss Rate Helper: Selection for Bornhuetter-Ferguson Method - ALAE

Exhibit Judges Disciplinary-13: Actual vs Expected - Incurred ALAE

Exhibit Judges Disciplinary-14: Actual vs Expected - Paid ALAE

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program Total  
 March 31, 2020

Estimated Loss & ALAE for Annual Period 7/1/2020-6/30/2021 (Including Hotline Expenses)

	Professional	Employment	Total Undiscounted	
(1) Expected Loss	-	96,221	96,221	
(2) Expected ALAE	142,952	122,579	265,531	
(3) Expected Disciplinary			108,379	
(4) Expected Hotline			52,000	
(5) Total Loss and ALAE (Including Hotline Expenses)			522,132	

Period	Payout % (6)	Payout \$ (7)	Discounted @ 2.0% (8)
Paid 7/1/2020-6/30/2021	12.3%	64,402	63,768
Paid 7/1/2021-6/30/2022	30.4%	158,589	153,948
Paid 7/1/2022-6/30/2023	22.9%	119,388	113,621
Paid 7/1/2023-6/30/2024	12.9%	67,161	62,664
Paid 7/1/2024-6/30/2025	8.3%	43,254	39,566
Paid 7/1/2025-6/30/2026	5.1%	26,670	23,917
Paid 7/1/2026-6/30/2027	3.3%	17,401	15,299
Paid 7/1/2027-6/30/2028	4.8%	25,267	21,780
Total Loss and ALAE (Including Hotline Expenses)		522,132	494,563

Notes:

- (1) Exhibit Judges Professional-3, Employment-3
- (2) Exhibit Judges Professional-3, Employment-3
- (3) Exhibit Judges Disciplinary-9
- (4) Exhibit Judges Liability Summary-2

- (5) = (1) + (2) + (3) + (4)
- (6) Exhibit Judges Professional-7
- (7) = (5) x (6)
- (8) Discounted (7)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program Total  
March 31, 2020  
Hotline Expenses

Event Year	Exposure (# Judges) (1)	Hotline			Total Hotline (5)	Hotline Per Judge (6)
		Professional (2)	Employment (3)	Disciplinary (4)		
9/1/2013-8/31/2014						
9/1/2014-8/31/2015						
9/1/2015-6/30/2016	853	13,558	46,269	2,180	62,008	72.7
7/1/2016-6/30/2017	853	11,918	78,907	1,785	92,610	108.6
7/1/2017-6/30/2018	853	2,503	30,367	5,089	37,959	44.5
7/1/2018-6/30/2019	862	4,729	25,940	8,072	38,741	44.9
7/1/2019-3/31/2020	856	1,566	16,010	3,835	21,410	25.0
7/1/2019 Annualized	856	2,087	21,347	5,113	28,547	33.3
Annual Average	856				51,973	60.7
7/1/2020 Projected	856				52,000	60.7

Notes:

(1) - (4) Provided by Client

(5) = (2) + (3) + (4); EY Select for 7/1/2020 Projected

(6) = (5) / (1)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program Total  
March 31, 2020  
**Range Summary**

<b>(1) Undiscounted</b>	Low	ACE	High
Professional Liability	184,194	219,248	263,238
Employment Practices	308,889	373,799	436,768
Disciplinary	68,938	84,736	100,788
<b>Total</b>	<b>562,021</b>	<b>677,782</b>	<b>800,794</b>

<b>(2) Discounted at 2.0%</b>	Low	ACE	High
Professional Liability	176,618	210,230	252,410
Employment Practices	296,184	358,424	418,804
Disciplinary	67,087	82,461	98,082
<b>Total</b>	<b>539,889</b>	<b>651,114</b>	<b>769,297</b>

**Notes:**

(1) From Exhibit 1 for each coverage

(2) From Exhibit 1 for each coverage

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program Total  
March 31, 2020  
Change in Ultimate Estimates

EY Analysis as of 3/31/2020

Accident Period	Professional Ultimate	Professional Ultimate	Employment Ultimate	Employment Ultimate	Disciplinary Ultimate	Disciplinary Ultimate	Total Ultimate	Total Ultimate	Total Ultimate
	Loss (1)	ALAE (2)	Loss (3)	ALAE (4)	Loss (5)	ALAE (6)	Loss (7)	ALAE (8)	Loss & ALAE (9)
9/1/2011-8/31/2012	0	0	55,000	0	0	0	55,000	0	55,000
9/1/2012-8/31/2013	0	1,627	20,000	6	0	0	20,000	1,633	21,633
9/1/2013-8/31/2014	0	0	10,000	0	0	0	10,000	0	10,000
9/1/2014-8/31/2015	0	1,354	32,481	3,922	0	0	32,481	5,276	37,757
9/1/2015-6/30/2016	1,000	77,891	112,278	63,588	0	36,582	113,278	178,061	291,339
7/1/2016-6/30/2017	1,000	136,262	23,198	131,353	0	155,300	24,198	422,916	447,113
7/1/2017-6/30/2018	4,000	109,735	107,962	122,487	0	86,639	111,962	318,861	430,823
7/1/2018-6/30/2019	15,000	211,015	73,324	121,503	0	80,308	88,324	412,827	501,151
7/1/2019-6/30/2020	30,667	145,428	159,320	130,423	0	121,233	189,987	397,085	587,071
7/1/2020-6/30/2021	0	142,952	96,221	122,579	0	108,379	96,221	373,910	470,132
<b>Total</b>	<b>51,667</b>	<b>826,264</b>	<b>689,784</b>	<b>695,862</b>	<b>0</b>	<b>588,442</b>	<b>741,450</b>	<b>2,110,568</b>	<b>2,852,018</b>
Total x7/1/2020-6/30/2021	51,667	683,312	593,562	573,283	0	480,063	645,229	1,736,658	2,381,887

Prior EY Analysis as of 3/31/2019

Accident Period	Professional Ultimate	Professional Ultimate	Employment Ultimate	Employment Ultimate	Disciplinary Ultimate	Disciplinary Ultimate	Total Ultimate	Total Ultimate	Total Ultimate
	Loss (10)	ALAE (11)	Loss (12)	ALAE (13)	Loss (14)	ALAE (15)	Loss (16)	ALAE (17)	Loss & ALAE (18)
9/1/2011-8/31/2012	0	0	55,000	0	0	0	55,000	0	55,000
9/1/2012-8/31/2013	0	1,632	20,000	6	0	0	20,000	1,638	21,638
9/1/2013-8/31/2014	0	0	10,000	0	0	0	10,000	0	10,000
9/1/2014-8/31/2015	0	1,377	32,481	3,987	0	0	32,481	5,363	37,844
9/1/2015-6/30/2016	8,000	79,687	97,234	38,085	0	37,480	105,234	155,253	260,487
7/1/2016-6/30/2017	1,000	137,288	52,298	122,724	0	165,692	53,298	425,705	479,003
7/1/2017-6/30/2018	11,000	129,350	107,818	144,302	0	102,261	118,818	375,913	494,730
7/1/2018-6/30/2019	22,667	149,806	77,947	105,798	0	106,814	100,614	362,418	463,032
7/1/2019-6/30/2020	0	133,610	87,924	122,404	0	107,750	87,924	363,764	451,688
7/1/2020-6/30/2021									
<b>Total</b>	<b>42,667</b>	<b>632,751</b>	<b>540,701</b>	<b>537,307</b>	<b>0</b>	<b>519,997</b>	<b>583,368</b>	<b>1,690,055</b>	<b>2,273,422</b>

Change in Ultimate Estimates

Accident Period	Professional Ultimate	Professional Ultimate	Employment Ultimate	Employment Ultimate	Disciplinary Ultimate	Disciplinary Ultimate	Total Ultimate	Total Ultimate	Total Ultimate
	Loss (19)	ALAE (20)	Loss (21)	ALAE (22)	Loss (23)	ALAE (24)	Loss (25)	ALAE (26)	Loss & ALAE (27)
9/1/2011-8/31/2012	0	0	0	0	0	0	0	0	0
9/1/2012-8/31/2013	0	(5)	0	(0)	0	0	0	(5)	(5)
9/1/2013-8/31/2014	0	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	0	(22)	0	(65)	0	0	0	(87)	(87)
9/1/2015-6/30/2016	(7,000)	(1,796)	15,044	25,503	0	(899)	8,044	22,808	30,852
7/1/2016-6/30/2017	0	(1,026)	(29,100)	8,629	0	(10,392)	(29,100)	(2,790)	(31,889)
7/1/2017-6/30/2018	(7,000)	(19,616)	144	(21,814)	0	(15,622)	(6,856)	(57,052)	(63,908)
7/1/2018-6/30/2019	(7,667)	61,209	(4,623)	15,705	0	(26,505)	(12,290)	50,409	38,119
7/1/2019-6/30/2020	30,667	11,818	71,396	8,019	0	13,483	102,063	33,321	135,383
7/1/2020-6/30/2021									
<b>Total</b>	<b>9,000</b>	<b>50,561</b>	<b>52,861</b>	<b>35,976</b>	<b>0</b>	<b>(39,935)</b>	<b>61,861</b>	<b>46,603</b>	<b>108,464</b>

Note:  
(1)-(9) EY Analysis  
(10)-(18) Prior EY Analysis  
(19)-(27) EY Analysis - Prior EY Analysis

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
**Range Summary**

	Unpaid Claims Liability		
	Low	ACE	High
(1) Undiscounted	308,889	373,799	436,768
(2) Discounted at 2.0%	296,184	358,424	418,804

Notes:

(1) *Exhibit Judges Employment-4 + Exhibit Judges Employment-14*

(2) *Exhibit Judges Employment-2*

*Low and High discounted based on average discount for ACE*



State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
Payout of Unpaid Claim Liabilities as of 3/31/2020

Accident Period	Loss & ALAE Reserve @ 03/31/20 (1)	Payments in Calendar Period										
		3/31/20-21	3/31/21-22	3/31/22-23	3/31/23-24	3/31/24-25	3/31/25-26	3/31/26-27	3/31/27-28	3/31/28-29	3/31/29-30	3/31/30-31
9/1/2011-8/31/2012	-	-	-	-	-	-	-	-	-	-	-	-
9/1/2012-8/31/2013	0	0	0	0	0	0	0	-	-	-	-	-
9/1/2013-8/31/2014	-	-	-	-	-	-	-	-	-	-	-	-
9/1/2014-8/31/2015	64	26	16	10	5	5	2	0	-	-	-	-
9/1/2015-6/30/2016	42,592	16,482	10,420	6,629	4,207	2,148	1,993	668	46	-	-	-
7/1/2016-6/30/2017	13,034	5,021	3,103	1,968	1,253	795	392	395	108	-	-	-
7/1/2017-6/30/2018	51,144	20,543	11,789	7,285	4,621	2,941	1,866	920	927	254	-	-
7/1/2018-6/30/2019	108,521	46,317	24,985	14,338	8,860	5,620	3,577	2,269	1,118	1,127	309	-
7/1/2019-6/30/2020	158,443	30,002	54,820	29,571	16,971	10,486	6,651	4,234	2,685	1,324	1,334	366
(2) Calendar Year Payments	<b>373,799</b>	118,390	105,132	59,802	35,916	21,995	14,480	8,485	4,884	2,705	1,643	366
(3) Duration of Payment		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5
(4) Discount Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
(5) Discounted Payments	<b>358,424</b>	117,224	102,055	56,913	33,511	20,119	12,986	7,460	4,210	2,286	1,361	297

## Notes:

- (1) Exhibit Judges Employment-3  
(2) Total of Calendar Year Payments  
(3) Age of Payments in Years

- (4) Provided by Client  
(5) = (2) / [ 1 + (4) ] ^ (3)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Reserves**

Accident Period	Loss Reserve (1)	ALAE Reserve (2)	Loss + ALAE Reserve (3)
9/1/2011-8/31/2012	0	0	0
9/1/2012-8/31/2013	0	0	0
9/1/2013-8/31/2014	0	0	0
9/1/2014-8/31/2015	0	64	64
9/1/2015-6/30/2016	25,000	17,592	42,592
7/1/2016-6/30/2017	5,500	7,534	13,034
7/1/2017-6/30/2018	33,460	17,685	51,144
7/1/2018-6/30/2019	62,324	46,197	108,521
7/1/2019-6/30/2020	99,490	58,953	158,443
Total	225,774	148,025	373,799
	Ultimate Loss	Ultimate ALAE	Loss + ALAE
7/1/2020-6/30/2021	96,221	122,579	218,800

**Notes:**

(1) Exhibit Judges Employment-4

(2) Exhibit Judges Employment-14

(3) = (1) + (2)

\* Partial year estimate as of 3/31/2020

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
Summary of Loss Reserves

Accident Period	Paid (1)	Incurred (2)	Selected Ultimate (3)	Case Reserve (4)	IBNR Reserve (5)	EY ACE Loss Reserve (6)	Low Reserves (7)	High Reserves (8)
9/1/2011-8/31/2012	55,000	55,000	55,000	0	0	0	0	0
9/1/2012-8/31/2013	20,000	20,000	20,000	0	0	0	0	0
9/1/2013-8/31/2014	10,000	10,000	10,000	0	0	0	0	0
9/1/2014-8/31/2015	32,481	32,481	32,481	0	0	0	0	0
9/1/2015-6/30/2016	87,278	112,278	112,278	25,000	0	25,000	21,336	25,000
7/1/2016-6/30/2017	17,698	17,698	23,198	0	5,500	5,500	611	10,388
7/1/2017-6/30/2018	74,502	97,002	107,962	22,500	10,960	33,460	28,787	38,132
7/1/2018-6/30/2019	11,000	50,250	73,324	39,250	23,074	62,324	54,734	69,914
7/1/2019-6/30/2020	20,000	110,000	119,490	90,000	9,490	99,490	79,782	119,198
Total	327,959	504,709	553,732	176,750	49,024	225,774	185,250	262,633

Notes:

(1) Exhibit Judges Employment-6

(2) Exhibit Judges Employment-8

(3) EY Select - latest year is a partial year estimate

(4) = (2) - (1)

(5) = (3) - (2)

(6) = (4) + (5)

(7) EY Select - latest year is a partial year estimate

(8) EY Select - latest year is a partial year estimate

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
 Comparison of Ultimate Loss Estimates

Accident Period	Paid Development (1)	Incurred Development (2)	Paid B-F (3)	Incurred B-F (4)	IBNR to Case OS (5)	Average (6)	Prior Selected (7)	EY Selected (8)	Low Estimate (9)	High Estimate (10)
9/1/2011-8/31/2012	56,098	55,051	56,876	55,088	55,000	55,623	55,000	55,000	55,000	55,000
9/1/2012-8/31/2013	20,752	20,069	23,474	20,330	20,000	20,925	20,000	20,000	20,000	20,000
9/1/2013-8/31/2014	10,667	10,073	15,999	10,696	10,000	11,487	10,000	10,000	10,000	10,000
9/1/2014-8/31/2015	36,239	33,022	42,425	34,051	32,481	35,644	32,481	32,481	32,481	32,481
9/1/2015-6/30/2016	104,186	116,071	102,839	115,411	118,580	111,417	97,234	112,278	108,614	112,278
7/1/2016-6/30/2017	23,670	18,775	41,890	23,198	17,698	25,046	52,298	23,198	18,309	28,086
7/1/2017-6/30/2018	128,824	109,521	114,934	107,962	105,369	113,322	107,818	107,962	103,289	112,635
7/1/2018-6/30/2019	41,612	65,956	82,282	73,324	69,036	66,442	77,947	73,324	65,734	80,914
7/1/2019-6/30/2020	216,195	225,674	107,320	159,320	226,812	187,064	87,924	159,320	133,043	185,598
7/1/2020-6/30/2021								96,221		
<b>Total</b>								689,784		
Total x 7/1/2020-6/30/2021	638,244	654,211	588,039	599,381	654,977	626,970	540,701	593,562	546,470	636,991

Notes:

- (1) Exhibit Judges Employment-6
- (2) Exhibit Judges Employment-8
- (3) Exhibit Judges Employment-11
- (4) Exhibit Judges Employment-12
- (5) Exhibit Judges Employment-10
- (6) Average (1) through (5)
- (7) Prior EY Select
- (8) EY Select
- (9) EY Select
- (10) EY Select

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Paid Loss Development Method**

Accident Period	Paid Loss (1)	Factor to Ultimate (2)	Ultimate Loss (3)
9/1/2011-8/31/2012	55,000	1.020	56,098
9/1/2012-8/31/2013	20,000	1.038	20,752
9/1/2013-8/31/2014	10,000	1.067	10,667
9/1/2014-8/31/2015	32,481	1.116	36,239
9/1/2015-6/30/2016	87,278	1.194	104,186
7/1/2016-6/30/2017	17,698	1.337	23,670
7/1/2017-6/30/2018	74,502	1.729	128,824
7/1/2018-6/30/2019	11,000	3.783	41,612
7/1/2019-6/30/2020	20,000	10.810	216,195
Total	327,959		638,244

Notes:(1) *Provided by Client*(2) *Exhibit Judges Employment-7*

(3) = (1) x (2)

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 December 31, 2019  
 Industry Paid Loss

Accident Period	Months of Development									
	12	24	36	48	60	72	84	96	108	120
1998										60,146
1999									62,233	62,250
2000								64,088	65,945	66,077
2001							49,418	50,390	53,479	54,152
2002						52,421	54,273	55,455	55,814	56,854
2003					67,485	75,358	77,188	78,539	79,593	79,720
2004				85,089	92,113	97,212	99,694	102,441	103,590	103,859
2005			61,909	76,348	90,087	97,411	99,692	100,666	101,399	102,053
2006		41,768	65,300	75,631	83,781	87,214	89,970	92,365	93,692	94,290
2007	12,541	50,535	78,001	94,293	104,499	112,684	115,098	119,107	120,247	120,447
2008	15,951	53,215	78,186	93,814	107,573	114,897	122,086	125,713	125,719	127,812
2009	12,925	46,289	73,577	90,678	98,265	101,455	108,640	111,064	112,424	112,609
2010	13,294	46,983	69,286	81,711	90,920	94,573	98,268	99,150	101,660	101,776
2011	14,578	45,394	77,384	92,287	102,666	106,048	110,097	111,472	112,216	
2012	13,454	45,913	68,835	80,119	88,039	92,535	94,258	97,052		
2013	11,503	37,565	61,172	71,673	76,500	79,145	82,008			
2014	12,484	41,282	62,942	76,053	82,166	89,415				
2015	11,100	37,529	55,995	67,473	72,610					
2016	12,123	52,228	78,301	93,795						
2017	10,947	40,364	58,697							
2018	14,429	40,525								
2019	13,757									

Accident Period	Development Factors									
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132
1998										
1999									1.000	
2000								1.029	1.002	
2001							1.020	1.061	1.013	
2002						1.035	1.022	1.006	1.019	
2003					1.117	1.024	1.018	1.013	1.002	
2004				1.083	1.055	1.026	1.028	1.011	1.003	
2005			1.233	1.180	1.081	1.023	1.010	1.007	1.006	
2006		1.563	1.158	1.108	1.041	1.032	1.027	1.014	1.006	
2007	4.030	1.544	1.209	1.108	1.078	1.021	1.035	1.010	1.002	
2008	3.336	1.469	1.200	1.147	1.068	1.063	1.030	1.000	1.017	
2009	3.581	1.590	1.232	1.084	1.032	1.071	1.022	1.012	1.002	
2010	3.534	1.475	1.179	1.113	1.040	1.039	1.009	1.025	1.001	
2011	3.114	1.705	1.193	1.112	1.033	1.038	1.012	1.007		
2012	3.413	1.499	1.164	1.099	1.051	1.019	1.030			
2013	3.266	1.628	1.172	1.067	1.035	1.036				
2014	3.307	1.525	1.208	1.080	1.088					
2015	3.381	1.492	1.205	1.076						
2016	4.308	1.499	1.198							
2017	3.687	1.454								
2018	2.809									
Avg All	3.480	1.537	1.196	1.105	1.060	1.036	1.022	1.016	1.006	
Avg 5	3.498	1.520	1.189	1.087	1.049	1.041	1.021	1.011	1.005	
5 Yr Avg Ex Hi/Lo	3.458	1.505	1.192	1.085	1.042	1.038	1.021	1.009	1.003	
Wtd Avg All	3.462	1.535	1.196	1.106	1.059	1.036	1.022	1.014	1.006	
Wtd Avg 5	3.470	1.517	1.189	1.089	1.049	1.041	1.021	1.010	1.006	
Wtd Avg 3	3.550	1.483	1.203	1.075	1.058	1.031	1.017	1.014	1.007	
Prior	3.529	1.542	1.196	1.108	1.056	1.036	1.021	1.015	1.006	1.009
Sel LDF	3.462	1.535	1.196	1.106	1.059	1.036	1.022	1.014	1.006	1.008
CDF	8.107	2.341	1.525	1.275	1.153	1.089	1.051	1.028	1.014	1.008

Interpolated CDF	9	21	33	45	56	67	79	91	103	115
Int Exp	11.059	3.194	1.698	1.333	1.192	1.115	1.067	1.038	1.020	1.011
Int Linear	10.810	3.783	1.729	1.337	1.194	1.116	1.067	1.038	1.020	1.011
Select	10.810	3.783	1.729	1.337	1.194	1.116	1.067	1.038	1.020	1.011

Source: Lawyers Professional Liability Benchmark Companies

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Incurred Loss Development Method**

Accident Period	Incurred Loss (1)	Factor to Ultimate (2)	Ultimate Loss (3)
9/1/2011-8/31/2012	55,000	1.001	55,051
9/1/2012-8/31/2013	20,000	1.003	20,069
9/1/2013-8/31/2014	10,000	1.007	10,073
9/1/2014-8/31/2015	32,481	1.017	33,022
9/1/2015-6/30/2016	112,278	1.034	116,071
7/1/2016-6/30/2017	17,698	1.061	18,775
7/1/2017-6/30/2018	97,002	1.129	109,521
7/1/2018-6/30/2019	50,250	1.313	65,956
7/1/2019-6/30/2020	110,000	2.052	225,674
Total	504,709		654,211

Notes:(1) *Provided by Client*(2) *Exhibit Judges Employment-9*

(3) = (1) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
December 31, 2019  
Industry Incurred Loss

Accident Period	Months of Development									
	12	24	36	48	60	72	84	96	108	120
1998										60,932
1999										62,443
2000								65,863	66,235	66,142
2001							53,399	53,332	55,881	56,296
2002						60,090	59,261	58,827	58,878	59,093
2003					76,104	79,753	80,635	80,527	80,351	80,259
2004				103,555	105,745	108,139	105,413	105,343	105,652	105,881
2005			88,583	92,218	103,437	102,676	102,702	102,903	102,865	102,972
2006		80,990	96,915	96,217	92,373	93,130	93,022	94,293	94,726	95,021
2007	69,610	95,785	107,563	115,999	118,674	118,845	121,883	122,562	121,383	121,237
2008	73,023	99,054	109,751	116,431	122,719	126,456	128,070	128,052	127,202	128,747
2009	67,068	92,664	104,697	107,922	110,746	114,722	114,536	113,515	113,693	114,233
2010	72,665	87,873	95,214	99,430	100,215	100,780	100,500	101,040	102,666	102,542
2011	68,927	85,237	103,128	111,894	111,205	111,320	114,989	115,339	115,474	
2012	71,674	83,664	93,368	96,312	98,870	97,278	98,220	99,490		
2013	61,740	75,438	85,898	85,007	84,139	86,521	86,512			
2014	66,086	80,024	88,422	89,844	92,218	95,302				
2015	58,749	69,673	78,927	81,212	84,298					
2016	70,484	87,720	102,201	109,330						
2017	64,581	78,709	84,879							
2018	63,960	69,770								
2019	76,690									

Accident Period	Development Factors									
	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132
1998										
1999									0.997	
2000								1.006	0.999	
2001							0.999	1.048	1.007	
2002						0.986	0.993	1.001	1.004	
2003					1.048	1.011	0.999	0.998	0.999	
2004				1.021	1.023	0.975	0.999	1.003	1.002	
2005			1.041	1.122	0.993	1.000	1.002	1.000	1.001	
2006		1.197	0.993	0.960	1.008	0.999	1.014	1.005	1.003	
2007	1.376	1.123	1.078	1.023	1.001	1.026	1.006	0.990	0.999	
2008	1.356	1.108	1.061	1.054	1.030	1.013	1.000	0.993	1.012	
2009	1.382	1.130	1.031	1.026	1.036	0.998	0.991	1.002	1.005	
2010	1.209	1.084	1.044	1.008	1.006	0.997	1.005	1.016	0.999	
2011	1.237	1.210	1.085	0.994	1.001	1.033	1.003	1.001		
2012	1.167	1.116	1.032	1.027	0.984	1.010	1.013			
2013	1.222	1.139	0.990	0.990	1.028	1.000				
2014	1.211	1.105	1.016	1.026	1.033					
2015	1.186	1.133	1.029	1.038						
2016	1.245	1.165	1.070							
2017	1.219	1.078								
2018	1.091									
Avg All	1.242	1.132	1.039	1.024	1.016	1.004	1.002	1.005	1.002	
Avg 5	1.190	1.124	1.027	1.015	1.010	1.008	1.002	1.001	1.004	
5 Yr Avg Ex Hi/Lo	1.205	1.125	1.026	1.016	1.012	1.003	1.003	0.999	1.002	
Wtd Avg All	1.244	1.132	1.041	1.024	1.015	1.005	1.002	1.003	1.002	
Wtd Avg 5	1.192	1.125	1.029	1.014	1.009	1.008	1.002	1.000	1.004	
Wtd Avg 3	1.187	1.127	1.040	1.018	1.014	1.016	1.007	1.006	1.006	
Prior	1.257	1.136	1.038	1.023	1.014	1.005	1.003	1.001	1.000	
Sel LDF	1.244	1.132	1.041	1.024	1.015	1.005	1.003	1.002	1.000	1.000
CDF	1.539	1.237	1.093	1.050	1.026	1.010	1.005	1.002	1.000	1.000

Interpolated CDF	9	21	33	45	56	67	79	91	103	115
Int Exp	1.625	1.307	1.127	1.061	1.034	1.017	1.007	1.003	1.001	1.000
Int Linear	2.052	1.313	1.129	1.061	1.034	1.017	1.007	1.003	1.001	1.000
Select	2.052	1.313	1.129	1.061	1.034	1.017	1.007	1.003	1.001	1.000

Source: Lawyers Professional Liability Benchmark Companies



State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
Incurred IBNR to Case Development Method for Loss

Accident Period	Incurred Loss (1)	Paid Loss (2)	Outstanding Loss (3)	Incurred CDF (4)	Paid CDF (5)	IBNR Factor (6)	IBNR (7)	Ultimate Loss (8)
9/1/2011-8/31/2012	55,000	55,000	0	1.001	1.020	0.049	0	55,000
9/1/2012-8/31/2013	20,000	20,000	0	1.003	1.038	0.105	0	20,000
9/1/2013-8/31/2014	10,000	10,000	0	1.007	1.067	0.131	0	10,000
9/1/2014-8/31/2015	32,481	32,481	0	1.017	1.116	0.188	0	32,481
9/1/2015-6/30/2016	112,278	87,278	25,000	1.034	1.194	0.252	6,303	118,580
7/1/2016-6/30/2017	17,698	17,698	0	1.061	1.337	0.294	0	17,698
7/1/2017-6/30/2018	97,002	74,502	22,500	1.129	1.729	0.372	8,367	105,369
7/1/2018-6/30/2019	50,250	11,000	39,250	1.313	3.783	0.479	18,786	69,036
7/1/2019-6/30/2020	110,000	20,000	90,000	2.052	10.810	1.298	116,812	226,812
<b>Total</b>	<b>504,709</b>	<b>327,959</b>	<b>176,750</b>				<b>150,268</b>	<b>654,977</b>

Notes:

- (1) Exhibit Judges Employment-8  
(2) Exhibit Judges Employment-6  
(3) = (1) - (2)  
(4) Exhibit Judges Employment-8

- (5) Exhibit Judges Employment-6  
(6) =  $(1 - 1 / (4)) / (1 / (4) - 1 / (5))$   
(7) = (3) x (6)  
(8) = (1) + (7)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Paid Loss**

Accident Period	Expected Loss (1)	Paid Factor to Ultimate (2)	Unpaid Percent (3)	Expected Unpaid Loss (4)	Paid Loss (5)	Ultimate Loss (6)
9/1/2011-8/31/2012	95,884	1.020	2.0%	1,876	55,000	56,876
9/1/2012-8/31/2013	95,884	1.038	3.6%	3,474	20,000	23,474
9/1/2013-8/31/2014	95,884	1.067	6.3%	5,999	10,000	15,999
9/1/2014-8/31/2015	95,884	1.116	10.4%	9,945	32,481	42,425
9/1/2015-6/30/2016	95,884	1.194	16.2%	15,561	87,278	102,839
7/1/2016-6/30/2017	95,884	1.337	25.2%	24,192	17,698	41,890
7/1/2017-6/30/2018	95,884	1.729	42.2%	40,432	74,502	114,934
7/1/2018-6/30/2019	96,896	3.783	73.6%	71,282	11,000	82,282
7/1/2019-6/30/2020	96,221	10.810	90.7%	87,320	20,000	107,320
Total	864,305			260,080	327,959	588,039

Notes:

(1) Exhibit Judges Employment-13

(2) Exhibit Judges Employment-6

(3) =  $1 - 1 / (2)$ 

(4) = (1) x (3)

(5) Exhibit Judges Employment-6

(6) = (4) + (5)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Incurred Loss**

Accident Period	Expected Loss (1)	Incurred Factor to Ultimate (2)	Unreported Percent (3)	Expected Unreported Loss (4)	Incurred Loss (5)	Ultimate Loss (6)
9/1/2011-8/31/2012	95,884	1.001	0.1%	88	55,000	55,088
9/1/2012-8/31/2013	95,884	1.003	0.3%	330	20,000	20,330
9/1/2013-8/31/2014	95,884	1.007	0.7%	696	10,000	10,696
9/1/2014-8/31/2015	95,884	1.017	1.6%	1,571	32,481	34,051
9/1/2015-6/30/2016	95,884	1.034	3.3%	3,133	112,278	115,411
7/1/2016-6/30/2017	95,884	1.061	5.7%	5,500	17,698	23,198
7/1/2017-6/30/2018	95,884	1.129	11.4%	10,960	97,002	107,962
7/1/2018-6/30/2019	96,896	1.313	23.8%	23,074	50,250	73,324
7/1/2019-6/30/2020	96,221	2.052	51.3%	49,320	110,000	159,320
Total	864,305			94,672	504,709	599,381

Notes:

(1) Exhibit Judges Employment-13

(2) Exhibit Judges Employment-8

(3) =  $1 - 1 / (2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Employment-8

(6) =  $(4) + (5)$

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
**Loss Rate Helper: Selection for Bornhuetter-Ferguson Method**

Accident Period	Exposure (# of Judges) (1)	Developed Paid Loss (2)	Developed Incurred Loss (3)	Prior Selected Ultimate (4)	Initial Selected Ultimate Loss (5)	0.00% Net Trend Rate (6)	On-level Selected Ultimate Loss (7)	On-level Loss Rate (8)	Detrended Selected Expected Loss Rate (9)	Expected Loss (10)
9/1/2011-8/31/2012	853	56,098	55,051	55,000	55,574	1.000	55,574	65.2	112.4	95,884
9/1/2012-8/31/2013	853	20,752	20,069	20,000	20,411	1.000	20,411	23.9	112.4	95,884
9/1/2013-8/31/2014	853	10,667	10,073	10,000	10,370	1.000	10,370	12.2	112.4	95,884
9/1/2014-8/31/2015	853	36,239	33,022	32,481	34,630	1.000	34,630	40.6	112.4	95,884
9/1/2015-6/30/2016	853	104,186	116,071	97,234	110,128	1.000	110,128	129.1	112.4	95,884
7/1/2016-6/30/2017	853	23,670	18,775	52,298	21,223	1.000	21,223	24.9	112.4	95,884
7/1/2017-6/30/2018	853	128,824	109,521	107,818	119,172	1.000	119,172	139.7	112.4	95,884
7/1/2018-6/30/2019	862	41,612	65,956	77,947	65,956	1.000	65,956	76.5	112.4	96,896
7/1/2019-6/30/2020	856	216,195	225,674	87,924	225,674	1.000	225,674	263.6	112.4	96,221
7/1/2020-6/30/2021						1.000			112.4	96,221
<b>Total</b>	<b>7,689</b>	<b>638,244</b>	<b>654,211</b>	<b>540,701</b>	<b>663,139</b>		<b>663,139</b>			<b>960,527</b>

Average Last 3 Years ex Last	80.4
Average Last 5 Years ex Last	82.2
Average Last 7 Years All	112.4
Prior Selected	102.0
(11) Selected Average	112.4

**Notes:**

- (1) Provided by Client
- (2) Exhibit Judges Employment-6
- (3) Exhibit Judges Employment-8
- (4) EY Selected Ultimate in prior analysis
- (5) EY Select

- (6) EY Select
- (7) = (5) x (6)
- (8) = (7) / (1)
- (9) EY Select
- (10) = (9) x (1)
- (11) EY Select

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
**Summary of ALAE Reserves**

Accident Period	Paid (1)	Incurred (2)	Selected Ultimate (3)	Case Reserve (4)	IBNR Reserve (5)	EY ACE ALAE Reserve (6)	EY Low ALAE Reserve (7)	EY High ALAE Reserve (8)
9/1/2011-8/31/2012	0	0	0	0	0	0	0	294
9/1/2012-8/31/2013	6	6	6	0	0	0	0	0
9/1/2013-8/31/2014	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	3,858	3,858	3,922	0	64	64	0	1,558
9/1/2015-6/30/2016	45,996	61,510	63,588	15,514	2,078	17,592	16,310	18,874
7/1/2016-6/30/2017	123,819	123,819	131,353	0	7,534	7,534	3,197	11,871
7/1/2017-6/30/2018	104,803	108,487	122,487	3,684	14,001	17,685	10,535	24,834
7/1/2018-6/30/2019	75,307	92,109	121,503	16,802	29,395	46,197	39,713	52,680
7/1/2019-6/30/2020	38,864	47,912	97,817	9,048	49,905	58,953	53,882	64,024
<b>Total</b>	392,652	437,700	540,677	45,048	102,977	148,025	123,638	174,136

Notes:

- |  |   |
|--|---|
| <p>(1) Exhibit Judges Employment-16</p> <p>(2) Exhibit Judges Employment-17</p> <p>(3) EY Select - latest year is a partial year estimate</p> <p>(4) = (2) - (1)</p> | <p>(5) = (3) - (2)</p> <p>(6) = (4) + (5)</p> <p>(7) EY Select - latest year is a partial year estimate</p> <p>(8) EY Select - latest year is a partial year estimate</p> |
|--|---|

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
**Comparison of Ultimate ALAE Estimates**

Accident Period	Exposure (# of Judges) (1)	Paid Development (2)	Incurred Development (3)	Paid BF (4)	Incurred BF (5)	Average (6)	Prior Selected (7)	Selected (8)	Ultimate ALAE Rate (9)	Ultimate ALAE/Loss (10)	Low Estimate (11)	High Estimate (12)
9/1/2011-8/31/2012	853	0	0	2,390	112	1,251	0	0	-	0.0%	0	294
9/1/2012-8/31/2013	853	6	6	4,432	427	1,218	6	6	0.0	0.0%	6	6
9/1/2013-8/31/2014	853	0	0	7,643	887	4,265	0	0	-	0.0%	0	0
9/1/2014-8/31/2015	853	4,304	3,922	16,526	5,859	7,653	3,987	3,922	4.6	12.1%	3,858	5,416
9/1/2015-6/30/2016	853	54,907	63,588	65,820	65,502	62,454	38,085	63,588	74.5	56.6%	62,306	64,870
7/1/2016-6/30/2017	853	165,601	131,353	154,638	130,825	145,604	122,724	131,353	154.0	566.2%	127,016	135,690
7/1/2017-6/30/2018	853	181,217	122,487	156,310	122,449	145,616	144,302	122,487	143.6	113.5%	115,338	129,637
7/1/2018-6/30/2019	862	284,881	120,898	166,115	121,503	173,349	105,798	121,503	141.0	165.7%	115,020	127,986
7/1/2019-6/30/2020	856	420,112	98,296	150,104	110,743	194,814	122,404	130,423	152.4	81.9%	123,662	137,184
7/1/2020-6/30/2021	856							122,579		127.4%		
<b>Total</b>	<b>8,545</b>							<b>695,862</b>				
<b>Total x 7/1/2020-6/30/2021</b>	<b>7,689</b>	<b>1,111,029</b>	<b>540,550</b>	<b>723,976</b>	<b>558,306</b>	<b>736,223</b>	<b>537,307</b>	<b>573,283</b>	<b>67.1</b>	<b>96.6%</b>	<b>547,206</b>	<b>601,084</b>

**Notes:**

- |                                  |  |
|----------------------------------|--|
| (1) Provided by Client           | (7) Prior EY Select                                |
| (2) Exhibit Judges Employment-16 | (8) EY Select                                      |
| (3) Exhibit Judges Employment-17 | (9) = (8) / (1)                                    |
| (4) Exhibit Judges Employment-18 | (10) = (8) / Exhibit Judges Employment-5, Column 8 |
| (5) Exhibit Judges Employment-19 | (11) EY Select                                     |
| (6) Average (2) through (5)      | (12) EY Select                                     |

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Paid ALAE Development Method**

Accident Period	Paid ALAE (1)	Factor to Ultimate (2)	Ultimate ALAE (3)	Legacy Paid ALAE (4)	All Years Paid ALAE (5)	All Years Ultimate ALAE (6)
9/1/2011-8/31/2012	0	1.020	0	83,236	83,236	84,897
9/1/2012-8/31/2013	6	1.038	6	71,538	71,544	74,233
9/1/2013-8/31/2014	0	1.067	0	12,104	12,104	12,912
9/1/2014-8/31/2015	3,858	1.116	4,304	54,083	57,941	64,646
9/1/2015-6/30/2016	45,996	1.194	54,907	75,709	121,705	145,282
7/1/2016-6/30/2017	123,819	1.337	165,601	0	123,819	165,601
7/1/2017-6/30/2018	104,803	1.729	181,217	0	104,803	181,217
7/1/2018-6/30/2019	75,307	3.783	284,881	0	75,307	284,881
7/1/2019-6/30/2020	38,864	10.810	420,112	0	38,864	420,112
Total	392,652		1,111,029	296,670	689,322	1,433,782

## Notes:

(1) *Provided by Client*(2) *Exhibit Judges Employment-6*

(3) = (1) x (2)

(4) *Provided by Client*

(5) = (1) + (4)

(6) = (5) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
Incurred ALAE Development Method

Accident Period	Incurred ALAE (1)	Factor to Ultimate (2)	Ultimate ALAE (3)	Legacy Paid ALAE (4)	All Years Incurred ALAE (5)	All Years Ultimate ALAE (6)
9/1/2011-8/31/2012	0	1.001	0	83,236	83,236	83,313
9/1/2012-8/31/2013	6	1.003	6	71,538	71,544	71,791
9/1/2013-8/31/2014	0	1.007	0	12,104	12,104	12,192
9/1/2014-8/31/2015	3,858	1.017	3,922	54,083	57,941	58,906
9/1/2015-6/30/2016	61,510	1.034	63,588	75,709	137,219	141,854
7/1/2016-6/30/2017	123,819	1.061	131,353	0	123,819	131,353
7/1/2017-6/30/2018	108,487	1.129	122,487	0	108,487	122,487
7/1/2018-6/30/2019	92,109	1.313	120,898	0	92,109	120,898
7/1/2019-6/30/2020	47,912	2.052	98,296	0	47,912	98,296
Total	437,700		540,550	296,670	734,370	841,091

Notes:(1) *Provided by Client*(2) *Exhibit Judges Employment-8*

(3) = (1) x (2)

(4) *Provided by Client*

(5) = (1) + (4)

(6) = (5) x (2)



State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Paid ALAE**

Accident Period	Expected ALAE (1)	Paid Factor to Ultimate (2)	Unpaid Percent (3)	Expected Unpaid ALAE (4)	Paid ALAE (5)	Ultimate ALAE (6)
9/1/2011-8/31/2012	122,150	1.020	2.0%	2,390	0	2,390
9/1/2012-8/31/2013	122,150	1.038	3.6%	4,426	6	4,432
9/1/2013-8/31/2014	122,150	1.067	6.3%	7,643	0	7,643
9/1/2014-8/31/2015	122,150	1.116	10.4%	12,669	3,858	16,526
9/1/2015-6/30/2016	122,150	1.194	16.2%	19,823	45,996	65,820
7/1/2016-6/30/2017	122,150	1.337	25.2%	30,819	123,819	154,638
7/1/2017-6/30/2018	122,150	1.729	42.2%	51,507	104,803	156,310
7/1/2018-6/30/2019	123,438	3.783	73.6%	90,808	75,307	166,115
7/1/2019-6/30/2020	122,579	10.810	90.7%	111,240	38,864	150,104
Total	1,101,065			331,324	392,652	723,976

Notes:

(1) Exhibit Judges Employment-20

(2) Exhibit Judges Employment-16

(3) =  $1 - 1 / (2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Employment-16

(6) =  $(4) + (5)$

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Employment Practices Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Incurred ALAE**

Accident Period	Expected ALAE (1)	Incurred Factor to Ultimate (2)	Unreported Percent (3)	Expected Unreported ALAE (4)	Incurred ALAE (5)	Ultimate ALAE (6)
9/1/2011-8/31/2012	122,150	1.001	0.1%	112	0	112
9/1/2012-8/31/2013	122,150	1.003	0.3%	421	6	427
9/1/2013-8/31/2014	122,150	1.007	0.7%	887	0	887
9/1/2014-8/31/2015	122,150	1.017	1.6%	2,001	3,858	5,859
9/1/2015-6/30/2016	122,150	1.034	3.3%	3,991	61,510	65,502
7/1/2016-6/30/2017	122,150	1.061	5.7%	7,006	123,819	130,825
7/1/2017-6/30/2018	122,150	1.129	11.4%	13,962	108,487	122,449
7/1/2018-6/30/2019	123,438	1.313	23.8%	29,395	92,109	121,503
7/1/2019-6/30/2020	122,579	2.052	51.3%	62,831	47,912	110,743
Total	1,101,065			120,606	437,700	558,306

Notes:

(1) Exhibit Judges Employment-20

(2) Exhibit Judges Employment-17

(3) =  $1 - 1 / (2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Employment-17

(6) =  $(4) + (5)$

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
 Loss Rate Helper: Selection for Bornhuetter-Ferguson Method - ALAE

Accident Period	Exposure (# of Judges) (1)	Developed Paid ALAE w/ Legacy Data (2)	Developed Incurred ALAE w/ Legacy Data (3)	Prior Ultimate ALAE (4)	Initial Selected Ultimate ALAE (5)	0.00% Net Trend Rate (6)	On-level Selected Ultimate ALAE (7)	Developed ALAE Rate (8)	Detrended Selected Expected ALAE Rate (9)	Expected ALAE (10)
9/1/2011-8/31/2012	853	84,897	83,313	0	84,105	1.000	84,105	152.9%	143	122,150
9/1/2012-8/31/2013	853	74,233	71,791	6	73,012	1.000	73,012	85.6	143	122,150
9/1/2013-8/31/2014	853	12,912	12,192	0	12,552	1.000	12,552	14.7	143	122,150
9/1/2014-8/31/2015	853	64,646	58,906	3,987	61,776	1.000	61,776	72.4	143	122,150
9/1/2015-6/30/2016	853	145,282	141,854	38,085	143,568	1.000	143,568	168.3	143	122,150
7/1/2016-6/30/2017	853	165,601	131,353	122,724	148,477	1.000	148,477	174.1	143	122,150
7/1/2017-6/30/2018	853	181,217	122,487	144,302	137,170	1.000	137,170	160.8	143	122,150
7/1/2018-6/30/2019	862	284,881	120,898	105,798	120,898	1.000	120,898	140.3	143	123,438
7/1/2019-6/30/2020	856	420,112	98,296	122,404	98,296	1.000	98,296	114.8	143	122,579
7/1/2020-6/30/2021						1.000			143	122,579
<b>Total</b>	<b>7,689</b>	<b>1,433,782</b>	<b>841,091</b>	<b>537,307</b>	<b>879,854</b>		<b>879,854</b>			<b>1,223,644</b>

Average Last 3 Years ex Last	158.4
Average Last 5 Years ex Last	143.2
Average Last 7 Years All	116.6
Prior Selected	142.0
(11) Selected Average	143.2

Notes:

- (1) Provided by Client
- (2) Exhibit Judges Employment-16
- (3) Exhibit Judges Employment-17
- (4) EY Selected Ultimate in prior analysis
- (5) EY Select

- (6) EY Select
- (7) = (5) x (6)
- (8) = (7) / (1)
- (9) EY Select
- (10) = (9) x (1)
- (11) EY Select

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
 Actual vs Expected - Incurred Loss & ALAE

Accident Period	Exposure (# of Judges) (1)	Incurred @ 03/31/19 (2)	Incurred @ 03/31/20 (3)	Actual Dev't (4)	CDF @ 03/31/19 (5)	CDF @ 03/31/20 (6)	Expected Dev't (7)	Variance (8)	Ultimate Loss & ALAE @ 03/31/19 (9)	Ultimate Loss & ALAE @ 03/31/20 (10)	Change from @ 03/31/19 (11)	Paid Loss & ALAE @ 03/31/20 (12)	Total Reserves (13)	Case Reserves (14)	IBNR Reserves (15)
9/1/2011-8/31/2012	853	55,000	55,000	0	1.003	1.002	0	0	55,000	55,000	0	55,000	0	0	0
9/1/2012-8/31/2013	853	20,006	20,006	0	1.007	1.003	0	(0)	20,006	20,006	(0)	20,006	0	0	0
9/1/2013-8/31/2014	853	10,000	10,000	0	1.016	1.007	0	0	10,000	10,000	0	10,000	0	0	0
9/1/2014-8/31/2015	853	36,338	36,338	0	1.033	1.016	68	(68)	36,467	36,402	(65)	36,338	64	0	64
9/1/2015-6/30/2016	853	128,194	173,788	45,594	1.060	1.032	3,249	42,345	135,319	175,866	40,547	133,274	42,592	40,514	2,078
7/1/2016-6/30/2017	853	151,882	141,517	(10,365)	1.124	1.058	11,651	(22,016)	175,022	154,551	(20,471)	141,517	13,034	0	13,034
7/1/2017-6/30/2018	853	202,320	205,489	3,169	1.315	1.124	26,835	(23,667)	252,119	230,449	(21,670)	179,305	51,144	26,184	24,960
7/1/2018-6/30/2019	862	59,288	142,359	83,070	2.070	1.315	66,847	16,224	183,745	194,827	11,082	86,307	108,521	56,052	52,469
7/1/2019-6/30/2020	856		157,912	157,912		2.070				217,308		58,864	158,443	99,048	59,395
<b>Total</b>	<b>7,689</b>		<b>942,409</b>							<b>1,094,409</b>		<b>720,611</b>	<b>373,799</b>	<b>221,798</b>	<b>152,000</b>
Total ex 7/1/2019-6/30/2020	6,833	663,028	784,497	121,469			108,650	12,819	867,680	877,102	9,422	661,747	215,355	122,750	92,605

Notes:

- (1) Provided by Client
- (2) Prior Analysis
- (3) = Exhibit Judges Employment-4 + Exhibit Judges Employment-14
- (4) = (3) - (2)
- (5) Prior Analysis
- (6) Prior Analysis
- (7) = [(9) - (2)] \* (1/(6) - 1/(5)) / (1 - 1/(5))
- (8) = (4) - (7)

- (9) Prior Analysis
- (10) = Exhibit Judges Employment-4 + Exhibit Judges Employment-14
- (11) = (10) - (9)
- (12) = Exhibit Judges Employment-4 + Exhibit Judges Employment-14
- (13) = (10) - (12)
- (14) = (3) - (12)
- (15) = (13) - (14)

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
 Actual vs Expected - Paid Loss & ALAE

Accident Period	Exposure (# of Judges) (1)	Paid @ 03/31/19 (2)	Paid @ 03/31/20 (3)	Actual Dev't (4)	CDF @ 03/31/19 (5)	CDF @ 03/31/20 (6)	Expected Dev't (7)	Variance (8)	Ultimate Loss & ALAE @ 03/31/19 (9)	Ultimate Loss & ALAE @ 03/31/20 (10)	Change from @ 03/31/19 (11)	Incurred Loss & ALAE @ 03/31/20 (12)	Total Reserves (13)	Case Reserves (14)	IBNR Reserves (15)
9/1/2011-8/31/2012	853	55,000	55,000	0	1.039	1.027	0	0	55,000	55,000	0	55,000	0	0	0
9/1/2012-8/31/2013	853	20,006	20,006	0	1.068	1.039	0	(0)	20,006	20,006	(0)	20,000	0	(6)	6
9/1/2013-8/31/2014	853	10,000	10,000	0	1.116	1.068	0	0	10,000	10,000	0	10,000	0	0	0
9/1/2014-8/31/2015	853	36,338	36,338	0	1.203	1.116	50	(50)	36,467	36,402	(65)	36,338	64	0	64
9/1/2015-6/30/2016	853	113,109	133,274	20,165	1.359	1.196	8,437	11,728	135,319	175,866	40,547	173,788	42,592	40,514	2,078
7/1/2016-6/30/2017	853	126,882	141,517	14,635	1.732	1.345	18,944	(4,309)	175,022	154,551	(20,471)	141,517	13,034	0	13,034
7/1/2017-6/30/2018	853	126,327	179,305	52,978	3.840	1.732	53,893	(914)	252,119	230,449	(21,670)	205,489	51,144	26,184	24,960
7/1/2018-6/30/2019	862	10,192	86,307	76,114	11.070	3.840	32,451	43,664	183,745	194,827	11,082	142,359	108,521	56,052	52,469
7/1/2019-6/30/2020	856		58,864	58,864		11.070				217,308		157,912	158,443	99,048	59,395
<b>Total</b>	<b>7,689</b>		<b>720,611</b>							<b>1,094,409</b>		<b>942,403</b>	<b>373,799</b>	<b>221,792</b>	<b>152,006</b>
Total ex 7/1/2019-6/30/2020	6,833	497,854	661,747	163,893			113,775	50,118	867,680	877,102	9,422	784,491	215,355	122,744	92,611

Notes:

- (1) Provided by Client
- (2) Prior Analysis
- (3) = Exhibit Judges Employment-4 + Exhibit Judges Employment-14
- (4) = (3) - (2)
- (5) Prior Analysis
- (6) Prior Analysis
- (7) = [(9) - (2)] \* (1/(6) - 1/(5)) / (1 - 1/(5))
- (8) = (4) - (7)

- (9) Prior Analysis
- (10) = Exhibit Judges Employment-4 + Exhibit Judges Employment-14
- (11) = (10) - (9)
- (12) = Exhibit Judges Employment-4 + Exhibit Judges Employment-14
- (13) = (10) - (3)
- (14) = (12) - (3)
- (15) = (13) - (14)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Range Summary**

	Unpaid Claims Liability		
	Low	ACE	High
(1) Undiscounted	184,194	219,248	263,238
(2) Discounted at 2.0%	176,618	210,230	252,410

Notes:

(1) *Exhibit Judges Professional-4 + Exhibit Judges Professional-14*

(2) *Exhibit Judges Professional-2*

*Low and High discounted based on average discount for ACE*

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Professional Liability)  
 March 31, 2020  
 Payout of Unpaid Claim Liabilities as of 3/31/2020

Accident Period	Loss & ALAE Reserve @ 03/31/19 (1)	Payments in Calendar Period										
		3/31/20-21	3/31/21-22	3/31/22-23	3/31/23-24	3/31/24-25	3/31/25-26	3/31/26-27	3/31/27-28	3/31/28-29	3/31/29-30	3/31/30-31
9/1/2012-8/31/2013	6	3	1	1	0	0	-	-	-	-	-	-
9/1/2013-8/31/2014	-	-	-	-	-	-	-	-	-	-	-	-
9/1/2014-8/31/2015	22	9	6	4	2	2	1	0	-	-	-	-
9/1/2015-6/30/2016	3,587	1,388	878	558	354	181	168	56	4	-	-	-
7/1/2016-6/30/2017	9,356	3,604	2,227	1,413	899	570	281	283	78	-	-	-
7/1/2017-6/30/2018	20,557	8,257	4,739	2,928	1,857	1,182	750	370	373	102	-	-
7/1/2018-6/30/2019	92,744	39,584	21,352	12,254	7,572	4,803	3,057	1,939	956	963	264	-
7/1/2019-6/30/2020	92,976	17,605	32,169	17,353	9,959	6,154	3,903	2,484	1,576	777	783	215
(2) Calendar Year Payments	<b>219,248</b>	70,449	61,371	34,510	20,643	12,891	8,159	5,133	2,986	1,842	1,047	215
(3) Duration of Payment		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5
(4) Discount Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
(5) Discounted Payments	<b>210,230</b>	69,755	59,575	32,843	19,261	11,792	7,317	4,513	2,574	1,557	868	174

Notes:

- (1) Exhibit Judges Professional-3
- (2) Total of Calendar Year Payments
- (3) Age of Payments in Years

- (4) Provided by Client
- (5) = (2) / [ 1 + (4) ] ^ (3)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Reserves**

Accident Period	Loss Reserve (1)	ALAE Reserve (2)	Loss + ALAE Reserve (3)
9/1/2011-8/31/2012	0	0	0
9/1/2012-8/31/2013	0	6	6
9/1/2013-8/31/2014	0	0	0
9/1/2014-8/31/2015	0	22	22
9/1/2015-6/30/2016	1,000	2,587	3,587
7/1/2016-6/30/2017	1,000	8,356	9,356
7/1/2017-6/30/2018	4,000	16,557	20,557
7/1/2018-6/30/2019	15,000	77,744	92,744
7/1/2019-6/30/2020*	23,000	69,976	92,976
<b>Total</b>	<b>44,000</b>	<b>175,248</b>	<b>219,248</b>
	Ultimate Loss	Ultimate ALAE	Loss + ALAE
7/1/2020--6/30/2021	0	142,952	142,952

**Notes:**

(1) Exhibit Judges Professional-4

(2) Exhibit Judges Professional-14

(3) = (1) + (2)

\* Partial year estimate as of 3/31/2020



State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Professional Liability)  
 March 31, 2020  
**Summary of Loss Reserves**

Accident Period	Paid (1)	Incurred (2)	Selected Ultimate (3)	Case Reserve (4)	IBNR Reserve (5)	EY ACE Loss Reserve (6)	Low Reserves (7)	High Reserves (8)
9/1/2011-8/31/2012	0	0	0	0	0	0	0	0
9/1/2012-8/31/2013	0	0	0	0	0	0	0	0
9/1/2013-8/31/2014	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	0	0	0	0	0	0	0	0
9/1/2015-6/30/2016	0	1,000	1,000	1,000	0	1,000	1,000	1,000
7/1/2016-6/30/2017	0	1,000	1,000	1,000	0	1,000	1,000	1,000
7/1/2017-6/30/2018	0	4,000	4,000	4,000	0	4,000	4,000	4,000
7/1/2018-6/30/2019	0	15,000	15,000	15,000	0	15,000	15,000	15,000
7/1/2019-6/30/2020	0	23,000	23,000	23,000	0	23,000	23,000	23,000
<b>Total</b>	0	44,000	44,000	44,000	0	44,000	44,000	44,000

Notes:

(1) Exhibit Judges Professional-6

(2) Exhibit Judges Professional-8

(3) EY Select - latest year is a partial year estimate

(4) = (2) - (1)

(5) = (3) - (2)

(6) = (4) + (5)

(7) EY Select - latest year is a partial year estimate

(8) EY Select - latest year is a partial year estimate

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
Comparison of Ultimate Loss Estimates

Accident Period	Paid Development (1)	Incurred Development (2)	Paid B-F (3)	Incurred B-F (4)	IBNR to Case OS (5)	Average (6)	Prior Selected (7)	EY Selected (8)	Low Estimate (9)	High Estimate (10)
9/1/2011-8/31/2012	0	0	0	0	0	0	0	0	0	0
9/1/2012-8/31/2013	0	0	0	0	0	0	0	0	0	0
9/1/2013-8/31/2014	0	0	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	0	0	0	0	0	0	0	0	0	0
9/1/2015-6/30/2016	0	1,034	0	1,000	1,252	1,095	8,000	1,000	1,000	1,000
7/1/2016-6/30/2017	0	1,061	0	1,000	1,294	1,118	1,000	1,000	1,000	1,000
7/1/2017-6/30/2018	0	4,516	0	4,000	5,487	4,668	11,000	4,000	4,000	4,000
7/1/2018-6/30/2019	0	19,688	0	15,000	22,180	18,956	22,667	15,000	15,000	15,000
7/1/2019-6/30/2020	0	47,186	0	23,000	52,852	41,013	0	30,667	30,667	30,667
7/1/2020-6/30/2021								0		
<b>Total</b>								51,667		
Total x 7/1/2020-6/30/2021	0	73,486	0	44,000	83,065	66,850	42,667	51,667	51,667	51,667

**Notes:**

- (1) Exhibit Judges Professional-6  
(2) Exhibit Judges Professional-8  
(3) Exhibit Judges Professional-11  
(4) Exhibit Judges Professional-12  
(5) Exhibit Judges Professional-10

- (6) Average (1) through (5)  
(7) Prior EY Select  
(8) EY Select  
(9) EY Select  
(10) EY Select

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Paid Loss Development Method**

Accident Period	Paid Loss (1)	Factor to Ultimate (2)	Ultimate Loss (3)
9/1/2011-8/31/2012	0	1.020	0
9/1/2012-8/31/2013	0	1.038	0
9/1/2013-8/31/2014	0	1.067	0
9/1/2014-8/31/2015	0	1.116	0
9/1/2015-6/30/2016	0	1.194	0
7/1/2016-6/30/2017	0	1.337	0
7/1/2017-6/30/2018	0	1.729	0
7/1/2018-6/30/2019	0	3.783	0
7/1/2019-6/30/2020	0	10.810	0
Total	0		0

Notes:(1) *Provided by Client*(2) *Exhibit Judges Professional-7*

(3) = (1) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
December 31, 2019  
**Industry Paid Loss**

Accident Period	Months of Development									
	12	24	36	48	60	72	84	96	108	120
Sel LDF	3.462	1.535	1.196	1.106	1.059	1.036	1.022	1.014	1.006	1.008
CDF	8.107	2.341	1.525	1.275	1.153	1.089	1.051	1.028	1.014	1.008
Interpolated CDF	9	21	33	45	56	67	79	91	103	115
Int Exp	11.059	3.194	1.698	1.333	1.192	1.115	1.067	1.038	1.020	1.011
Int Linear	10.810	3.783	1.729	1.337	1.194	1.116	1.067	1.038	1.020	1.011
Select	10.810	3.783	1.729	1.337	1.194	1.116	1.067	1.038	1.020	1.011

Source: Lawyers Professional Liability Benchmark Companies

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Incurred Loss Development Method**

Accident Period	Incurred Loss (1)	Factor to Ultimate (2)	Ultimate Loss (3)
9/1/2011-8/31/2012	0	1.001	0
9/1/2012-8/31/2013	0	1.003	0
9/1/2013-8/31/2014	0	1.007	0
9/1/2014-8/31/2015	0	1.017	0
9/1/2015-6/30/2016	1,000	1.034	1,034
7/1/2016-6/30/2017	1,000	1.061	1,061
7/1/2017-6/30/2018	4,000	1.129	4,516
7/1/2018-6/30/2019	15,000	1.313	19,688
7/1/2019-6/30/2020	23,000	2.052	47,186
Total	44,000		73,486

Notes:(1) *Provided by Client*(2) *Exhibit Judges Professional-9*

(3) = (1) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
December 31, 2019  
**Industry Incurred Loss**

Accident Period	Months of Development									
	12	24	36	48	60	72	84	96	108	120
Sel LDF	1.244	1.132	1.041	1.024	1.015	1.005	1.003	1.002	1.000	1.000
CDF	1.539	1.237	1.093	1.050	1.026	1.010	1.005	1.002	1.000	1.000
Interpolated CDF	9	21	33	45	56	67	79	91	103	115
Int Exp	1.625	1.307	1.127	1.061	1.034	1.017	1.007	1.003	1.001	1.000
Int Linear	2.052	1.313	1.129	1.061	1.034	1.017	1.007	1.003	1.001	1.000
Select	2.052	1.313	1.129	1.061	1.034	1.017	1.007	1.003	1.001	1.000

Source: Lawyers Professional Liability Benchmark Companies

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Professional Liability)  
 March 31, 2020  
 Incurred IBNR to Case Development Method for Loss

Accident Period	Incurred Loss (1)	Paid Loss (2)	Outstanding Loss (3)	Incurred CDF (4)	Paid CDF (5)	IBNR Factor (6)	IBNR (7)	Ultimate Loss (8)
9/1/2011-8/31/2012	0	0	0	1.001	1.020	0.049	0	0
9/1/2012-8/31/2013	0	0	0	1.003	1.038	0.105	0	0
9/1/2013-8/31/2014	0	0	0	1.007	1.067	0.131	0	0
9/1/2014-8/31/2015	0	0	0	1.017	1.116	0.188	0	0
9/1/2015-6/30/2016	1,000	0	1,000	1.034	1.194	0.252	252	1,252
7/1/2016-6/30/2017	1,000	0	1,000	1.061	1.337	0.294	294	1,294
7/1/2017-6/30/2018	4,000	0	4,000	1.129	1.729	0.372	1,487	5,487
7/1/2018-6/30/2019	15,000	0	15,000	1.313	3.783	0.479	7,180	22,180
7/1/2019-6/30/2020	23,000	0	23,000	2.052	10.810	1.298	29,852	52,852
<b>Total</b>	<b>44,000</b>	<b>0</b>	<b>44,000</b>				<b>39,065</b>	<b>83,065</b>

Notes:

- (1) Exhibit Judges Professional-8
- (2) Exhibit Judges Professional-6
- (3) = (1) - (2)
- (4) Exhibit Judges Professional-8

- (5) Exhibit Judges Professional-6
- (6) =  $(1 - 1 / (4)) / (1 / (4) - 1 / (5))$
- (7) = (3) x (6)
- (8) = (1) + (7)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Paid Loss**

Accident Period	Expected Loss (1)	Paid Factor to Ultimate (2)	Unpaid Percent (3)	Expected Unpaid Loss (4)	Paid Loss (5)	Ultimate Loss (6)
9/1/2011-8/31/2012	0	1.020	2.0%	0	0	0
9/1/2012-8/31/2013	0	1.038	3.6%	0	0	0
9/1/2013-8/31/2014	0	1.067	6.3%	0	0	0
9/1/2014-8/31/2015	0	1.116	10.4%	0	0	0
9/1/2015-6/30/2016	0	1.194	16.2%	0	0	0
7/1/2016-6/30/2017	0	1.337	25.2%	0	0	0
7/1/2017-6/30/2018	0	1.729	42.2%	0	0	0
7/1/2018-6/30/2019	0	3.783	73.6%	0	0	0
7/1/2019-6/30/2020	0	10.810	90.7%	0	0	0
Total	0			0	0	0

Notes:

(1) Exhibit Judges Professional-13

(2) Exhibit Judges Professional-6

(3) =  $1 - 1 / (2)$ 

(4) = (1) x (3)

(5) Exhibit Judges Professional-6

(6) = (4) + (5)



State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Incurred Loss**

Accident Period	Expected Loss (1)	Incurred Factor to Ultimate (2)	Unreported Percent (3)	Expected Unreported Loss (4)	Incurred Loss (5)	Ultimate Loss (6)
9/1/2011-8/31/2012	0	1.001	0.1%	0	0	0
9/1/2012-8/31/2013	0	1.003	0.3%	0	0	0
9/1/2013-8/31/2014	0	1.007	0.7%	0	0	0
9/1/2014-8/31/2015	0	1.017	1.6%	0	0	0
9/1/2015-6/30/2016	0	1.034	3.3%	0	1,000	1,000
7/1/2016-6/30/2017	0	1.061	5.7%	0	1,000	1,000
7/1/2017-6/30/2018	0	1.129	11.4%	0	4,000	4,000
7/1/2018-6/30/2019	0	1.313	23.8%	0	15,000	15,000
7/1/2019-6/30/2020	0	2.052	51.3%	0	23,000	23,000
Total	0			0	44,000	44,000

Notes:

(1) Exhibit Judges Professional-13

(2) Exhibit Judges Professional-8

(3) =  $1 - 1 / (2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Professional-8

(6) =  $(4) + (5)$

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Professional Liability)  
 March 31, 2020  
**Loss Rate Helper: Selection for Bornhuetter-Ferguson Method**

Accident Period	Exposure (# of Judges) (1)	Developed Paid Loss (2)	Developed Incurred Loss (3)	Prior Selected Ultimate Loss (4)	Initial Selected Ultimate Loss (5)	0.00% Net Trend Rate (6)	On-level Selected Ultimate Loss (7)	On-level Ultimate Loss Rate (8)	Detrended Selected Expected Loss Rate (9)	Expected Loss (10)
9/1/2011-8/31/2012	853	0	0	0	0	1.000			-	-
9/1/2012-8/31/2013	853	0	0	0	0	1.000			-	-
9/1/2013-8/31/2014	853	0	0	0	0	1.000			-	-
9/1/2014-8/31/2015	853	0	0	0	0	1.000			-	-
9/1/2015-6/30/2016	853	0	1,034	8,000	1,034	1.000	1,034	1.2	-	-
7/1/2016-6/30/2017	853	0	1,061	1,000	1,061	1.000	1,061	1.2	-	-
7/1/2017-6/30/2018	853	0	4,516	11,000	4,516	1.000	4,516	5.3	-	-
7/1/2018-6/30/2019	862	0	19,688	22,667	19,688	1.000	19,688	22.8	-	-
7/1/2019-6/30/2020	856	0	47,186	0	47,186	1.000	47,186	55.1	-	-
7/1/2020-6/30/2021						1.000			-	-
<b>Total</b>	<b>7,689</b>	<b>0</b>	<b>73,486</b>	<b>42,667</b>	<b>73,486</b>		<b>73,486</b>			<b>0</b>

Average Last 3 Years ex Last	9.8
Average Last 5 Years ex Last	7.6
Average Last 7 Years All	17.1
Prior Selected	0.0
(11) Selected Average	0.0

Notes:

- (1) Provided by Client
- (2) Exhibit Judges Professional-6
- (3) Exhibit Judges Professional-8
- (4) EY Selected Ultimate in prior analysis
- (5) EY Select

- (6) EY Select
- (7) = (5) x (6)
- (8) = (7) / (1)
- (9) EY Select
- (10) = (9) x (1)
- (11) EY Select

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
Summary of ALAE Reserves

Accident Period	Paid (1)	Incurred (2)	Selected Ultimate (3)	Case Reserve (4)	IBNR Reserve (5)	EY ACE ALAE Reserve (6)	EY Low ALAE Reserve (7)	EY High ALAE Reserve (8)
9/1/2011-8/31/2012	0	0	0	0	0	0	0	0
9/1/2012-8/31/2013	1,621	1,621	1,627	0	6	6	0	1,254
9/1/2013-8/31/2014	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	1,332	1,332	1,354	0	22	22	0	3,547
9/1/2015-6/30/2016	75,304	75,346	77,891	42	2,545	2,587	42	7,330
7/1/2016-6/30/2017	127,906	128,446	136,262	540	7,816	8,356	540	17,431
7/1/2017-6/30/2018	93,178	97,192	109,735	4,014	12,543	16,557	4,014	29,833
7/1/2018-6/30/2019	133,271	176,735	211,015	43,464	34,280	77,744	70,430	85,058
7/1/2019-6/30/2020	39,095	72,155	109,071	33,060	36,916	69,976	65,168	74,784
<b>Total</b>	<b>471,708</b>	<b>552,828</b>	<b>646,955</b>	<b>81,120</b>	<b>94,128</b>	<b>175,248</b>	<b>140,194</b>	<b>219,238</b>

Notes:

(1) Exhibit Judges Professional-16

(2) Exhibit Judges Professional-17

(3) EY Select - latest year is a partial year estimate

(4) = (2) - (1)

(5) = (3) - (2)

(6) = (4) + (5)

(7) EY Select - latest year is a partial year estimate

(8) EY Select - latest year is a partial year estimate

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Professional Liability)  
 March 31, 2020  
**Comparison of Ultimate ALAE Estimates**

Accident Period	Exposure (# of Judges) (1)	Paid Development (2)	Incurred Development (3)	Paid BF (4)	Incurred BF (5)	Average (6)	Prior Selected (7)	Selected (8)	Ultimate ALAE Rate (9)	Ultimate ALAE/Loss (10)	Low Estimate (11)	High Estimate (12)
9/1/2011-8/31/2012	853	0	0	2,787	131	1,459	0	0	-		0	0
9/1/2012-8/31/2013	853	1,682	1,627	6,782	2,112	3,051	1,632	1,627	1.91		1,621	2,875
9/1/2013-8/31/2014	853	0	0	8,913	1,034	4,973	0	0	-		0	0
9/1/2014-8/31/2015	853	1,486	1,354	16,106	3,666	5,653	1,377	1,354	1.59		1,332	4,879
9/1/2015-6/30/2016	853	89,893	77,891	98,422	80,001	86,552	79,687	77,891	91.31	7789.1%	75,346	82,635
7/1/2016-6/30/2017	853	171,068	136,262	163,848	136,617	151,949	137,288	136,262	159.74	13626.2%	128,446	145,337
7/1/2017-6/30/2018	853	161,116	109,735	153,246	113,474	134,393	129,350	109,735	128.65	2743.4%	97,192	123,011
7/1/2018-6/30/2019	862	504,158	231,976	239,172	211,015	296,580	149,806	211,015	244.80	1406.8%	203,701	218,329
7/1/2019-6/30/2020	856	422,607	148,032	168,823	145,428	221,222	133,610	145,428	169.89	474.2%	139,017	151,839
7/1/2020-6/30/2021	856							142,952				
<b>Total</b>	<b>8,545</b>							<b>826,264</b>				
<b>Total x 7/1/2020-6/30/2021</b>	<b>7,689</b>	<b>1,352,010</b>	<b>706,877</b>	<b>858,098</b>	<b>693,478</b>	<b>905,832</b>	<b>632,751</b>	<b>683,312</b>	<b>79.97</b>	<b>1316.8%</b>	<b>646,656</b>	<b>728,905</b>

**Notes:**

- |                                    |  |
|------------------------------------|--|
| (1) Provided by Client             | (7) Prior EY Select                                  |
| (2) Exhibit Judges Professional-16 | (8) EY Select  |
| (3) Exhibit Judges Professional-17 | (9) = (8) / (1)                                      |
| (4) Exhibit Judges Professional-18 | (10) = (8) / Exhibit Judges Professional-5, Column 8 |
| (5) Exhibit Judges Professional-19 | (11) EY Select                                       |
| (6) Average (2) through (5)        | (12) EY Select                                       |

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Paid ALAE Development Method**

Accident Period	Paid ALAE (1)	Factor to Ultimate (2)	Ultimate ALAE (3)	Legacy Paid ALAE (4)	All Years Paid ALAE (5)	All Years Ultimate ALAE (6)
9/1/2011-8/31/2012	0	1.020	0	41,923	41,923	42,760
9/1/2012-8/31/2013	1,621	1.038	1,682	37,119	38,740	40,197
9/1/2013-8/31/2014	0	1.067	0	20,498	20,498	21,867
9/1/2014-8/31/2015	1,332	1.116	1,486	31,121	32,453	36,208
9/1/2015-6/30/2016	75,304	1.194	89,893	86,132	161,436	192,711
7/1/2016-6/30/2017	127,906	1.337	171,068	0	127,906	171,068
7/1/2017-6/30/2018	93,178	1.729	161,116	0	93,178	161,116
7/1/2018-6/30/2019	133,271	3.783	504,158	0	133,271	504,158
7/1/2019-6/30/2020	39,095	10.810	422,607	0	39,095	422,607
Total	471,708		1,352,010	216,794	688,502	1,592,691

## Notes:

(1) *Provided by Client*(2) *Exhibit Judges Professional-6*

(3) = (1) x (2)

(4) *Provided by Client*

(5) = (1) + (4)

(6) = (5) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
Incurred ALAE Development Method

Accident Period	Incurred ALAE (1)	Factor to Ultimate (2)	Ultimate ALAE (3)	Legacy Paid ALAE (4)	All Years Incurred ALAE (5)	All Years Ultimate ALAE (6)
9/1/2011-8/31/2012	0	1.001	0	41,923	41,923	41,962
9/1/2012-8/31/2013	1,621	1.003	1,627	37,119	38,740	38,874
9/1/2013-8/31/2014	0	1.007	0	20,498	20,498	20,648
9/1/2014-8/31/2015	1,332	1.017	1,354	31,121	32,453	32,994
9/1/2015-6/30/2016	75,346	1.034	77,891	86,132	161,478	166,933
7/1/2016-6/30/2017	128,446	1.061	136,262	0	128,446	136,262
7/1/2017-6/30/2018	97,192	1.129	109,735	0	97,192	109,735
7/1/2018-6/30/2019	176,735	1.313	231,976	0	176,735	231,976
7/1/2019-6/30/2020	72,155	2.052	148,032	0	72,155	148,032
Total	552,828		706,877	216,794	769,622	927,415

Notes:(1) *Provided by Client*(2) *Exhibit Judges Professional-8*

(3) = (1) x (2)

(4) *Provided by Client*

(5) = (1) + (4)

(6) = (5) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Paid ALAE**

Accident Period	Expected ALAE (1)	Paid Factor to Ultimate (2)	Unpaid Percent (3)	Expected Unpaid ALAE (4)	Paid ALAE (5)	Ultimate ALAE (6)
9/1/2011-8/31/2012	142,451	1.020	2.0%	2,787	0	2,787
9/1/2012-8/31/2013	142,451	1.038	3.6%	5,161	1,621	6,782
9/1/2013-8/31/2014	142,451	1.067	6.3%	8,913	0	8,913
9/1/2014-8/31/2015	142,451	1.116	10.4%	14,774	1,332	16,106
9/1/2015-6/30/2016	142,451	1.194	16.2%	23,118	75,304	98,422
7/1/2016-6/30/2017	142,451	1.337	25.2%	35,941	127,906	163,848
7/1/2017-6/30/2018	142,451	1.729	42.2%	60,068	93,178	153,246
7/1/2018-6/30/2019	143,954	3.783	73.6%	105,901	133,271	239,172
7/1/2019-6/30/2020	142,952	10.810	90.7%	129,728	39,095	168,823
Total	1,284,063			386,391	471,708	858,098

Notes:

(1) Exhibit Judges Professional-20

(2) Exhibit Judges Professional-16

(3) =  $1 - 1 / (2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Professional-16

(6) =  $(4) + (5)$

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Incurred ALAE**

Accident Period	Expected ALAE (1)	Incurred Factor to Ultimate (2)	Unreported Percent (3)	Expected Unreported ALAE (4)	Incurred ALAE (5)	Ultimate ALAE (6)
9/1/2011-8/31/2012	142,451	1.001	0.1%	131	0	131
9/1/2012-8/31/2013	142,451	1.003	0.3%	491	1,621	2,112
9/1/2013-8/31/2014	142,451	1.007	0.7%	1,034	0	1,034
9/1/2014-8/31/2015	142,451	1.017	1.6%	2,333	1,332	3,666
9/1/2015-6/30/2016	142,451	1.034	3.3%	4,655	75,346	80,001
7/1/2016-6/30/2017	142,451	1.061	5.7%	8,171	128,446	136,617
7/1/2017-6/30/2018	142,451	1.129	11.4%	16,282	97,192	113,474
7/1/2018-6/30/2019	143,954	1.313	23.8%	34,280	176,735	211,015
7/1/2019-6/30/2020	142,952	2.052	51.3%	73,273	72,155	145,428
Total	1,284,063			140,650	552,828	693,478

Notes:

(1) Exhibit Judges Professional-20

(2) Exhibit Judges Professional-17

(3) =  $1 - 1 / (2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Professional-17

(6) =  $(4) + (5)$



State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Professional Liability)  
 March 31, 2020

Loss Rate Helper: Selection for Bornhuetter-Ferguson Method - ALAE

Accident Period	Exposure (# of Judges) (1)	Developed Paid ALAE w/ Legacy Data (2)	Developed Incurred ALAE w/ Legacy Data (3)	Prior Ultimate ALAE (4)	Initial Selected Ultimate ALAE (5)	0.00% Net Trend Rate (6)	On-level Selected Ultimate ALAE (7)	Developed ALAE Rate (8)	Detrended Selected Expected ALAE Rate (9)	Expected ALAE (10)
9/1/2011-8/31/2012	853	42,760	41,962	0	42,361	1.000	42,361	49.7	167	142,451
9/1/2012-8/31/2013	853	40,197	38,874	1,632	39,536	1.000	39,536	46.3	167	142,451
9/1/2013-8/31/2014	853	21,867	20,648	0	21,257	1.000	21,257	24.9	167	142,451
9/1/2014-8/31/2015	853	36,208	32,994	1,377	34,601	1.000	34,601	40.6	167	142,451
9/1/2015-6/30/2016	853	192,711	166,933	79,687	179,822	1.000	179,822	210.8	167	142,451
7/1/2016-6/30/2017	853	171,068	136,262	137,288	153,665	1.000	153,665	180.1	167	142,451
7/1/2017-6/30/2018	853	161,116	109,735	129,350	109,735	1.000	109,735	128.6	167	142,451
7/1/2018-6/30/2019	862	504,158	231,976	149,806	231,976	1.000	231,976	269.1	167	143,954
7/1/2019-6/30/2020	856	422,607	148,032	133,610	148,032	1.000	148,032	172.9	167	142,952
7/1/2020-6/30/2021						1.000			167	
<b>Total</b>	<b>7,689</b>	<b>1,592,691</b>	<b>927,415</b>	<b>632,751</b>	<b>960,984</b>		<b>960,984</b>			<b>1,284,063</b>

Average Last 3 Years ex Last	193
Average Last 5 Years ex Last	166
Average Last 7 Years All	147
Prior Selected	155
(11) Selected Average	167

Notes:

- (1) Provided by Client
- (2) Exhibit Judges Professional-16
- (3) Exhibit Judges Professional-17
- (4) EY Selected Ultimate in prior analysis
- (5) EY Select

- (6) EY Select
- (7) = (5) x (6)
- (8) = (7) / (1)
- (9) EY Select
- (10) = (9) x (1)
- (11) EY Select

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
Actual vs Expected - Incurred Loss & ALAE

Accident Period	Exposure (# of Judges) (1)	Incurred @ 03/31/19 (2)	Incurred @ 03/31/20 (3)	Actual Dev't (4)	LDF @ 03/31/19 (5)	LDF @ 03/31/20 (6)	Expected Dev't (7)	Variance (8)	Ultimate Loss & ALAE @ 03/31/19 (9)	Ultimate Loss & ALAE @ 03/31/20 (10)	Change from @ 03/31/19 (11)	Paid Loss & ALAE @ 03/31/20 (12)	Total Reserves (13)	Case Reserves (14)	IBNR Reserves (15)
9/1/2011-8/31/2012	853	0	0	0	1.003	1.002	0	0	0	0	0	0	0	0	0
9/1/2012-8/31/2013	853	1,621	1,621	0	1.007	1.003	7	(7)	1,632	1,627	(5)	1,621	6	0	6
9/1/2013-8/31/2014	853	0	0	0	1.016	1.007	0	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	853	1,332	1,332	0	1.033	1.016	23	(23)	1,377	1,354	(22)	1,332	22	0	22
9/1/2015-6/30/2016	853	83,148	76,346	(6,802)	1.060	1.032	2,070	(8,872)	87,687	78,891	(8,796)	75,304	3,587	1,042	2,545
7/1/2016-6/30/2017	853	123,141	129,446	6,305	1.124	1.058	7,627	(1,321)	138,288	137,262	(1,026)	127,906	9,356	1,540	7,816
7/1/2017-6/30/2018	853	108,716	101,192	(7,524)	1.315	1.124	17,047	(24,571)	140,350	113,735	(26,616)	93,178	20,557	8,014	12,543
7/1/2018-6/30/2019	862	97,744	191,735	93,991	2.070	1.315	16,978	77,013	129,355	226,015	96,660	133,271	92,744	58,464	34,280
7/1/2019-6/30/2020	856		95,155	95,155		2.070				132,071		39,095	92,976	56,060	36,916
<b>Total</b>	<b>7,689</b>		<b>596,828</b>						<b>690,955</b>	<b>690,955</b>		<b>471,708</b>	<b>219,248</b>	<b>125,120</b>	<b>94,128</b>
Total ex 7/1/2019-6/30/2020	6,833	415,703	501,673	85,970			43,752	42,218	498,690	558,884	60,195	432,613	126,272	69,060	57,212

## Notes:

(1) Provided by Client

(2) Prior Analysis

(3) = Exhibit Judges Professional-4 + Exhibit Judges Professional-14

(4) = (3) - (2)

(5) Prior Analysis

(6) Prior Analysis

(7) = [(9) - (2)] \* (1/(6) - 1/(5)) / (1 - 1/(5))

(8) = (4) - (7)

(9) Prior Analysis

(10) = Exhibit Judges Professional-4 + Exhibit Judges Professional-14

(11) = (10) - (9)

(12) = Exhibit Judges Professional-4 + Exhibit Judges Professional-14

(13) = (10) - (12)

(14) = (3) - (12)

(15) = (13) - (14)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Professional Liability)  
March 31, 2020  
Actual vs Expected - Paid Loss & ALAE

Accident Period	Exposure (# of Judges) (1)	Paid @ 03/31/19 (2)	Paid @ 03/31/20 (3)	Actual Dev't (4)	LDF @ 03/31/19 (5)	LDF @ 03/31/20 (6)	Expected Dev't (7)	Variance (8)	Ultimate Loss & ALAE @ 03/31/19 (9)	Ultimate Loss & ALAE @ 03/31/20 (10)	Change from @ 03/31/19 (11)	Incurred Loss & ALAE @ 03/31/20 (12)	Total Reserves (13)	Case Reserves (14)	IBNR Reserves (15)
9/1/2011-8/31/2012	853	0	0	0	1.039	1.027	0	0	0	0	0	0	0	0	0
9/1/2012-8/31/2013	853	1,621	1,621	0	1.068	1.039	4	(4)	1,632	1,627	(5)	1,621	6	0	6
9/1/2013-8/31/2014	853	0	0	0	1.116	1.068	0	0	0	0	0	0	0	0	0
9/1/2014-8/31/2015	853	1,332	1,332	0	1.203	1.116	17	(17)	1,377	1,354	(22)	1,332	22	0	22
9/1/2015-6/30/2016	853	75,052	75,304	252	1.359	1.196	4,800	(4,548)	87,687	78,891	(8,796)	76,346	3,587	1,042	2,545
7/1/2016-6/30/2017	853	122,141	127,906	5,765	1.732	1.345	6,354	(589)	138,288	137,262	(1,026)	129,446	9,356	1,540	7,816
7/1/2017-6/30/2018	853	91,860	93,178	1,318	3.840	1.732	20,775	(19,457)	140,350	113,735	(26,616)	101,192	20,557	8,014	12,543
7/1/2018-6/30/2019	862	64,954	133,271	68,317	11.070	3.840	12,041	56,275	129,355	226,015	96,660	191,735	92,744	58,464	34,280
7/1/2019-6/30/2020	856		39,095	39,095		11.070				132,071		95,155	92,976	56,060	36,916
<b>Total</b>	<b>7,689</b>		<b>471,708</b>						<b>690,955</b>	<b>558,884</b>	<b>60,195</b>	<b>596,828</b>	<b>219,248</b>	<b>125,120</b>	<b>94,128</b>
Total ex 7/1/2019-6/30/2020	6,833	356,961	432,613	75,652			43,992	31,660	498,690	558,884	60,195	501,673	126,272	69,060	57,212

## Notes:

(1) Provided by Client

(2) Prior Analysis

(3) = Exhibit Judges Professional-4 + Exhibit Judges Professional-14

(4) = (3) - (2)

(5) Prior Analysis

(6) Prior Analysis

(7) = [(9) - (2)] \* (1/(6) - 1/(5)) / (1 - 1/(5))

(8) = (4) - (7)

(9) Prior Analysis

(10) = Exhibit Judges Professional-4 + Exhibit Judges Professional-14

(11) = (10) - (9)

(12) = Exhibit Judges Professional-4 + Exhibit Judges Professional-14

(13) = (10) - (3)

(14) = (12) - (3)

(15) = (13) - (14)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Range Summary**

	Unpaid Claims Liability		
	Low	ACE	High
(1) Undiscounted	68,938	84,736	100,788
(2) Discounted at 2.0%	67,087	82,461	98,082

Notes:

(1) Exhibit Judges Disciplinary-4

(2) Exhibit Judges Disciplinary-2

Low and High discounted based on average discount for ACE

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Disciplinary)  
 March 31, 2020  
 Payout of Unpaid Claim Liabilities as of 3/31/2019

Accident Period	Loss & ALAE Reserve @ 03/31/20 (1)	Payments in Calendar Period										
		3/31/20-21	3/31/21-22	3/31/22-23	3/31/23-24	3/31/24-25	3/31/25-26	3/31/26-27	3/31/27-28	3/31/28-29	3/31/29-30	3/31/30-31
9/1/2015-6/30/2016	1,125	1,037	89	-	-	-	-	-	-	-	-	-
7/1/2016-6/30/2017	8,908	3,610	5,297	-	-	-	-	-	-	-	-	-
7/1/2017-6/30/2018	9,903	4,519	2,182	3,202	-	-	-	-	-	-	-	-
7/1/2018-6/30/2019	22,223	9,812	5,663	2,735	4,012	-	-	-	-	-	-	-
7/1/2019-6/30/2020	42,577	23,973	8,214	4,741	2,289	3,359	-	-	-	-	-	-
(2) Calendar Year Payments	<b>84,736</b>	42,951	21,446	10,678	6,302	3,359	-	-	-	-	-	-
(3) Duration of Payment		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5
(4) Discount Rate		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
(5) Discounted Payments	<b>82,461</b>	42,528	20,818	10,162	5,880	3,073	-	-	-	-	-	-

Notes:

(1) Exhibit Judges Disciplinary-3

(2) Total of Calendar Year Payments

(3) Age of Payments in Years

(4) Provided by Client

(5) = (2) / [ 1 + (4) ] ^ (3)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Reserves**

Accident Period	Loss Reserve (1)	ALAE Reserve (2)	Loss + ALAE Reserve (3)
9/1/2015-6/30/2016	0	1,125	1,125
7/1/2016-6/30/2017	0	8,908	8,908
7/1/2017-6/30/2018	0	9,903	9,903
7/1/2018-6/30/2019	0	22,223	22,223
7/1/2019-6/30/2020*	0	42,577	42,577
<b>Total</b>	<b>0</b>	<b>84,736</b>	<b>84,736</b>
	Ultimate Loss	Ultimate ALAE	Loss + ALAE
7/1/2020-6/30/2021	0	108,379	108,379

Notes:

(1) N/A

(2) Exhibit Judges Disciplinary-4

(3) = (1) + (2)

\* Partial year estimate as of 3/31/2020

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Disciplinary)  
 March 31, 2020  
**Summary of ALAE Reserves**

Accident Period	Paid (1)	Incurred (2)	Selected Ultimate (3)	Case Reserve (4)	IBNR Reserve (5)	EY ACE ALAE Reserve (6)	EY Low ALAE Reserve (7)	EY High ALAE Reserve (8)
9/1/2015-6/30/2016	35,456	35,456	36,582	0	1,125	1,125	0	2,506
7/1/2016-6/30/2017	146,393	146,393	155,300	0	8,908	8,908	6,614	11,201
7/1/2017-6/30/2018	76,736	76,736	86,639	0	9,903	9,903	7,641	12,166
7/1/2018-6/30/2019	58,086	60,906	80,308	2,820	19,403	22,223	19,112	25,333
7/1/2019-6/30/2020	48,348	51,382	90,925	3,034	39,543	42,577	35,571	49,583
<b>Total</b>	365,019	370,873	449,754	5,854	78,882	84,736	68,938	100,788

Notes:

(1) Exhibit Judges Disciplinary-6

(2) Exhibit Judges Disciplinary-8

(3) EY Select - latest year is a partial year estimate

(4) = (2) - (1)

(5) = (3) - (2)

(6) = (4) + (5)

(7) EY Select - latest year is a partial year estimate

(8) EY Select - latest year is a partial year estimate

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Comparison of Ultimate ALAE Estimates**

Accident Period	Exposure (# of Judge) (1)	Paid Development (2)	Incurred Development (3)	Paid BF (4)	Incurred BF (5)	Average (6)	Selected (7)	Ultimate ALAE Rate (8)	Ultimate ALAE/Loss (9)	Low Estimate (10)	High Estimate (11)
9/1/2015-6/30/2016	853	37,409	36,582	41,094	38,778	38,466	36,582	42.9	32.6%	35,456	37,962
7/1/2016-6/30/2017	853	160,479	155,300	155,872	152,587	156,060	155,300	182.1	669.5%	153,007	157,593
7/1/2017-6/30/2018	853	91,510	86,639	94,173	89,081	90,351	86,639	101.6	80.2%	84,377	88,902
7/1/2018-6/30/2019	862	81,707	80,308	89,637	87,274	84,732	80,308	93.2	109.5%	77,198	83,419
7/1/2019-6/30/2020	856	142,887	144,538	120,056	121,233	132,178	121,233	141.6	76.1%	111,893	130,574
7/1/2020-6/30/2021	856						108,379		112.6%		
<b>Total</b>	<b>5,133</b>						<b>588,442</b>				
Total x 7/1/2020-6/30/2021	4,277	513,992	503,367	500,831	488,953	501,786	480,063	112.2		461,930	498,451

**Notes:**

- |                                    |                             |
|------------------------------------|-----------------------------|
| (1) Provided by Client             | (6) Average (2) through (5) |
| (2) Exhibit Judges Disciplinary-6  | (7) EY Select               |
| (3) Exhibit Judges Disciplinary-8  | (8) = (7) / (1)             |
| (4) Exhibit Judges Disciplinary-10 | (9) N/A                     |
| (5) Exhibit Judges Disciplinary-11 | (10) EY Select              |
|                                    | (11) EY Select              |



State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Paid ALAE Development Method**

Accident Period	Paid ALAE (1)	Factor to Ultimate (2)	Ultimate ALAE (3)	Legacy Paid ALAE (4)	All Years Paid ALAE (5)	All Years Ultimate ALAE (6)
9/1/2015-6/30/2016	35,456	1.055	37,409	0	35,456	37,409
7/1/2016-6/30/2017	146,393	1.096	160,479	0	146,393	160,479
7/1/2017-6/30/2018	76,736	1.193	91,510	0	76,736	91,510
7/1/2018-6/30/2019	58,086	1.407	81,707	0	58,086	81,707
7/1/2019-6/30/2020	48,348	2.955	142,887	0	48,348	142,887
<b>Total</b>	<b>365,019</b>		<b>513,992</b>	<b>0</b>	<b>365,019</b>	<b>513,992</b>

## Notes:

(1) *Provided by Client*(2) *Exhibit Judges Disciplinary-7*

(3) = (1) x (2)

(4) *Provided by Client*

(5) = (1) + (4)

(6) = (5) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Paid ALAE- Disciplinary**

Accident Period	Months of Development				
	9	21	33	45	57
2016		21,796	33,103	35,456	35,456
2017	47,321	121,943	146,339	146,393	
2018	39,903	73,442	76,736		
2019	33,419	58,086			
2020	48,348				
Accident Period	Development Factors				
	9-21	21-33	33-45	45-57	57-69
2016		1.519	1.071	1.000	
2017	2.577	1.200	1.000		
2018	1.840	1.045			
2019	1.738				
Avg All	2.052	1.255	1.036	1.000	
Wtd Avg All	2.101	1.180	1.013	1.000	
Industry	2.857	2.188	1.293	1.130	1.184
Prior LDF	2.240	1.248	1.071	1.101	
Sel LDF	2.101	1.180	1.088	1.039	1.055
CDF	2.955	1.407	1.193	1.096	1.055

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Incurred ALAE Development Method**

Accident Period	Incurred ALAE (1)	Factor to Ultimate (2)	Ultimate ALAE (3)	Legacy Paid ALAE (4)	All Years Incurred ALAE (5)	All Years Ultimate ALAE (6)
9/1/2015-6/30/2016	35,456	1.032	36,582	0	35,456	36,582
7/1/2016-6/30/2017	146,393	1.061	155,300	0	146,393	155,300
7/1/2017-6/30/2018	76,736	1.129	86,639	0	76,736	86,639
7/1/2018-6/30/2019	60,906	1.319	80,308	0	60,906	80,308
7/1/2019-6/30/2020	51,382	2.813	144,538	0	51,382	144,538
<b>Total</b>	<b>370,873</b>		<b>503,367</b>	<b>0</b>	<b>370,873</b>	<b>503,367</b>

Notes:

(1) *Provided by Client*

(2) *Exhibit Judges Disciplinary-9*

(3) = (1) x (2)

(4) *Provided by Client*

(5) = (1) + (4)

(6) = (5) x (2)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
Incurred ALAE- Disciplinary

Accident Period	Months of Development				
	9	21	33	45	57
2016		22,885	33,103	35,456	35,456
2017	47,321	123,030	146,339	146,393	
2018	39,903	73,442	76,736		
2019	33,419	60,906			
2020	51,382				
Accident Period	Development Factors				
	9-21	21-33	33-45	45-57	57-69
2016		1.446	1.071	1.000	
2017	2.600	1.189	1.000		
2018	1.840	1.045			
2019	1.823				
Avg All	2.088	1.227	1.036	1.000	
Wtd Avg All	2.133	1.168	1.013	1.000	
Industry	1.563	1.163	1.064	1.028	1.032
Prior LDF	2.252	1.230	1.071	1.057	
Sel LDF	2.133	1.168	1.064	1.028	1.032
CDF	2.813	1.319	1.129	1.061	1.032

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Paid ALAE**

Accident Period	Expected ALAE (1)	Paid Factor to Ultimate (2)	Unpaid Percent (3)	Expected Unpaid ALAE (4)	Paid ALAE (5)	Ultimate ALAE (6)
9/1/2015-6/30/2016	107,999	1.055	5.2%	5,637	35,456	41,094
7/1/2016-6/30/2017	107,999	1.096	8.8%	9,480	146,393	155,872
7/1/2017-6/30/2018	107,999	1.193	16.1%	17,436	76,736	94,173
7/1/2018-6/30/2019	109,139	1.407	28.9%	31,552	58,086	89,637
7/1/2019-6/30/2020	108,379	2.955	66.2%	71,707	48,348	120,056
Total	541,517			135,813	365,019	500,831

Notes:

(1) Exhibit Judges Disciplinary-12

(2) Exhibit Judges Disciplinary-6

(3) = 1 - 1/(2)

(4) =(1) x (3)

(5) Exhibit Judges Disciplinary-6

(6) =(4) + (5)

State of Ohio - Office of Risk Management  
Judges' Self-Insured Liability Program (Disciplinary)  
March 31, 2020  
**Bornhuetter-Ferguson Method Using Incurred ALAE**

Accident Period	Expected ALAE (1)	Incurred Factor to Ultimate (2)	Unreported Percent (3)	Expected Unreported ALAE (4)	Incurred ALAE (5)	Ultimate ALAE (6)
9/1/2015-6/30/2016	107,999	1.032	3.1%	3,322	35,456	38,778
7/1/2016-6/30/2017	107,999	1.061	5.7%	6,195	146,393	152,587
7/1/2017-6/30/2018	107,999	1.129	11.4%	12,345	76,736	89,081
7/1/2018-6/30/2019	109,139	1.319	24.2%	26,368	60,906	87,274
7/1/2019-6/30/2020	108,379	2.813	64.5%	69,851	51,382	121,233
Total	541,517			118,081	370,873	488,953

Notes:

(1) Exhibit Judges Disciplinary-12

(2) Exhibit Judges Disciplinary-8

(3) =  $1 - 1/(2)$ (4) =  $(1) \times (3)$ 

(5) Exhibit Judges Disciplinary-8

(6) = (4) + (5)

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Disciplinary)  
 March 31, 2020

Loss Rate Helper: Selection for Bornhuetter-Ferguson Method - ALAE

Accident Period	Exposure (# of Judges) (1)	Developed Paid ALAE w/ Legacy Data (2)	Developed Incurred ALAE w/ Legacy Data (3)	Prior Ultimate ALAE (4)	Initial Selected Ultimate ALAE (5)	0.00% Net Trend Rate (6)	On-level Selected Ultimate Rate (7)	Developed ALAE Rate (8)	Detrended Selected Expected ALAE Rate (9)	Expected ALAE (10)
9/1/2015-6/30/2016	853	37,409	36,582	37,480	36,995	1.000	36,995	43	127	107,999
7/1/2016-6/30/2017	853	160,479	155,300	165,692	157,889	1.000	157,889	185	127	107,999
7/1/2017-6/30/2018	853	91,510	86,639	102,261	86,639	1.000	86,639	102	127	107,999
7/1/2018-6/30/2019	862	81,707	80,308	106,814	80,308	1.000	80,308	93	127	109,139
7/1/2019-6/30/2020	856	142,887	144,538	107,750	144,538	1.000	144,538	169	127	108,379
7/1/2020-6/30/2021						1.000			127	108,379
<b>Total</b>	<b>7,689</b>									

Average ex Last	106
Average All	118
Average 3	121
Prior Selected	125
(11) Selected Average	127

Notes:

- (1) Provided by Client
- (2) Exhibit Judges Disciplinary-6
- (3) Exhibit Judges Disciplinary-8
- (4) EY Selected Ultimate in prior analysis
- (5) EY Select

- (6) EY Select
- (7) = (5) x (6)
- (8) = (7) / (1)
- (9) EY Select
- (10) = (9) x (1)
- (11) EY Select

State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
 Actual vs Expected - Incurred ALAE - Disciplinary

Accident Period	Exposure (# of Judges) (1)	Incurred @ 03/31/19 (2)	Incurred @ 03/31/20 (3)	Actual Dev't (4)	CDF @ 03/31/19 (5)	CDF @ 03/31/20 (6)	Expected Dev't (7)	Variance (8)	Ultimate ALAE @ 03/31/19 (9)	Ultimate ALAE @ 03/31/20 (10)	Change from @ 03/31/19 (11)	Paid ALAE @ 03/31/20 (12)	Total Reserves (13)	Case Reserves (14)	IBNR Reserves (15)
9/1/2015-6/30/2016	853	35,456	35,456	0	1.057	1.039	631	(631)	37,480	36,582	(899)	35,456	1,125	0	1,125
7/1/2016-6/30/2017	853	146,339	146,393	54	1.132	1.055	10,641	(10,587)	165,692	155,300	(10,392)	146,393	8,908	0	8,908
7/1/2017-6/30/2018	853	73,442	76,736	3,294	1.392	1.132	16,874	(13,580)	102,261	86,639	(15,622)	76,736	9,903	0	9,903
7/1/2018-6/30/2019	862	33,419	60,906	27,487	3.136	1.392	43,029	(15,542)	106,814	80,308	(26,505)	58,086	22,223	2,820	19,403
7/1/2019-6/30/2020	856		51,382	51,382		3.136				90,925		48,348	42,577	3,034	39,543
<b>Total</b>	<b>7,689</b>		<b>370,873</b>						<b>449,754</b>	<b>358,829</b>	<b>(53,418)</b>	<b>365,019</b>	<b>84,736</b>	<b>5,854</b>	<b>78,882</b>
Total ex 7/1/2019-6/30/2020	6,833	288,656	319,491	30,835			71,175	(40,340)	412,247	358,829	(53,418)	316,671	42,159	2,820	39,339

Notes:

- (1) Provided by Client
- (2) Prior EY Analysis
- (3) = Exhibit Judges Disciplinary-4
- (4) = (3) - (2)
- (5) Prior EY Analysis
- (6) Prior EY Analysis
- (7) = [(9) - (2)] \* (1/(6) - 1/(5)) / (1 - 1/(5))
- (8) = (4) - (7)

- (9) Prior EY Analysis
- (10) = Exhibit Judges Disciplinary-4
- (11) = (10) - (9)
- (12) = Exhibit Judges Disciplinary-4
- (13) = (10) - (12)
- (14) = (3) - (12)
- (15) = (13) - (14)



State of Ohio - Office of Risk Management  
 Judges' Self-Insured Liability Program (Employment Practices Liability)  
 March 31, 2020  
 Actual vs Expected - Paid ALAE - Disciplinary

Accident Period	Exposure (# of Judges) (1)	Paid @ 03/31/19 (2)	Paid @ 03/31/20 (3)	Actual Dev't (4)	CDF @ 03/31/19 (5)	CDF @ 03/31/20 (6)	Expected Dev't (7)	Variance (8)	Ultimate ALAE @ 03/31/19 (9)	Ultimate ALAE @ 03/31/20 (10)	Change from @ 03/31/19 (11)	Incurred ALAE @ 03/31/20 (12)	Total Reserves (13)	Case Reserves (14)	IBNR Reserves (15)
9/1/2015-6/30/2016	853	35,456	35,456	0	1.101	1.068	622	(622)	37,480	36,582	(899)	35,456	1,125	0	1,125
7/1/2016-6/30/2017	853	146,339	146,393	54	1.180	1.099	7,957	(7,903)	165,692	155,300	(10,392)	146,393	8,908	0	8,908
7/1/2017-6/30/2018	853	73,442	76,736	3,294	1.473	1.180	15,141	(11,847)	102,261	86,639	(15,622)	76,736	9,903	0	9,903
7/1/2018-6/30/2019	862	33,419	58,086	24,667	3.299	1.473	39,587	(14,920)	106,814	80,308	(26,505)	60,906	22,223	2,820	19,403
7/1/2019-6/30/2020	856		48,348	48,348		3.299				90,925		51,382	42,577	3,034	39,543
<b>Total</b>	<b>7,689</b>		<b>365,019</b>						<b>449,754</b>			<b>370,873</b>	<b>84,736</b>	<b>5,854</b>	<b>78,882</b>
Total ex 7/1/2019-6/30/2020	6,833	288,656	316,671	28,015			63,305	(35,291)	412,247	358,829	(53,418)	319,491	42,159	2,820	39,339

Notes:

- (1) Provided by Client
- (2) Prior EY Analysis
- (3) = Exhibit Judges Disciplinary-4
- (4) = (3) - (2)
- (5) Prior EY Analysis
- (6) Prior EY Analysis
- (7) = [(9) - (2)] \* (1/(6) - 1/5) / (1 - 1/5)
- (8) = (4) - (7)

- (9) Prior EY Analysis
- (10) = Exhibit Judges Disciplinary-4
- (11) = (10) - (9)
- (12) = Exhibit Judges Disciplinary-4
- (13) = (10) - (3)
- (14) = (12) - (3)
- (15) = (13) - (14)

EY | Assurance | Tax | Strategy and  
Transactions | Consulting

**About EY**

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit [ey.com](http://ey.com).

© 2020 Ernst & Young LLP  
All Rights Reserved.

[www.ey.com](http://www.ey.com)