

# Oklahoma Schools Insurance Group

Financial Report  
June 30, 2019 and 2018

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**Independent Auditor's Report**

The Board of Trustees  
Oklahoma Schools Insurance Group

**Report on the Financial Statements**

We have audited the accompanying financial statements of Oklahoma Schools Insurance Group, which comprise the statements of net position, as of June 30, 2019 and 2018, and the related statements of revenues, expenses, and changes in net position, and cash flows for the years then ended, and the related notes to the financial statements.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Oklahoma Schools Insurance Group as of June 30, 2019 and 2018, and the results of its operations and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matters***Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and loss development information, as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*RSM US LLP*

Oklahoma City, Oklahoma  
November 11, 2019

## Oklahoma Schools Insurance Group

### Management's Discussion and Analysis

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The following Management's Discussion and Analysis (MD&A) of the activities and financial performance of Oklahoma Schools Insurance Group (OSIG) provides an introduction to the financial statements for the years ended June 30, 2019 and 2018.

OSIG, established in July 2001, is an Interlocal Cooperation Act Agency of schools offering membership to public school districts in Oklahoma, with a mission to provide quality, cost effective, risk management products and services to its member school districts.

### Financial and Activity Highlights

	Years Ended June 30		
	2019	2018	2017
Member schools at beginning of year	375	377	349
Member schools added (lost) during the year, net	25	(2)	28
Total member schools, end of year	400	375	377
Member contributions	\$ 32,872,092	\$ 26,291,720	\$ 25,448,903
Member distributions	1,478,521	-	-

During the years ended June 30, 2019, 2018, and 2017 net position increased (decreased) \$23,333, \$636,127 and \$(1,481,313), respectively. These changes are a direct result of claim experience, the benefit of excess insurance policies protecting against large claim losses and investment income. In years ended June 30, 2019, 2018 and 2017, OSIG declared \$1,478,521, \$-0- and \$-0- distributions to the members.

The school superintendents who serve on the OSIG Board of Trustees have played an integral part in the formation and critical decisions of OSIG. All member schools have a voice in OSIG. It is a school-owned program, run by its members and in business solely to serve Oklahoma schools.

OSIG operates under the open meeting act similar to school districts. OSIG has several committees comprised of school superintendents from the Board of Trustees and welcomes anyone who wants to serve on those committees. In addition to the property and casualty insurance program available to OSIG members, OSIG offers online training programs in the areas of child safety and child sexual abuse prevention and various employment practices liability issues to its member schools. Additional services may be added in the future. As of June 30, 2019, OSIG has 400 member school districts.

### Board of Trustees:

- Terry Davidson—Superintendent—Comanche Public Schools
- Rick Thomas—Superintendent—Skiatook Public Schools
- Dusty Ricks—Superintendent—Mid America Technology Center
- Brad Overton—Superintendent—Cordell Schools
- Randy Hughes—Superintendent—McAlester Schools
- John Cox—Superintendent—Peggs Schools
- Sherry Durkee—Superintendent—Sand Springs Public Schools

**Executive director:** David Martin

## Oklahoma Schools Insurance Group

### Management's Discussion and Analysis

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#### Financial and Activity Highlights (Continued)

**Program administrators:** Arthur J. Gallagher Risk Management Services, Inc.:

- Wally Bryce—national vice president business development
- Jay Eshelman—regional president
- Chris Mangum—area president
- Jennifer McKenzie—program manager
- Morgan McDonald – senior customer service representative
- Susan Sullivan—administrative assistant
- Roger Johnson—independent loss control consultant
- Marty Martin—independent loss control consultant

**Claims administrators:** Alternative Service Concepts, LLC:

- Richard Hall—senior liability claims adjuster
- Lacrista Medina—liability claims adjuster

**Accounting and assurance services:**

- Hogan and Taylor, L.L.P. (accounting services)
- RSM US LLP (audit services)
- Select Actuarial Services (actuarial services)

**Insurance coverage and carriers:**

Coverage	Insurance Company	AM BEST Financial Rating
Buildings and contents	Alliant Property Insurance Program	A-VIII to A++XV
Automobile physical damage	Alliant Property Insurance Program	A-VIII to A++XV
Cyber liability	Alliant Property Insurance Program	A-VIII to A++XV
Boiler and machinery	Travelers Property & Casualty	A++ XV
General liability	United Educators Insurance Company	A IX
Automobile liability	United Educators Insurance Company	A IX
Educators legal liability	United Educators Insurance Company	A IX
Umbrella liability	United Educators Insurance Company	A IX
Pollution	Illinois Union Insurance Company	A++XV
School violent act protection	Self-funded	N/A
Crime	Self-funded	N/A

**Mission statement:** The mission of Oklahoma Schools Insurance Group (OSIG) is to provide quality, cost effective, risk management products and services to member schools.

## Oklahoma Schools Insurance Group

### Management's Discussion and Analysis

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#### Overview of the Financial Statements

This report consists of the MD&A (this part), the statements of net position, the statements of revenues, expenses and changes in net position and the statements of cash flows. These statements provide financial information on OSIG as a whole.

These statements include all assets and liabilities using the accrual basis of accounting, which is consistent with the accounting used by private-sector institutions. All of the current year's revenues and expenses are recognized when earned or incurred, regardless of when cash is received or paid. Capital assets are capitalized and depreciated over their useful lives.

This financial report is designed to provide member school districts, creditors and suppliers with a general overview of OSIG's finances.

**The statements of net position:** The statements of net position and the statements of revenues, expenses and changes in net position report OSIG's net position and how it has changed over the stated period. Net position, the difference between assets plus deferred outflows of resources and liabilities plus deferred inflows of resources, is one measure of OSIG's financial health or position. OSIG has no deferred outflows or inflows at June 30, 2019, 2018 or 2017. The following summarizes OSIG's assets, liabilities and net position as of June 30, 2019, 2018 and 2017:

	As of June 30		
	2019	2018	2017
Assets:			
Cash, cash equivalents and investments	\$ 23,003,506	\$ 24,390,499	\$ 20,276,093
Reinsurance receivable	4,787,340	961,957	619,729
Other	82,405	564,364	80,797
Total assets	<u>\$ 27,873,251</u>	<u>\$ 25,916,820</u>	<u>\$ 20,976,619</u>
Liabilities:			
Unpaid losses and loss adjustment expenses	\$ 12,724,860	\$ 10,870,371	\$ 8,074,359
Prepaid member contributions	1,768,368	1,623,772	1,635,182
Other	1,535,354	1,601,341	81,959
Total liabilities	<u>\$ 16,028,582</u>	<u>\$ 14,095,484</u>	<u>\$ 9,791,500</u>
Net position:			
Investment in capital assets	\$ -	\$ 13	\$ 165
Unrestricted	11,844,669	11,821,323	11,184,954
Total net position	<u>\$ 11,844,669</u>	<u>\$ 11,821,336</u>	<u>\$ 11,185,119</u>

## Oklahoma Schools Insurance Group

### Management's Discussion and Analysis

#### Overview of the Financial Statements (Continued)

**The statements of revenues, expenses and changes in net position:** The following summarizes OSIG's statements of revenues, expenses and changes in net position for the years ended June 30, 2019, 2018 and 2017:

	Years Ended June 30		
	2019	2018	2017
Operating revenues:			
Member contributions	\$ 32,872,092	\$ 26,291,720	\$ 25,448,903
Operating expenses:			
Losses and loss adjustment expenses	9,950,688	8,931,545	9,966,761
Insurance premiums	15,352,691	11,204,265	11,652,147
Agent commissions	3,175,125	2,631,850	2,545,495
Management fees	2,629,767	2,103,338	2,048,853
Claims administration fees	588,769	617,000	517,423
Risk management services	137,512	-	-
Other expenses	289,281	298,942	287,143
Total operating expenses	32,123,833	25,786,940	27,017,822
Operating income (loss)	748,259	504,780	(1,568,919)
Nonoperating revenues:			
Investment income	474,913	318,870	231,647
Net change in fair value of investments	278,682	(187,433)	(144,041)
Net nonoperating revenues	753,595	131,437	87,606
Distributions to members	1,478,521	-	-
Change in net position	23,333	636,217	(1,481,313)
Net position at beginning of year	11,821,336	11,185,119	12,666,432
Net position at end of year	\$ 11,844,669	\$ 11,821,336	\$ 11,185,119

All of OSIG's operating revenue is related to the receipt of member contributions from OSIG's member school districts. OSIG's operating expenses primarily relate to insurance premiums, claims losses and loss adjustment expenses, agent commissions, management fees and claims administration fees. The nonoperating revenues are comprised of investment income and the net change in fair value of investments.



## Oklahoma Schools Insurance Group

### Management's Discussion and Analysis

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#### Overview of the Financial Statements (Continued)

**The statements of cash flows:** The primary purpose of the statements of cash flows is to provide information about the cash receipts and disbursements of an entity during a period. These statements also aid in the assessment of an entity's ability to generate future cash flows, ability to meet obligations as they come due and needs for external financing. The following summarizes OSIG's cash flows for the years ended June 30, 2019, 2018 and 2017:

	Years Ended June 30		
	2019	2018	2017
Cash provided by (used in):			
Operating activities	\$ (2,171,529)	\$ 3,994,314	\$ (2,069)
Financing activities	-	-	(996,598)
Investing activities	3,876,287	(3,731,662)	1,467,421
Net change in cash and cash equivalents	1,704,758	262,652	468,754
Cash and cash equivalents at beginning of year	3,258,884	2,996,232	2,527,478
Cash and cash equivalents at end of year	<u>\$ 4,963,642</u>	<u>\$ 3,258,884</u>	<u>\$ 2,996,232</u>

OSIG's overall liquidity increased during the years ended June 30, 2019, 2018 and 2017, with a net increase to cash and cash equivalents of \$1,704,758, \$262,652 and \$468,754, respectively. The cash provided by or used in operating activities is primarily related to receipts of member contributions, offset by the payment of claims, insurance premiums and management expenses. Cash provided by or used in investing activities relates to net purchases and sales of investments, offset by interest and dividend income received. Cash used in financing activities relates to capital asset purchases.

#### Member Distributions

When underwriting results are favorable, OSIG makes every effort to distribute equity back to its' member schools. OSIG declared a distribution to the members of \$1,478,521 in 2019.

#### Capital Asset and Debt Administration

OSIG had no significant capital asset activity and no debt administration activity during the years ended June 30, 2019, 2018 or 2017.

#### Economic Factors and Premium Rates

OSIG's management considered many factors when developing the annual operating budget for the fiscal year ending June 30, 2020.

The budget for the fiscal year ending June 30, 2020, was developed based upon the following key assumptions:

- Premium contributions are based upon the losses projected to be incurred for the upcoming year and premium costs from the reinsurance markets. These contributions are expected to increase approximately 30.1% due to approximately 50 new members joining OSIG and an increase in reinsurance premium costs.
- Investment income is projected to be approximately 4.0% of the market value of total investments.
- Forecasted claim losses are based upon actuarial assumptions.

# Oklahoma Schools Insurance Group

## Statements of Net Position June 30, 2019 and 2018

	2019	2018
<b>Assets</b>		
Current assets:		
Cash and cash equivalents	\$ 4,963,642	\$ 3,258,884
Investments	1,495,275	4,263,602
Reinsurance receivable:		
Reinsurance receivable on paid and unpaid losses	31,712,286	14,764,127
Less reinsurance recoverable on unpaid losses	(26,924,946)	(13,802,170)
Reinsurance recoverable on paid losses	4,787,340	961,957
Accounts receivable	21,841	472,846
Interest receivable	17,652	51,857
Dividend receivable	30,285	27,021
Prepaid expenses	12,627	12,627
<b>Total current assets</b>	<b>11,328,662</b>	<b>9,048,794</b>
Noncurrent assets:		
Investments	16,544,589	16,868,013
Capital assets, net	-	13
<b>Total assets</b>	<b>\$ 27,873,251</b>	<b>\$ 25,916,820</b>
<b>Liabilities and Net Position</b>		
Current liabilities:		
Unpaid losses and loss adjustment expenses:		
Gross case reserves	\$ 37,471,806	\$ 22,720,541
Less reinsurance recoverable on unpaid losses	(26,924,946)	(13,802,170)
Net unpaid losses and loss adjustment expenses	10,546,860	\$ 8,918,371
Accrued expenses	56,833	173,376
Prepaid member contributions	1,768,368	1,623,772
Advanced reinsurance recoveries	-	1,427,965
Distributions payable to members	1,478,521	-
<b>Total current liabilities</b>	<b>13,850,582</b>	<b>12,143,484</b>
Noncurrent liabilities:		
Unpaid losses and loss adjustment expenses:		
Incurred but not reported (IBNR) reserves	\$ 2,178,000	1,952,000
<b>Total liabilities</b>	<b>16,028,582</b>	<b>14,095,484</b>
Net position:		
Investment in capital assets	-	13
Unrestricted	11,844,669	11,821,323
<b>Total net position</b>	<b>11,844,669</b>	<b>11,821,336</b>
<b>Total liabilities and net position</b>	<b>\$ 27,873,251</b>	<b>\$ 25,916,820</b>

See notes to financial statements.

# Oklahoma Schools Insurance Group

## Statements of Revenues, Expenses, and Changes in Net Position Years Ended June 30, 2019 and 2018

	2019	2018
Operating revenues:		
Member contributions	\$ 32,872,092	\$ 26,291,720
Operating expenses:		
Losses and loss adjustment expenses, net	9,950,688	8,931,545
Insurance premiums	15,352,691	11,204,265
Agent commissions	3,175,125	2,631,850
Management fees	2,629,767	2,103,338
Claims administration fees	588,769	617,000
Executive director expenses	106,437	105,277
Actuarial and accounting	92,715	93,973
Risk management services	137,512	-
Other	90,129	99,692
<b>Total operating expenses</b>	<b>32,123,833</b>	<b>25,786,940</b>
<b>Operating income</b>	<b>748,259</b>	<b>504,780</b>
Nonoperating revenues (expenses):		
Investment income	474,913	318,870
Net change in the fair value of investments	278,682	(187,433)
<b>Net nonoperating revenues (expenses)</b>	<b>753,595</b>	<b>131,437</b>
<b>Change in net position before distributions</b>	<b>1,501,854</b>	<b>636,217</b>
Distributions to members	1,478,521	-
<b>Change in net position</b>	<b>23,333</b>	<b>636,217</b>
Net position at beginning of year	11,821,336	11,185,119
Net position at end of year	\$ 11,844,669	\$ 11,821,336

See notes to financial statements.

# Oklahoma Schools Insurance Group

## Statements of Cash Flows Years Ended June 30, 2019 and 2018

	2019	2018
Operating activities:		
Member contributions received	\$ 31,248,320	\$ 24,656,538
Prepaid member contributions received	1,768,368	1,623,772
Cash received from reinsurers	20,270,755	12,359,986
Cash payments for insurance premiums, claims, management and administrative fees and other operating expenses	(55,458,972)	(34,645,982)
<b>Net cash provided by (used in) operating activities</b>	<b>(2,171,529)</b>	<b>3,994,314</b>
Investing activities:		
Purchases of investments	(9,300,000)	(10,000,000)
Proceeds from maturity and sales of investments	12,900,000	5,998,511
Interest and dividend income received	276,287	269,827
<b>Net cash provided by (used in) investing activities</b>	<b>3,876,287</b>	<b>(3,731,662)</b>
<b>Net change in cash and cash equivalents</b>	<b>1,704,758</b>	<b>262,652</b>
Cash and cash equivalents at beginning of year	3,258,884	2,996,232
Cash and cash equivalents at end of year	<u>\$ 4,963,642</u>	<u>\$ 3,258,884</u>
Reconciliation of operating income to net cash provided by (used in) operating activities:		
Operating income	\$ 748,259	\$ 504,780
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	13	152
Changes in assets and liabilities:		
Reinsurance receivable	(3,825,383)	(342,228)
Prepaid expenses	-	472
Accounts receivable	451,005	(472,846)
Accrued expenses	(116,543)	91,417
Advanced reinsurance recoveries	(1,427,965)	1,427,965
Prepaid member contributions	144,596	(11,410)
Unpaid losses and loss adjustment expenses—case reserves and incurred but not reported (IBNR) reserves	1,854,489	2,796,012
<b>Net cash provided by (used in) operating activities</b>	<b>\$ (2,171,529)</b>	<b>\$ 3,994,314</b>

See notes to financial statements.

## Oklahoma Schools Insurance Group

### Notes to Financial Statements

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#### Note 1. Organization and Significant Accounting Policies

**Organization:** Oklahoma Schools Insurance Group (OSIG) was established by an agreement with an effective date of July 1, 2001, and a duration of fifty years, unless sooner dissolved or extended. OSIG is an Interlocal Cooperation Act Agency of schools offering membership to public school districts in Oklahoma with a mission to provide quality, cost effective, risk management products and services to its members.

OSIG is governed by a seven-member Board of Trustees elected by and from representatives of its members. Trustee responsibilities include reviewing and ensuring compliance with OSIG's policies and services as contemplated in its establishing agreement and bylaws. Title to all assets acquired by OSIG is vested in it. Each participating member pays for all costs, premiums or other fees attributable to its respective participation in any plan, policy or service created in the establishing agreement and is responsible for its obligation under any contract entered into with OSIG. In the event of dissolution of OSIG, the funds and other assets not necessary to pay claims or the expenses of OSIG are to be distributed to the members in accordance with the bylaws as determined by the Board of Trustees.

**Financial statement presentation:** OSIG's financial statements are presented in accordance with the requirements of Governmental Accounting Standards Board (GASB) specific to enterprise fund activities. Under these requirements, OSIG is required to present a statement of net position classified between current and noncurrent assets and liabilities, a statement of revenues, expenses and changes in net position, with separate presentation for operating and nonoperating revenues and expenses and a statement of cash flows, using the direct method.

**Basis of accounting:** For financial reporting purposes, OSIG is considered a special-purpose government entity engaged only in business-type activities. Accordingly, OSIG's financial statements have been presented using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis, revenues are recognized when earned and expenses are recorded when an obligation has been incurred.

**Cash, cash equivalents and other deposits:** OSIG considers investments with original maturities of three months or less to be cash equivalents. OSIG had no cash equivalents at June 30, 2019 or 2018.

**Investments:** Investments, which include certificates of deposit and mortgage-backed securities obligations, are reported at fair value. Fair value is the last reported sales price at current exchange rates on a national exchange, as available, or estimated fair value as provided by the investment manager. All investments expected to be liquidated in the next fiscal year to cover claim payments are reported as current. Remaining investments are reported as noncurrent.

**Allowance for doubtful accounts:** Based on a review of the current status of existing receivables, OSIG's management determined that an allowance for doubtful accounts for reinsurance and accounts receivables at June 30, 2019 and 2018, was not necessary.

**Unpaid losses and loss adjustment expenses:** The provision for unpaid losses and loss adjustment expenses includes the estimated costs of investigating and settling all claims incurred as of the date of the statements of net position. Such amounts include estimates for case reserves and incurred but not reported (IBNR) claims and are determined on the basis of claims adjusters' evaluations and independent actuarial estimates. Unpaid losses and loss adjustment expenses are reported net of amounts that are expected to be recovered from excess carriers. Unpaid losses and loss adjustment expenses are not discounted for expected investment rates of return.

**Estimates:** The preparation of financial statements in conformity with accounting principles generally accepted in the United State of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

## Oklahoma Schools Insurance Group

### Notes to Financial Statements

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#### Note 1. Organization and Significant Accounting Policies (Continued)

**Income taxes:** OSIG is a public entity organized under the laws of the state of Oklahoma and, as such, is considered to be an instrumentality of a political subdivision exempt from federal income taxes under Internal Revenue Code section 115.

**Revenue recognition:** Insurance contracts with members are for a one-year period beginning July 1 through June 30. Member contributions are determined on a member-by-member basis and are due at the beginning of each contract period and are recognized as revenue over the period of the contract. OSIG's program administrator calculates each member's contribution using base rates provided by OSIG's insurance carriers and factors, to include underwriting considerations, administrative expenses, claims adjustment expenses and agent commissions. Prepaid member contributions are amounts received for which coverage has not yet been provided.

**Classification of revenues:** OSIG has classified its revenues as either operating or nonoperating revenues. Operating revenues include transactions that constitute OSIG's principal ongoing operations, such as member contributions. Nonoperating revenues consist of other revenue sources that are defined as nonoperating revenues, such as investment income.

**Custodial credit risk—deposits:** Custodial credit risk is the risk that in the event of bank failure, OSIG's deposits may not be returned to it. OSIG does not have a deposit policy for custodial credit risk. As of June 30, 2019 and 2018, OSIG had fully insured cash on deposits with financial institutions of approximately \$500,000. As of June 30, 2019, approximately \$16,233,000 of OSIG's bank balance of approximately \$16,734,000 (carrying amount of approximately \$16,532,600) was uninsured and uncollateralized and therefore exposed to custodial credit risk. As of June 30, 2018, approximately \$7,020,000 of OSIG's bank balance of approximately \$7,520,000 (carrying amount of approximately \$7,299,000) was uninsured and uncollateralized and therefore exposed to custodial credit risk.

#### Note 2. Deposits and Investments

**Custodial credit risk—investments:** For an investment, custodial credit risk is the risk that OSIG will not be able to recover the value of its investments that are in the possession of its safekeeping custodians. All of OSIG's investments are held by its agent in OSIG's name. Accordingly, no investments are subject to custodial credit risk. At June 30, 2019, OSIG held negotiable certificates of deposit with an original maturity exceeding three months, totaling \$12,067,642. At June 30, 2018, OSIG held negotiable certificates of deposit with an original maturity exceeding three months, totaling \$5,773,838. The certificates of deposits are fully insured by the Federal Deposit Insurance Corporation (FDIC).

**Credit risk:** OSIG's mortgage-backed securities may contain provisions that they are callable before maturity at the option of the issuer with call dates of less than one year. The balance of the June 30, 2019 and 2018 mortgage-backed securities are in Federal Farm Credit Bank, Federal Home Loan Bank, Fannie Mae, or Freddie Mac mortgage-backed securities, which total \$5,972,222 and \$15,357,777, respectively, and are rated AA+ by Standard & Poor's.

## Oklahoma Schools Insurance Group

### Notes to Financial Statements

#### Note 2. Deposits and Investments (Continued)

**Fair value hierarchy:** OSIG categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the assets. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs, including quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets in markets that are not active, and other market corroborated inputs; Level 3 inputs are significant unobservable inputs. The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument and should not be perceived as the particular investment's risk.

OSIG has the following Level 2 fair value of investments as of June 30, 2019 and 2018:

	2019	2018
Certificates of deposit	\$ 12,067,642	\$ 5,773,838
Mortgage-backed securities:		
Federal Farm Credit Bank	2,984,447	5,523,753
Federal Home Loan Bank	2,987,775	3,955,380
Fannie Mae	-	3,923,420
Freddie Mac	-	1,955,224
Total	<u>\$ 18,039,864</u>	<u>\$ 21,131,615</u>

Maturities of investments as of June 30, 2019, are as follows:

Investment Type	Investment Maturities (In Years)				
	Fair Value	Less Than 1	1–5	6–10	More Than 10
Certificates of deposit	\$ 12,067,642	\$ 498,684	\$ 11,568,958	\$ -	\$ -
Mortgage-backed securities	5,972,222	996,591	4,975,631	-	-
Total	<u>\$ 18,039,864</u>	<u>\$ 1,495,275</u>	<u>\$ 16,544,589</u>	<u>\$ -</u>	<u>\$ -</u>

Maturities of investments as of June 30, 2018, are as follows:

Investment Type	Investment Maturities (In Years)				
	Fair Value	Less Than 1	1–5	6–10	More Than 10
Certificates of deposit	\$ 5,773,838	\$ 2,269,592	\$ 3,504,246	\$ -	\$ -
Mortgage-backed securities	15,357,777	1,994,010	13,363,767	-	-
Total	<u>\$ 21,131,615</u>	<u>\$ 4,263,602</u>	<u>\$ 16,868,013</u>	<u>\$ -</u>	<u>\$ -</u>

All investments expected to be liquidated in the next fiscal year to cover claim payments are reported as current in the accompanying statements of net position. Remaining investments are reported as noncurrent.



## Oklahoma Schools Insurance Group

### Notes to Financial Statements

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#### Note 2. Deposits and Investments (Continued)

**Interest rate risk:** OSIG does not have a formal policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. The majority of OSIG's investments are in mortgage-backed securities, which are subject to risks associated with rising interest rates.

**Concentration of credit risk:** OSIG does not have a formal policy that limits the amount of an investment into a single issuer. Exposure to concentration of credit risk is considered to exist when investments in any one issuer represent a significant percent of total investments of OSIG (any over 5% are disclosed). Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools and other pooled investments are excluded from this consideration. As of June 30, 2019, OSIG held securities issued from the following unsecured issuers as a percentage of OSIG's total investments:

	2019	2018
Federal Farm Credit Bank	16.54%	26.14%
Federal Home Loan Bank	16.56%	18.72%
Fannie Mae	0%	18.57%
Freddie Mac	0%	9.25%

#### Note 3. Administrative and Other Costs

For the years ended June 30, 2019 and 2018, the Board of Trustees contracted with Arthur J. Gallagher Risk Management Services (Arthur J. Gallagher) to serve as the program administrator. Under the terms of the contract with Arthur J. Gallagher, OSIG agreed to pay Arthur J. Gallagher a fee equal to 8% of member contributions for the years ended June 30, 2019 and 2018. Fees paid to Arthur J. Gallagher for the years ended June 30, 2019 and 2018, totaled approximately \$2,630,000 and \$2,103,000, respectively.

For the years ended June 30, 2019 and 2018, the Board of Trustees contracted with Alternative Service Concepts LLC (ASC) to be the third-party administrator responsible for claims processing. Fees paid to ASC for the years ended June 30, 2019 and 2018, totaled approximately \$589,000 and \$617,000, respectively. OSIG also pays a 10% commission to each member's insurance agent, which totaled approximately \$3,175,000 and \$2,632,000 for the years ended June 30, 2019 and 2018, respectively. Additionally, OSIG contracted with David Martin to serve as OSIG's executive director. Payments to David Martin for services rendered under the contract was approximately \$93,000 and \$91,000 during the years ended June 30, 2019 and 2018, respectively.

#### Note 4. Unpaid Losses and Loss Adjustment Expenses

The coverage offered by OSIG is on an occurrence basis except educators' legal liability, which is afforded to members on a claims-made basis. The liability for unpaid losses and loss adjustment expenses is estimated, based upon an evaluation of reported claims and an estimate for IBNR claims. The IBNR reserve estimates expenses related to incidents which have already occurred, but have not yet been reported as a claim, and expected future development of claims already reported. The estimate is based on a study performed by an independent actuarial service with actual claims data as of June 30, 2019 and 2018. The accuracy of these estimates cannot be determined prior to the ultimate settlement of each claim. Accordingly, the ultimate cost of settling these claims may vary significantly from the liabilities recorded at year-end and may do so in the near term.



## Oklahoma Schools Insurance Group

### Notes to Financial Statements

#### Note 4. Unpaid Losses and Loss Adjustment Expenses (Continued)

There is a substantial liability for any additional reported claims that could be incurred by OSIG up to the maximum liability as defined under its excess insurance contracts.

At June 30, 2019 and 2018, the liability for unpaid losses and loss adjustment expenses excludes approximately \$26,925,000 and \$13,802,000, respectively, for unpaid claims expected to be recoverable from excess carriers.

The following represents changes in the liability of unpaid losses and loss adjustment expenses for OSIG:

	Year Ended June 30, 2019		
	Case Reserves	IBNR	Total
Net unpaid losses and loss adjustment expenses at beginning of year	\$ 8,918,371	\$ 1,952,000	\$ 10,870,371
Incurred losses and loss adjustment expenses:			
Provision for insured events of the current year	8,877,400	1,346,000	10,223,400
Change in provision for insured events of prior years	847,288	(1,120,000)	(272,712)
Net incurred losses and loss adjustment expenses	9,724,688	226,000	9,950,688
Payments:			
Losses and loss adjustment expenses attributable to insured events of the current year	3,199,691	-	3,199,691
Losses and loss adjustment expenses attributable to insured events of prior years	4,896,508	-	4,896,508
Net payments	8,096,199	-	8,096,199
Unpaid losses and loss adjustment expenses at end of year, net of reinsurance receivable	\$ 10,546,860	\$ 2,178,000	\$ 12,724,860

The provision for unpaid losses and loss adjustment expenses decreased by approximately \$272,712 in 2019 due to unfavorable development on case-basis reserves of \$847,288 offset by expiration of IBNR risk on older policy years of \$1,120,000. The liability for unpaid losses and loss adjustment expenses at June 30, 2019 included approximately \$2,178,000 for IBNR claims.

## Oklahoma Schools Insurance Group

### Notes to Financial Statements

#### Note 4. Unpaid Losses and Loss Adjustment Expenses (Continued)

	Year Ended June 30, 2018		
	Case Reserves	IBNR	Total
Net unpaid losses and loss adjustment expenses at beginning of year	\$ 6,366,359	\$ 1,708,000	\$ 8,074,359
Incurred losses and loss adjustment expenses:			
Provision for insured events of the current year	7,306,816	1,118,000	8,424,816
Change in provision for insured events of prior years	1,380,729	(874,000)	506,729
Net incurred losses and loss adjustment expenses	8,687,545	244,000	8,931,545
Payments:			
Losses and loss adjustment expenses attributable to insured events of the current year	3,728,396	-	3,728,396
Losses and loss adjustment expenses attributable to insured events of prior years	2,407,137	-	2,407,137
Net payments	6,135,533	-	6,135,533
Unpaid losses and loss adjustment expenses at end of year, net of reinsurance receivable	\$ 8,918,371	\$ 1,952,000	\$ 10,870,371

The provision for unpaid losses and loss adjustment expenses increased by approximately \$507,000 in 2018 due to unfavorable development on case-basis reserves of \$1,380,729 offset by expiration of IBNR risk on older policy years of \$874,000. The liability for unpaid losses and loss adjustment expenses at June 30, 2018 included approximately \$1,952,000 for IBNR claims.

## Oklahoma Schools Insurance Group

### Notes to Financial Statements

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#### Note 5. Insurance Coverage

OSIG provides its members with property damage, automobile damage, general liability, auto liability, professional liability, boiler and machinery, school violent act protection and crime and cyber liability coverages. Claims have historically been paid with funding from the annual member contributions, with claims in excess of specified thresholds covered by stop-loss insurance coverage.

Thresholds for the years ended June 30, 2019 and 2018, were as follows:

	Per Occurrence		Aggregate
2019:			
Property and automobile damage	\$	250,000 *	N/A
Property and automobile damage—windstorm/hail		250,000 *	N/A
General, automobile and professional liability		100,000	5,056,034
	Per Occurrence		Aggregate
2018:			
Property and automobile damage	\$	250,000 *	N/A
Property and automobile damage—windstorm/hail		250,000 *	N/A
General, automobile and professional liability		100,000	4,061,459

\* Property insurance per occurrence reimbursements is subject to a corridor deductible of \$1,400,000. Each claim in excess of \$250,000 first must satisfy the \$250,000 per occurrence threshold, with amounts over \$250,000 applied toward the corridor deductible. No amounts are due under the agreement until the \$1,400,000 corridor deductible is satisfied.

The stop-loss contracts do not relieve OSIG from its obligation to its members.

Stop-loss insurance was not utilized for either the boiler and machinery or crime coverage. Boiler and machinery coverage was provided through the purchase of an insurance contract with a portion of member contributions. The boiler and machinery insurance contract had a required deductible per claim of \$1,000, which was passed through to the member filing the claim. Crime coverage is self-insured by OSIG, with a maximum limit on each claim of \$10,000 and deductibles per claim of \$1,000.

During the years ended June 30, 2019 and 2018, there was a net increase in recoverable claims cost of approximately \$25,524,103 and \$11,356,420, respectively.

#### Note 6. Commitments and Contingencies

As discussed in Note 5, OSIG utilizes stop-loss and boiler and machinery insurance contracts to minimize its exposure on certain types of claims. Failure of the insurance carrier to honor its obligation under the insurance agreements could result in losses to OSIG. OSIG's management evaluates the financial condition of its insurance carriers to minimize its exposure to significant losses and believes the carriers presently used are financially sound and will be able to meet their contractual obligations. OSIG, through Arthur J. Gallagher, only places coverage with companies rated A-VII or better by A.M. Best, an industry-standard rating company.

## **Required Supplementary Information**

## Oklahoma Schools Insurance Group

### 10-Year Loss Development

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The following table illustrates how OSIG's earned premium revenues and investment income (net of reinsurance) compare to related costs of loss (net of loss assumed by reinsurers) and other expenses assumed by OSIG as of the end of each of the last ten years. The rows of the table are defined as follows:

- (1) This line shows the total of each of the fiscal year's earned premium revenues and investment revenues, net of costs for reinsurance.
- (2) This line shows each fiscal year's other administrative costs of OSIG, including overhead and claims expense not allocable to individual claims.
- (3) This line shows OSIG's incurred claims and allocated claim adjustment expenses (both paid and accrued) as originally reported at the end of the first year in which the event that triggered coverage under the contract occurred (policy year).
- (4) This section shows the cumulative amounts paid as of the end of successive years for each policy year.
- (5) This line shows the latest reestimated amount of losses assumed by reinsurers for each policy year.
- (6) This section shows how each policy years' incurred claims increased or decreased as of the end of successive years. This annual reestimation results from new information received on known claims, reevaluation of existing information on known claims, as well as emergence of new claims not previously reported.
- (7) This line compares the latest reestimated incurred claims amount originally established (line 3) and shows whether this latest estimate of claims cost is greater or less than originally thought. As data for individual policy years mature, the correlation between original estimates and reestimated amounts is commonly used to evaluate the accuracy of incurred claims currently recognized in less mature policy years. The columns of the table show data for successive policy years.

(Continued)

Oklahoma Schools Insurance Group

10-Year Loss Development

	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
(1) Premiums and investment revenue, as originally reported at end of policy year:										
Earned	\$ 33,625,687	\$ 26,423,157	\$ 25,536,509	\$ 23,935,709	\$ 25,003,145	\$ 24,339,336	\$ 21,853,448	\$ 22,232,030	\$ 20,781,508	\$ 23,237,066
Ceded	15,352,691	11,204,265	11,652,147	10,794,487	10,588,820	11,660,027	10,626,030	12,323,603	10,552,876	10,594,509
<b>Net earned</b>	<b>18,272,996</b>	<b>15,218,892</b>	<b>13,884,362</b>	<b>13,141,222</b>	<b>14,414,325</b>	<b>12,679,309</b>	<b>11,227,418</b>	<b>9,908,427</b>	<b>10,228,632</b>	<b>12,642,557</b>
(2) Unallocated expenses, as originally reported at end of policy year	<b>6,820,454</b>	5,651,130	5,398,914	5,055,814	5,187,826	4,818,166	4,498,793	4,699,233	4,393,058	5,201,296
(3) Estimated losses and expenses, end of policy year:										
Incurred	15,673,463	14,161,187	13,551,154	8,117,000	7,628,500	5,919,500	8,073,854	8,778,575	23,038,065	18,060,860
Ceded	5,450,063	5,424,260	4,304,154	64,000	26,500	124,500	112,854	612,425	16,746,785	10,409,536
<b>Net incurred</b>	<b>10,223,400</b>	<b>8,736,927</b>	<b>9,247,000</b>	<b>8,053,000</b>	<b>7,602,000</b>	<b>5,795,000</b>	<b>7,961,000</b>	<b>8,166,150</b>	<b>6,291,280</b>	<b>7,651,324</b>
(4) Net paid (cumulative) as of:										
End of policy year	3,199,691	3,728,396	4,862,059	2,843,847	2,810,778	2,044,045	3,050,569	2,930,550	2,873,326	3,985,526
One year later		6,177,935	6,605,071	6,027,267	5,054,326	3,734,202	5,902,181	5,381,794	4,215,360	5,858,976
Two years later			8,104,624	6,947,359	6,305,373	5,080,503	6,236,599	5,949,150	4,736,117	5,780,460
Three years later				7,442,038	6,585,368	5,260,843	6,314,806	6,205,373	4,967,661	6,055,308
Four years later					7,303,736	5,287,810	6,338,490	6,264,951	5,016,410	6,059,992
Five years later						5,306,622	6,392,520	6,323,238	6,201,990	6,054,947
Six years later							6,803,392	6,426,126	6,212,042	6,574,266
Seven years later								6,426,594	6,216,944	6,828,356
Eight years later									6,223,937	6,845,270
Nine years later										6,845,302
(5) Reestimated ceded losses and expenses	<b>5,450,063</b>	9,937,846	5,354,186	5,733,893	2,403,565	836,345	1,060,217	2,228,789	23,537,915	12,752,283
(6) Reestimated net incurred losses and expenses:										
End of policy year	10,223,400	8,736,927	9,247,000	8,053,000	7,602,000	5,795,000	7,961,000	8,166,150	6,291,280	7,651,324
One year later		9,041,507	9,545,793	8,141,000	7,164,000	5,678,000	7,207,000	7,486,000	5,968,360	7,607,000
Two years later			9,949,488	8,258,607	7,561,000	5,679,000	6,752,000	6,700,000	5,437,360	6,399,460
Three years later				8,243,873	7,857,981	5,535,000	6,675,000	6,466,000	5,300,360	6,328,460
Four years later					7,807,404	5,418,352	6,567,175	6,449,000	5,223,360	6,187,460
Five years later						5,362,177	6,501,151	6,443,489	6,268,472	6,149,460
Six years later							6,866,675	6,462,489	5,119,360	6,839,518
Seven years later								6,453,489	6,254,472	6,107,460
Eight years later									6,261,805	6,870,042
Nine years later										6,848,455
(7) (Decrease) increase in estimated net incurred losses and expenses from end of policy year	-	304,580	702,488	190,873	205,404	(432,823)	(1,094,325)	(1,712,661)	(29,475)	(802,869)



# **Estimation of Unpaid Liabilities and IBNR**

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Oklahoma Schools Insurance Group

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April 10, 2019

Based on data evaluated as of January 31, 2019  
IBNR Projected as of June 30, 2019

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# Estimation of Unpaid Liabilities and IBNR

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Oklahoma Schools Insurance Group

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April 10, 2019

Based on data evaluated as of January 31, 2019  
IBNR Projected as of June 30, 2019

*Prepared by:*



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Section 1	Executive Summary
Section 2	Introduction, Considerations & Definitions
Section 3	Analysis & Conclusion
Section 4	Automobile Liability
Section 5	General Liability including E&O
Section 6	Property / Auto Physical Damage



## Executive Summary

The purpose of this report is to provide the Oklahoma Schools Insurance Group (OSIG) with an evaluation and projection of the losses and allocated adjustment expenses corresponding to its property and liability insurance exposures incurred through June 30, 2019. OSIG began offering automobile liability and physical damage and a variety of property and general liability insurance coverages to school districts in the State of Oklahoma beginning July 1, 2002. OSIG continues to add new members each year lending further stability to the Group. The specific objective of this analysis is to project reserves required to fund outstanding losses for the group as of June 30, 2019, based on data valued as of January 31, 2019.

Based on this analysis the results are as follows:

<i>Required Reserves for Losses and ALAE Projected as of June 30, 2019</i>			
	<i>Case Reserves</i>	<i>IBNR Reserves</i>	<i>Required Reserve</i>
<b><i>Liability</i></b>	\$4,909,000	\$1,443,000	<b>\$6,352,000</b>
<b><i>Property</i></b>	\$2,334,000	\$657,000	<b>\$2,990,000</b>
<b><i>Total</i></b>	<b>\$7,243,000</b>	<b>\$2,100,000</b>	<b>\$9,342,000</b>

Table A summarizes the ultimate and outstanding losses and IBNR by policy year. Table B shows IBNR requirements at various confidence levels to aid in the selection of a risk margin. Table C shows the change in experience from the previous actuarial report.

Throughout this report the term losses will refer to loss and allocated loss adjustment expenses.

## Assumptions

Unless otherwise stated, the figures in this report represent expected values. Key assumptions include:

1. Paid and reported loss development factors and reported claim development factors based on OSIG's experience supplemented with Oklahoma public entity experience, are predictive of future development of claims.
2. Exposures written through January 31, 2019, will be unchanged through the end of the year.

## Results of this Analysis

### Automobile Liability

Since the previous actuarial study as of June 30, 2018, reported losses have developed about \$273,000 less than expected overall for periods through 7/1/18-19. Greater than expected development on the 18-19 year was more than offset by improvement on the other years. The ultimate losses for 18-19 increased by \$128,000, while other years were decreased. The net change in ultimate losses was a decrease of \$231,000.

### General Liability including E&O

Since the previous actuarial study as of June 30, 2018, reported losses have developed less than expected overall. Ultimate losses were decreased for every year from 11-12 through 18-19. The net change in ultimate losses was a decrease of \$648,000.

### Combined Liability Reserves

The total ultimate losses for liability are \$35,853,000. Of this amount \$29,501,000 is expected to be paid by June 30, 2019, leaving \$6,352,000 in total outstanding losses. The case reserves are estimated to be \$4,909,000 and the IBNR reserves are \$1,443,000. The IBNR at the 75<sup>th</sup> percentile is \$2,087,000.

### Property and Auto Physical Damage

Since the previous actuarial study as of June 30, 2018, experience has been mixed. There was adverse development on the 15-16 through 17-18 years due to late emergence of large claims. However, the experience for 18-19 is well below expected so far. So far there are no claims in 18-19 that are expected to penetrate the \$1,400,000 corridor. In total, the net change in ultimate losses through the 18-19 year is a decrease of \$1,086,000. We

do project that OSIG will use the full corridor by June 30, 2019, so that no IBNR is included for corridor claims.

The total outstanding losses for property and APD claims is estimated to be \$2,990,000, including \$2,334,000 in case reserves and \$657,000 in IBNR. The IBNR at the 75<sup>th</sup> percentile is \$1,151,000. The IBNR is almost entirely associated with losses within the \$250,000 SIR, since the corridor is expected to be exhausted by 6/30/19.

Since the last actuarial report, we have learned that the application of the policy language for property has in practice been different than our previous understanding. We had been applying the excess coverage with the understanding that OSIG would retain the benefit of member deductibles (effectively reducing OSIG's retained portion to \$250,000 minus the member deductible). In practice however, OSIG is retaining the full \$250,000 per claim. Also, we have learned that some expenses are now being reimbursed. We have reflected these changes in our analysis, and this is the reason behind some of the changes in ultimate losses for some years that were previously closed.





**Estimated Outstanding Losses for Liability  
Projected As of June 30, 2019**

<i>Accident Period</i>	<i>Coverage</i>	(A) <i>Estimated Ultimate Losses</i>	(B) <i>Projected Paid Losses</i>	(C) <i>Projected Reported Losses</i>	(D) <i>Case Reserves</i>	(E) <i>IBNR Losses</i>	(F) <i>Outstanding Losses</i>
2002/03		\$233,996	\$233,996	\$233,996	\$0	\$0	\$0
2003/04		\$1,197,571	\$1,197,571	\$1,197,571	\$0	\$0	\$0
2004/05		\$1,107,309	\$1,107,309	\$1,107,309	\$0	\$0	\$0
2005/06		\$1,704,377	\$1,704,377	\$1,704,377	\$0	\$0	\$0
2006/07		\$1,488,442	\$1,488,442	\$1,488,442	\$0	\$0	\$0
2007/08		\$2,192,521	\$2,192,521	\$2,192,521	\$0	\$0	\$0
2008/09		\$2,582,887	\$2,582,887	\$2,582,887	\$0	\$0	\$0
2009/10		\$1,998,413	\$1,981,413	\$1,996,413	\$15,000	\$2,000	\$17,000
2010/11		\$2,692,333	\$2,663,333	\$2,684,333	\$21,000	\$8,000	\$29,000
2011/12		\$2,435,000	\$2,417,000	\$2,434,000	\$17,000	\$1,000	\$18,000
2012/13		\$1,434,000	\$1,388,000	\$1,432,000	\$44,000	\$2,000	\$46,000
2013/14		\$1,456,000	\$1,418,000	\$1,451,000	\$33,000	\$5,000	\$38,000
2014/15		\$2,857,000	\$2,526,000	\$2,829,000	\$303,000	\$28,000	\$331,000
2015/16		\$3,147,000	\$2,581,000	\$3,074,000	\$493,000	\$73,000	\$566,000
2016/17		\$3,554,000	\$2,466,000	\$3,366,000	\$900,000	\$188,000	\$1,088,000
2017/18		\$2,222,000	\$875,000	\$1,951,000	\$1,076,000	\$271,000	\$1,347,000
2018/19		\$3,650,000	\$778,000	\$2,785,000	\$2,007,000	\$865,000	\$2,872,000
		\$35,952,849	\$29,600,849	\$34,509,849	\$4,909,000	\$1,443,000	\$6,352,000

<b>Total Liability Losses Limited to Policy Aggregate Stop Loss</b>							
<i>Accident Period</i>	<i>Aggregate Limit</i>	<i>Ultimate Limited Losses</i>	<i>Limited Paid Losses</i>	<i>Limited Reported Losses</i>	<i>Case Reserves</i>	<i>IBNR Losses</i>	<i>Outstanding Losses</i>
Prior Years		\$10,507,103	\$10,507,103	\$10,507,103	\$0	\$0	\$0
2009/10	\$3,549,580	\$1,998,413	\$1,981,413	\$1,996,413	\$15,000	\$2,000	\$17,000
2010/11	\$3,869,920	\$2,692,333	\$2,663,333	\$2,684,333	\$21,000	\$8,000	\$29,000
2011/12	\$3,416,075	\$2,435,000	\$2,417,000	\$2,434,000	\$17,000	\$1,000	\$18,000
2012/13	\$2,788,172	\$1,434,000	\$1,388,000	\$1,432,000	\$44,000	\$2,000	\$46,000
2013/14	\$3,473,373	\$1,456,000	\$1,418,000	\$1,451,000	\$33,000	\$5,000	\$38,000
2014/15	\$3,994,646	\$2,857,000	\$2,526,000	\$2,829,000	\$303,000	\$28,000	\$331,000
2015/16	\$4,017,890	\$3,147,000	\$2,581,000	\$3,074,000	\$493,000	\$73,000	\$566,000
2016/17	\$4,147,089	\$3,554,000	\$2,466,000	\$3,366,000	\$900,000	\$188,000	\$1,088,000
2017/18	\$4,271,645	\$2,222,000	\$875,000	\$1,951,000	\$1,076,000	\$271,000	\$1,347,000
2018/19	\$5,061,877	\$3,650,000	\$778,000	\$2,785,000	\$2,007,000	\$865,000	\$2,872,000
<b>Total</b>		<b>\$35,953,000</b>	<b>\$29,601,000</b>	<b>\$34,510,000</b>	<b>\$4,909,000</b>	<b>\$1,443,000</b>	<b>\$6,352,000</b>

***Percentile Distribution of IBNR  
For Liability Coverages  
Projected As of June 30, 2019***

<i>percentile</i>	<i>Ultimate Losses</i>	<i>IBNR Reserve</i>
Expected	\$35,952,000	\$1,443,000
20%	\$35,106,000	\$597,000
30%	\$35,392,000	\$883,000
40%	\$35,630,000	\$1,121,000
50%	\$35,852,000	\$1,343,000
60%	\$36,085,000	\$1,576,000
70%	\$36,364,000	\$1,855,000
75%	\$36,517,000	\$2,008,000
80%	\$36,698,000	\$2,189,000
85%	\$36,900,000	\$2,391,000
90%	\$37,147,000	\$2,638,000

<i>Total Expected Ultimate Losses</i>	\$35,952,000
<i>Total Projected Paid Losses as of 06/30/19</i>	\$29,600,000
<i>Total Projected Case Reserves as of 06/30/19</i>	\$4,909,000
<i>Total Projected IBNR Reserves as of 06/30/19</i>	\$1,443,000
<i>Total Projected Outstanding as of 06/30/19</i>	\$6,352,000

*Figures in this Table are limited to Aggregate Stop Loss Limits*

**Comparison of Results with Previous Estimates as of 06/30/18**

Accident Period	(A) Actual Reported Losses 6/30/2018	(B) Expected Reported Losses 1/31/2018	(C) Actual Reported Losses 1/31/2018	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2018	(G) Percent Difference
2002/03	\$233,996	\$233,996	\$233,996	0.0%	\$233,996	\$233,996	0.0%
2003/04	\$1,197,571	\$1,197,571	\$1,197,571	0.0%	\$1,197,571	\$1,197,571	0.0%
2004/05	\$1,107,309	\$1,107,309	\$1,107,309	0.0%	\$1,107,309	\$1,107,309	0.0%
2005/06	\$1,704,377	\$1,704,377	\$1,704,377	0.0%	\$1,704,377	\$1,704,377	0.0%
2006/07	\$1,488,442	\$1,488,442	\$1,488,442	0.0%	\$1,488,442	\$1,488,442	0.0%
2007/08	\$2,192,521	\$2,192,521	\$2,192,521	0.0%	\$2,192,521	\$2,192,521	0.0%
2008/09	\$2,582,887	\$2,582,887	\$2,582,887	0.0%	\$2,582,887	\$2,582,887	0.0%
2009/10	\$1,995,911	\$1,997,649	\$1,995,911	-0.1%	\$2,000,000	\$1,998,413	-0.1%
2010/11	\$2,681,419	\$2,682,642	\$2,681,419	0.0%	\$2,685,000	\$2,692,333	0.3%
2011/12	\$2,433,399	\$2,437,207	\$2,433,399	-0.2%	\$2,444,000	\$2,435,000	-0.4%
2012/13	\$1,472,369	\$1,477,660	\$1,431,182	-3.1%	\$1,487,000	\$1,434,000	-3.6%
2013/14	\$1,496,546	\$1,506,018	\$1,448,686	-3.8%	\$1,522,000	\$1,456,000	-4.3%
2014/15	\$2,958,779	\$2,985,777	\$2,817,610	-5.6%	\$3,034,000	\$2,857,000	-5.8%
2015/16	\$3,097,106	\$3,165,283	\$3,044,214	-3.8%	\$3,283,000	\$3,147,000	-4.1%
2016/17	\$3,227,565	\$3,348,051	\$3,290,075	-1.7%	\$3,568,000	\$3,554,000	-0.4%
2017/18	\$1,842,502	\$2,077,502	\$1,846,089	-11.1%	\$2,523,000	\$2,222,000	-11.9%
2018/19		\$1,632,493	\$1,559,225	-4.5%	\$3,679,000	\$3,650,000	-0.8%
<b>Total</b>	<b>\$31,712,699</b>	<b>\$33,817,383</b>	<b>\$33,054,912</b>	<b>-2.3%</b>	<b>\$36,732,103</b>	<b>\$35,952,849</b>	<b>-2.1%</b>

Accident Period	(A) Actual Paid Losses 6/30/2018	(B) Expected Paid Losses 1/31/2018	(C) Actual Paid Losses 1/31/2018	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2018	(G) Percent Difference
2002/03	\$233,996	\$233,996	\$233,996	0.0%	\$233,996	\$233,996	0.0%
2003/04	\$1,197,571	\$1,197,571	\$1,197,571	0.0%	\$1,197,571	\$1,197,571	0.0%
2004/05	\$1,107,309	\$1,107,309	\$1,107,309	0.0%	\$1,107,309	\$1,107,309	0.0%
2005/06	\$1,704,377	\$1,704,377	\$1,704,377	0.0%	\$1,704,377	\$1,704,377	0.0%
2006/07	\$1,488,442	\$1,488,442	\$1,488,442	0.0%	\$1,488,442	\$1,488,442	0.0%
2007/08	\$2,192,521	\$2,192,521	\$2,192,521	0.0%	\$2,192,521	\$2,192,521	0.0%
2008/09	\$2,582,887	\$2,582,887	\$2,582,887	0.0%	\$2,582,887	\$2,582,887	0.0%
2009/10	\$1,975,228	\$1,983,017	\$1,975,261	-0.4%	\$2,000,000	\$1,998,413	-0.1%
2010/11	\$2,647,472	\$2,659,807	\$2,652,560	-0.3%	\$2,685,000	\$2,692,333	0.3%
2011/12	\$2,407,637	\$2,421,339	\$2,408,087	-0.5%	\$2,444,000	\$2,435,000	-0.4%
2012/13	\$1,363,345	\$1,409,754	\$1,369,504	-2.9%	\$1,487,000	\$1,434,000	-3.6%
2013/14	\$1,391,633	\$1,443,553	\$1,400,445	-3.0%	\$1,522,000	\$1,456,000	-4.3%
2014/15	\$2,172,095	\$2,530,704	\$2,363,386	-6.6%	\$3,034,000	\$2,857,000	-5.8%
2015/16	\$2,143,984	\$2,594,819	\$2,321,210	-10.5%	\$3,283,000	\$3,147,000	-4.1%
2016/17	\$1,593,416	\$2,191,225	\$2,077,936	-5.2%	\$3,568,000	\$3,554,000	-0.4%
2017/18	\$446,804	\$855,315	\$606,955	-29.0%	\$2,523,000	\$2,222,000	-11.9%
2018/19		\$435,573	\$288,991	-33.7%	\$3,679,000	\$3,650,000	-0.8%
<b>Total</b>	<b>\$26,648,717</b>	<b>\$29,032,209</b>	<b>\$27,971,438</b>	<b>-3.7%</b>	<b>\$36,732,103</b>	<b>\$35,952,849</b>	<b>-2.1%</b>

(A) and (E) - From Previous actuarial report as of 06/30/18

(B) - Derived from (E) and (A) using loss development patterns

(C) - Exhibit I, limited to retention

(D) = [(C) / (B)] - 1

(F) - Exhibit VI

(G) = [(F) / (E)] - 1

**Estimated Outstanding Losses for SIR and Corridor**

Accident Period	SIR	Corridor	(A) Limited Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b>Projected as of June 30, 2019</b>								
<b><u>SIR Losses</u></b>								
2011/12	\$250,000		\$3,282,543	\$3,282,543	\$3,282,543	\$0	\$0	\$0
2012/13	\$250,000		\$3,032,675	\$3,032,675	\$3,032,675	\$0	\$0	\$0
2013/14	\$250,000		\$2,505,352	\$2,505,352	\$2,505,352	\$0	\$0	\$0
2014/15	\$250,000		\$3,470,662	\$3,470,662	\$3,470,662	\$0	\$0	\$0
2015/16	\$250,000		\$3,695,000	\$3,453,741	\$3,687,293	\$234,000	\$8,000	\$241,000
2016/17	\$250,000		\$4,603,000	\$4,320,455	\$4,570,189	\$250,000	\$33,000	\$283,000
2017/18	\$250,000		\$4,680,000	\$4,116,941	\$4,563,803	\$447,000	\$116,000	\$563,000
2018/19	\$250,000		\$4,063,000	\$2,995,921	\$3,562,634	\$567,000	\$500,000	\$1,067,000
<b><u>Unlimited</u></b>								
2011/12			\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
2012/13			\$6,136,455	\$6,136,455	\$6,136,455	\$0	\$0	\$0
2013/14			\$4,590,290	\$4,590,290	\$4,590,290	\$0	\$0	\$0
2014/15			\$7,617,000	\$5,102,710	\$7,614,930	\$2,512,000	\$2,000	\$2,514,000
2015/16			\$8,898,000	\$6,168,947	\$8,887,649	\$2,719,000	\$10,000	\$2,729,000
2016/17			\$10,744,000	\$9,264,648	\$10,653,890	\$1,389,000	\$90,000	\$1,479,000
2017/18			\$16,370,000	\$11,525,171	\$15,769,175	\$4,244,000	\$601,000	\$4,845,000
2018/19			\$13,290,000	\$3,560,107	\$8,518,529	\$4,958,000	\$4,771,000	\$9,730,000
<b><u>Corridor</u></b>								
2011/12		\$2,700,000	\$735,946	\$735,946	\$735,946	\$0	\$0	\$0
2012/13		\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$0	\$0	\$0
2013/14		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
2014/15		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
2015/16		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
2016/17		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
2017/18		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
2018/19		\$1,400,000	\$1,400,000	\$564,185	\$1,400,000	\$836,000	\$0	\$836,000
<b><u>SIR + Corridor</u></b>								
2011/12	\$250,000	\$2,700,000	\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
2012/13	\$250,000	\$2,400,000	\$5,432,675	\$5,432,675	\$5,432,675	\$0	\$0	\$0
2013/14	\$250,000	\$1,400,000	\$3,905,352	\$3,905,352	\$3,905,352	\$0	\$0	\$0
2014/15	\$250,000	\$1,400,000	\$4,870,662	\$4,870,662	\$4,870,662	\$0	\$0	\$0
2015/16	\$250,000	\$1,400,000	\$5,095,000	\$4,853,741	\$5,087,293	\$234,000	\$8,000	\$241,000
2016/17	\$250,000	\$1,400,000	\$6,003,000	\$5,720,455	\$5,970,189	\$250,000	\$33,000	\$283,000
2017/18	\$250,000	\$1,400,000	\$6,080,000	\$5,516,941	\$5,963,803	\$447,000	\$116,000	\$563,000
2018/19	\$250,000	\$1,400,000	\$5,463,000	\$3,560,107	\$4,962,634	\$1,403,000	\$500,000	\$1,903,000
<b>Total</b>			\$40,868,177	\$37,878,421	\$40,211,096	\$2,334,000	\$657,000	\$2,990,000

***Percentile Distribution of IBNR  
For Property Coverages  
Projected As of June 30, 2019***

<i>percentile</i>	<i>Ultimate Losses</i>	<i>IBNR Reserve</i>
Expected	\$40,868,177	\$657,000
20%	\$40,245,000	\$33,000
30%	\$40,465,000	\$253,000
40%	\$40,667,000	\$455,000
50%	\$40,861,000	\$649,000
60%	\$41,053,000	\$841,000
70%	\$41,250,000	\$1,038,000
75%	\$41,363,000	\$1,151,000
80%	\$41,490,000	\$1,278,000
85%	\$41,638,000	\$1,426,000
90%	\$41,821,000	\$1,609,000

<i>Total Expected Ultimate Losses</i>	\$40,868,177
<i>Total Projected Paid Losses as of 06/30/19</i>	\$37,878,421
<i>Total Projected Case Reserves as of 06/30/19</i>	\$2,334,000
<i>Total Projected IBNR Reserves as of 06/30/19</i>	\$657,000
<i>Total Projected Outstanding as of 06/30/19</i>	\$2,991,000

*Figures in this Table are limited to Aggregate Stop Loss Limits*

**Comparison of Results with Previous Estimates as of 6/30/18**

Accident Period	(A) Actual Reported Losses 6/30/2018	(B) Projected Reported Losses 1/31/2019	(C) Actual Reported Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
<b><u>Limited to SIR</u></b>							
2011/12	\$3,201,043	\$3,201,043	\$3,282,543	2.5%	\$3,201,043	\$3,282,543	2.5%
2012/13	\$2,629,175	\$2,629,175	\$3,032,675	15.3%	\$2,629,175	\$3,032,675	15.3%
2013/14	\$2,496,177	\$2,496,177	\$2,505,352	0.4%	\$2,496,352	\$2,505,352	0.4%
2014/15	\$3,488,282	\$3,488,282	\$3,470,662	-0.5%	\$3,490,913	\$3,470,662	-0.6%
2015/16	\$3,419,370	\$3,428,153	\$3,682,092	7.4%	\$3,437,000	\$3,695,000	7.5%
2016/17	\$4,366,030	\$4,442,771	\$4,547,880	2.4%	\$4,520,000	\$4,603,000	1.8%
2017/18	\$4,064,314	\$4,277,923	\$4,485,867	4.9%	\$4,501,000	\$4,680,000	4.0%
2018/19		\$3,238,077	\$1,205,182	-62.8%	\$6,143,000	\$4,063,000	-33.9%
<b>Total</b>	<b>\$23,664,391</b>	<b>\$27,201,601</b>	<b>\$26,212,252</b>	<b>-3.6%</b>	<b>\$30,418,482</b>	<b>\$29,332,232</b>	<b>-3.6%</b>
<b><u>Unlimited</u></b>							
2011/12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	0.0%
2012/13	\$6,136,455	\$6,136,455	\$6,136,455	0.0%	\$6,136,455	\$6,136,455	0.0%
2013/14	\$4,590,290	\$4,590,290	\$4,590,290	0.0%	\$4,590,290	\$4,590,290	0.0%
2014/15	\$5,663,301	\$5,663,301	\$7,613,301	34.4%	\$5,673,757	\$7,617,000	34.2%
2015/16	\$5,459,248	\$5,487,670	\$8,878,582	61.8%	\$5,506,672	\$8,898,000	61.6%
2016/17	\$11,383,917	\$11,721,394	\$10,565,943	-9.9%	\$11,923,911	\$10,744,000	-9.9%
2017/18	\$10,242,898	\$12,186,966	\$15,147,881	24.3%	\$13,421,166	\$16,370,000	22.0%
2018/19		\$6,747,758	\$1,205,182	-82.1%	\$17,018,000	\$13,290,000	-21.9%
<b>Total</b>	<b>\$47,494,597</b>	<b>\$56,552,322</b>	<b>\$58,156,123</b>	<b>2.8%</b>	<b>\$68,288,739</b>	<b>\$71,664,233</b>	<b>4.9%</b>
<b><u>SIR + Corridor</u></b>							
2011/12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	0.0%
2012/13	\$5,029,175	\$5,029,175	\$5,432,675	8.0%	\$5,029,175	\$5,432,675	8.0%
2013/14	\$3,896,177	\$3,896,177	\$3,905,352	0.2%	\$3,896,352	\$3,905,352	0.2%
2014/15	\$4,888,282	\$4,888,282	\$4,870,662	-0.4%	\$4,890,913	\$4,870,662	-0.4%
2015/16	\$4,819,370	\$4,828,153	\$5,082,092	5.3%	\$4,837,000	\$5,095,000	5.3%
2016/17	\$5,766,030	\$5,842,771	\$5,947,880	1.8%	\$5,920,000	\$6,003,000	1.4%
2017/18	\$5,464,314	\$5,677,923	\$5,885,867	3.7%	\$5,901,000	\$6,080,000	3.0%
2018/19		\$4,638,077	\$1,205,182	-74.0%	\$7,543,000	\$5,463,000	-27.6%
<b>Total</b>	<b>\$33,881,837</b>	<b>\$38,819,047</b>	<b>\$36,348,198</b>	<b>-6.4%</b>	<b>\$42,035,928</b>	<b>\$40,868,177</b>	<b>-2.8%</b>

(A) and (E) - From Previous actuarial report as of 6/30/2018

Estimated for Unlimited losses 11-12 through 17-18

(B) - Derived from (A) and (E) using loss development patterns

(C) - Exhibit I, limited to retention

(D) = [(C) / (B)] - 1

(F) - Exhibit VI

(G) = [(F) / (E)] - 1

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## Introduction

Select Actuarial Services has prepared this report for Oklahoma Schools Insurance Group at the request of Ms. Jennifer McKenzie, Arthur J. Gallagher Risk Management Services, Inc. The specific objective of this report is to estimate ultimate and outstanding losses and allocated loss adjustment expenses for OSIG's property and liability experience through June 30, 2019, using data valued as of January 31, 2019.

This report is an actuarial analysis of data, conditions, and practices communicated as of March 28, 2019, to Select Actuarial Services as described in the section entitled "Considerations." While Select Actuarial Services believes these communications to be reliable, it has not attempted to audit the information and cannot guarantee the accuracy of any information supplied. However, the data have been reviewed for reasonableness and consistency through comparison with the data used in previous actuarial reports. The estimates in this report are based upon appropriate actuarial assumptions and procedures described in the section of this report entitled "Analysis." Select Actuarial Services assumes no responsibility for any loss or damage that might arise from the use of or reliance upon this report other than for the purposes set forth herein.

This report was prepared for the use of and is only to be relied upon by the management of Oklahoma Schools Insurance Group. This report also may be provided to OSIG's auditors and insurance brokers. No portion of the report may be provided to any other party without Select Actuarial Services' prior written consent. In the event such consent is provided, the report must be provided in its entirety. We recommend that any such party have its own actuary review this report to ensure that the party understands the assumptions and uncertainties inherent in our estimates.

Laura Sprouse is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. She meets the Qualification Standards of the American Academy of Actuaries to render actuarial opinions for property/casualty reserves. This report is prepared in accordance with Actuarial Standards of Practice No. 36 and 43.



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## Considerations

Actuarial methods for performing a reserve evaluation can only be identified in light of the coverage involved, claims information available, and other considerations. Key considerations motivating the selection of techniques employed in this analysis are set forth below.

## Coverages

OSIG began writing automobile liability and physical damage, property and other liability coverage for school districts in the State of Oklahoma on July 1, 2002. For liability claims OSIG retains \$100,000 (loss and ALAE combined) above the member deductibles, which vary by member by year. OSIG is further protected by aggregate coverage. These aggregate retentions are shown in Table A for liability.

OSIG retained \$100,000 in losses plus all expenses for most property claims for years through 7/1/10-11. Wind/hail claims were subject to a \$200,000 retention. Property losses over multiple school districts due to the same storm are considered a single occurrence. OSIG also had aggregate protection or stop loss limits for policy years through 7/1/10-11.

Beginning with the 7/1/11-12 policy year the property coverage has been restructured to include a corridor deductible for losses in excess of \$250,000 per claim. The \$250,000 SIR applies to losses only, with OSIG retaining all allocated loss adjustment expenses. Beginning in 7/1/14-15 the new carrier, Hartford, began reimbursing some ALAE.

	Liability SIR	Property SIR	Property Corridor
<i>7/1/02-6/30/11</i>	\$100,000	\$200k wind/hail \$100k AOP	NA
<i>7/1/11-12</i>	\$100,000	\$250,000 pure loss all perils	\$2,700,000
<i>7/1/12-13</i>	\$100,000	\$250,000 pure loss all perils	\$2,400,000
<i>7/1/13-14 through 7/1/18-19</i>	\$100,000	\$250,000 pure loss all perils	\$1,400,000

## Available Data

Jennifer McKenzie of Gallagher provided a loss listing as of January 31, 2019, which served as the basis for our analysis. The loss listing reflects amounts above the member deductibles and includes both losses and allocated adjustment expenses. “Losses” and “losses and allocated adjustment expenses” are used interchangeably in this report.

Losses were provided by coverage type: automobile liability, auto physical damage, general liability and E&O, and property. Vehicle counts, Student population and Total Insured Values for each member were also provided.

Since January 31, 2019, two large claims that were previously reserved at \$10,000,000 each were reduced by about \$6,000,000 each. We have adjusted the values of these two claims accordingly. These changes are not material to the calculation of OSIG's retained liabilities.

## **Development and Reporting Patterns**

Since annual evaluations of OSIG data are available, we have used this historical experience to build loss development triangles to observe OSIG's own development experience. This experience is still somewhat sparse, and displays volatility from year to year. Thus, we have weighted OSIG experience with a benchmark pattern based on Oklahoma public entity experience. Accordingly, the development factors used reflect the application of the Oklahoma tort claims act.

For property and APD claims we have calculated development factors for unlimited losses, as well as for losses capped to \$250,000 for pure losses.

## **Actuarial Central Estimate**

The estimates of ultimate losses at the "expected" level in this analysis are actuarial central estimates - estimates that represent an expected value over the range of reasonably possible outcomes. Such a range of reasonably possible outcomes may not include all conceivable outcomes. For example, it would not include conceivable extreme events where the contribution of such events to an expected value estimate is not reliably measurable.

## **Loss Models**

Statistical distributions are often used by the insurance industry to model the loss generating process. A lognormal distribution is selected for each policy year and line of business. The parameters for these distributions are based on the variation in the reported loss development triangles. The distributions for all years are combined using a Monte Carlo simulation. This process randomly generates 10,000 sample years. The confidence levels for the IBNR estimate are based on these outcomes.

## **Subrogation and Recoveries**

Subrogation and recoveries are assumed to be reflected in the primary loss reports. Accordingly, no explicit reductions for collateral sources have been incorporated into the estimates.

## Definitions

**Accident Period:** All of the events with occurrence dates during a period specified make up the corresponding accident period. The dollars associated with those events total the accident period's losses, even though they may be paid long after the end of the accident period. Losses are grouped by accident period throughout our analyses.

**Ultimate Losses:** The total amount that will eventually be paid on all losses for a particular accident period. Our estimate of the ultimate losses for an accident period is the sum of the paid losses, the case reserves, and the IBNR reserve.

**Paid Losses:** Dollars paid as of the latest available evaluation on losses incurred through the latest available evaluation.

**Case Reserves:** Reserves established on individual claims by the claims adjusters, as of the latest available evaluation. The case reserve plus the amount paid to date represents the adjuster's best estimate of the ultimate value of a particular claim.

**Reported Losses:** Paid losses plus case reserves as of the latest available evaluation.

**IBNR Reserve:** ("Incurred **B**ut **N**ot **R**eported") This is the dollar amount which we have estimated will be added to the reported losses between the date when the losses were compiled and final settlement of all claims for the accident period. Some of these additional dollars will be added to claims which are already known and currently open but which will finally cost more than they are currently reserved for. Other of these dollars are associated with claims which are known and closed but will be reopened before final closure. The balance of the IBNR reserve is for late-reported events.

**Outstanding Losses:** The losses not yet paid. Outstanding losses equal the difference between the ultimate losses and the paid losses. They are also the sum of the case reserves and the IBNR reserve.

**Loss Development:** The change in the paid losses or the reported losses over time. As more information is provided, individual claim estimates get closer and closer to the ultimate value of the claims. The increase in the total reported losses through time is the reported loss development. Similarly, as losses are paid out over time, the increase in total paid losses is the paid loss development.



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## **Analysis**

Actuarial procedures employed to project ultimate and outstanding losses consist of a number of steps. Exhibits representing the various steps in the process are explained in this section of the report. The procedures used to analyze the automobile liability, general liability and E&O, and property & auto physical damage coverages are analogous except where noted.

### **Exhibit I**

Exhibit I displays paid and reported losses as of January 31, 2019. Claims are grouped by occurrence, and claims with no payment are excluded.

### **Exhibit II**

Exhibit II displays a listing of all occurrences which, after the application of development factors, exceed the retention in effect during each claim's accident period. The amount of paid and reported losses inside the corridor is also calculated here.

### **Exhibit III**

Exhibit III shows the estimation of ultimate losses using paid and reported loss development techniques. The calculations estimate ultimate losses limited to the per occurrence retention. The methods are based on the paid and reported losses shown in Exhibit I and development factors from Appendix A. Claims that are expected to develop above the retention are first subtracted from the data. The balance of the losses is developed to ultimate by multiplying by the development factor, and then a provision for the large losses is added back.

For property and APD only the reported method is used to estimate ultimate losses. For 7/1/11-12 and subsequent years we calculate the ultimate losses for losses limited to \$250,000 and unlimited in order to estimate the losses within the SIR and losses in the corridor.

## **Exhibit IV**

The selected loss rate for 7/1/19-20 from the forecast report is detrended to the 7/1/18-19 level and multiplied by the exposures to derive estimates of ultimate losses for that year. These results are used in the Bornhuetter-Ferguson method in Exhibit V.

## **Exhibit V**

Exhibit V calculates ultimate losses using the Bornhuetter/Ferguson technique, which blends the prior estimate of ultimate losses from the analysis as of June 30, 2018, with the current paid and reported losses. This method places less emphasis on current reported and paid values and tends to dampen swings in estimates, especially for immature years.

For property and APD, only the reported method is used to estimate ultimate losses. For 7/1/11-12 and forward we calculate the ultimate losses for losses limited to \$250,000 and unlimited in order to estimate the losses within the SIR and losses in the corridor.

## **Exhibit VI**

The results of these estimation methods are compared in Exhibit VI. A selection of our best estimate of the ultimate cost for each occurrence period is made based on the reasonableness of the various estimates when compared to loss experience to date, and the reasonableness of the estimates of ultimate and resulting unreported losses from year to year.

For property and APD, ultimate losses are selected for losses limited to \$250,000 per occurrence and on an unlimited basis. The losses excess of \$250,000 are calculated by subtraction, and then capped to the corridor.

## **Exhibit VII**

In order to track trends in the experience and provide a check of reasonableness, Exhibit VII calculates the average ultimate claim size and loss rate (ultimate losses divided by exposure) for each year.

## **Exhibit VIII**

In Exhibit VIII, paid losses are subtracted from estimated ultimate losses to estimate outstanding losses as of the current valuation. Similarly, reported losses are subtracted from estimated ultimate losses to estimate the unreported portion (IBNR) of the outstanding losses.

Projected outstanding and unreported (IBNR) losses as of June 30, 2019, are also displayed. Paid and reported losses are first projected to June 30th, then subtracted from the ultimate losses to calculate the projected outstanding and unreported amounts as of year end. The IBNR calculated in this exhibit, plus a risk margin as calculated in Table B, should form the basis for OSIG's year end IBNR provision.

## **Exhibit IX**

Exhibit IX-A and IX-B provide a comparison of the current experience with that of the previous analyses as of June 30, 2018, and January 31, 2018. Using the data and assumptions from the prior reports, reported and paid losses are projected to the current date. The projected losses are compared to the actual current experience to observe changes in experience. Also shown is a comparison of the selected ultimate losses from the previous reports to the current estimates. These exhibits provide a check of reasonableness to our analysis.

## **Appendix A**

The loss development factors are chosen based on OSIG's own experience, weighted with Oklahoma public entity experience for stability and credibility. The selected factors are fit to a curve in order to extrapolate factors at maturities other than those displayed in the triangle.

For Property and APD, we have derived reported loss development factors for losses limited to \$250,000 and unlimited losses using triangles created on the same basis. In order to project the future payment of losses we have derived factors based on the patterns implied by the selected ultimate losses both limited to \$250,000 and unlimited.





## Automobile Liability Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Large Claim Listing
Exhibit III	Loss Development Methods
Exhibit IV	Forecast for Current Year
Exhibit V	Bornhuetter-Ferguson Methods
Exhibit VI	Summary and Selection of Ultimate Losses
Exhibit VII	Average Claim Size
Exhibit VIII	Outstanding Losses as of 1/31/2019 and Projected as of 6/30/2019
Appendix A	Loss Development Factors and Triangles



**Summary of Loss Data as of January 31, 2019**  
**Total Experience Net of Member Deductibles**

(A)	(B)	(C)	(D)		(E)	(F)	(G)	(H)
Accident Period	Evaluation Date	Maturity (months)	Total Claims	Open Claims	Net Loss and Expense Payments	Net Loss and Expense Reserves	Net Loss and Expense Incurred	Vehicles
7/1/02-03	1/31/2019	199	24	0	\$65,087	\$0	\$65,087	
7/1/03-04	1/31/2019	187	81	0	\$433,514	\$0	\$433,514	
7/1/04-05	1/31/2019	175	109	0	\$1,097,512	\$0	\$1,097,512	5,046
7/1/05-06	1/31/2019	163	134	0	\$450,928	\$0	\$450,928	6,391
7/1/06-07	1/31/2019	151	145	0	\$549,344	\$0	\$549,344	7,017
7/1/07-08	1/31/2019	139	178	0	\$759,907	\$0	\$759,907	7,753
7/1/08-09	1/31/2019	127	207	0	\$1,465,586	\$0	\$1,465,586	7,641
7/1/09-10	1/31/2019	115	182	0	\$703,413	\$0	\$703,413	8,309
7/1/10-11	1/31/2019	103	187	0	\$882,016	\$0	\$882,016	9,022
7/1/11-12	1/31/2019	91	177	1	\$948,273	\$25,312	\$973,586	6,650
7/1/12-13	1/31/2019	79	162	0	\$661,103	\$0	\$661,103	6,979
7/1/13-14	1/31/2019	67	185	0	\$705,549	\$0	\$705,549	7,460
7/1/14-15	1/31/2019	55	226	5	\$1,115,547	\$297,700	\$1,413,246	9,047
7/1/15-16	1/31/2019	43	226	5	\$1,018,738	\$195,518	\$1,214,256	9,517
7/1/16-17	1/31/2019	31	207	6	\$957,535	\$289,530	\$1,247,065	10,334
7/1/17-18	1/31/2019	19	171	33	\$452,599	\$289,786	\$742,385	10,113
7/1/18-19	1/31/2019	7	144	127	\$274,924	\$430,541	\$705,465	11,511
7/1/19-20								11,515
			2745	177	\$12,541,575	\$1,528,387	\$14,069,962	134,305

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Claims are grouped by occurrence, claims with \$0 incurred are excluded
- Losses are net of member deductibles

Summary of Large Claim Information

Occurrence #	School	Policy Year	Loss Date	Status	Net Paid	Net Incurred	SIR	Excess Recoveries	Excess Paid	Excess Incurred	Severity Factor	Ultimate Net
000203	NEWKIRK PUBLIC SCHOOLS	7/1/03-04	1/30/2004	Closed	\$176,217	\$176,217	\$100,000	\$76,217	\$76,217	\$76,217	1.000	\$176,217
000513	CHICKASKA PUBLIC SCHOOL	7/1/04-05	12/20/2004	Closed	\$129,748	\$129,748	\$100,000	\$29,748	\$29,748	\$29,748	1.000	\$129,748
000596	RIPLEY PUBLIC SCHOOLS	7/1/04-05	3/29/2005	Closed	\$549,427	\$549,427	\$100,000	\$449,427	\$449,427	\$449,427	1.000	\$549,427
001433	VELMA-ALMA ISD #5	7/1/06-07	12/20/2006	Closed	\$114,139	\$114,139	\$100,000	\$14,139	\$14,139	\$14,139	1.000	\$114,140
002940	CANEY VALLEY PUBLIC SCHOOL	7/1/08-09	5/7/2009	Closed	\$106,504	\$106,504	\$100,000	\$6,504	\$6,504	\$6,504	1.000	\$106,505
002638	ALTUS PUBLIC SCHOOL	7/1/08-09	11/14/2008	Closed	\$104,466	\$104,466	\$100,000	\$4,466	\$4,466	\$4,466	1.000	\$104,466
002678	CHICKASKA PUBLIC SCHOOL	7/1/08-09	12/15/2008	Closed	\$131,271	\$131,271	\$100,000	\$31,271	\$31,271	\$31,271	1.000	\$131,271
90075	PAOLI ISD	7/1/10-11	8/18/2010	Closed	\$134,999	\$134,999	\$100,000	\$34,999	\$34,999	\$34,999	1.000	\$135,003
90305	GUTHRIE PUBLIC SCHOOLS	7/1/10-11	12/8/2010	Closed	\$103,684	\$103,684	\$100,000	\$3,684	\$3,684	\$3,684	1.000	\$103,687
91477	LAWTON BOARD OF EDUCATION	7/1/12-13	9/19/2012	Closed	\$135,786	\$135,786	\$100,000	\$35,786	\$35,786	\$35,786	1.000	\$135,823
92239	PUTNAM CITY ISD	7/1/13-14	1/7/2014	Closed	\$130,707	\$130,707	\$100,000	\$30,707	\$30,707	\$30,707	1.001	\$130,816
93063	MIDWEST CITY-DEL CITY ISD	7/1/14-15	4/20/2015	Closed	\$219,224	\$219,224	\$100,000	\$119,224	\$119,224	\$119,224	1.003	\$219,791
93008	WESTERN HEIGHTS ISD	7/1/14-15	3/23/2015	Closed	\$206,102	\$206,102	\$100,000	\$106,072	\$106,072	\$106,072	1.003	\$206,635
93186	JONES ISD	7/1/14-15	6/3/2015	Open	\$15,969	\$107,276	\$100,000	\$0	\$0	\$7,276	1.003	\$107,554
93477	HAYWOOD ISD	7/1/15-16	11/19/2015	Closed	\$174,557	\$174,557	\$100,000	\$74,557	\$74,557	\$74,557	1.008	\$175,982
94052	PUTNAM CITY ISD	7/1/16-17	9/29/2016	Closed	\$126,307	\$126,307	\$100,000	\$96,307	\$96,307	\$96,307	1.026	\$129,608
94363	ADAIR ISD	7/1/16-17	3/23/2017	Open	\$22,004	\$128,040	\$100,000	\$0	\$0	\$28,040	1.026	\$131,385
					\$2,581,113	\$2,778,456		\$1,113,109	\$1,113,109	\$1,148,425		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services  
Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.

**Calculation of Limited Losses**

Policy Period	(A) Retention	(B) Unlimited Paid Losses	(C) Unlimited Reported Losses	(D) Paid Excess of Primary	(E) Reported Excess of Primary	(F) Paid Limited to Primary	(G) Reported Limited to Primary
7/1/02-03	\$100,000	\$65,087	\$65,087	\$0	\$0	\$65,087	\$65,087
7/1/03-04	\$100,000	\$433,514	\$433,514	\$76,217	\$76,217	\$357,297	\$357,297
7/1/04-05	\$100,000	\$1,097,512	\$1,097,512	\$479,175	\$479,175	\$618,336	\$618,336
7/1/05-06	\$100,000	\$450,928	\$450,928	\$0	\$0	\$450,928	\$450,928
7/1/06-07	\$100,000	\$549,344	\$549,344	\$14,139	\$14,139	\$535,205	\$535,205
7/1/07-08	\$100,000	\$759,907	\$759,907	\$0	\$0	\$759,907	\$759,907
7/1/08-09	\$100,000	\$1,465,586	\$1,465,586	\$42,241	\$42,241	\$1,423,346	\$1,423,346
7/1/09-10	\$100,000	\$703,413	\$703,413	\$0	\$0	\$703,413	\$703,413
7/1/10-11	\$100,000	\$882,016	\$882,016	\$38,683	\$38,683	\$843,333	\$843,333
7/1/11-12	\$100,000	\$948,273	\$973,586	\$0	\$0	\$948,273	\$973,586
7/1/12-13	\$100,000	\$661,103	\$661,103	\$35,786	\$35,786	\$625,317	\$625,317
7/1/13-14	\$100,000	\$705,549	\$705,549	\$30,707	\$30,707	\$674,842	\$674,842
7/1/14-15	\$100,000	\$1,115,547	\$1,413,246	\$225,296	\$232,572	\$890,251	\$1,180,674
7/1/15-16	\$100,000	\$1,018,738	\$1,214,256	\$74,557	\$74,557	\$944,181	\$1,139,699
7/1/16-17	\$100,000	\$957,535	\$1,247,065	\$96,307	\$124,347	\$861,228	\$1,122,718
7/1/17-18	\$100,000	\$452,599	\$742,385	\$0	\$0	\$452,599	\$742,385
7/1/18-19	\$100,000	\$274,924	\$705,465	\$0	\$0	\$274,924	\$705,465
<b>Total</b>		\$12,541,575	\$14,069,962	\$1,113,109	\$1,148,425	\$11,428,466	\$12,921,537

(A) and (B) - Exhibit I

(D) and (E) - Excess amounts from claims in Exhibit II, page 1

(F) = (B) - (D)

(G) = (C) - (E)

**Estimated Ultimate Losses Limited to OSIG Retentions  
Using Loss Development Methods**

Accident Period	(A) Reported Losses	(B) Reported on Large Losses	(C) Reported Develop. Factor	(D) Ultimate on Small Claims	(E) Provision for Large Claims	(F) Estimated Ultimate Losses
7/1/02-03	\$65,087	\$0	1.000	\$65,087	\$0	\$65,000
7/1/03-04	\$433,514	\$176,217	1.000	\$257,297	\$100,000	\$357,000
7/1/04-05	\$1,097,512	\$679,175	1.000	\$418,336	\$200,000	\$618,000
7/1/05-06	\$450,928	\$0	1.000	\$450,928	\$0	\$451,000
7/1/06-07	\$549,344	\$114,139	1.000	\$435,205	\$100,000	\$535,000
7/1/07-08	\$759,907	\$0	1.000	\$759,908	\$0	\$760,000
7/1/08-09	\$1,465,586	\$342,241	1.000	\$1,123,349	\$300,000	\$1,423,000
7/1/09-10	\$703,413	\$0	1.000	\$703,420	\$0	\$703,000
7/1/10-11	\$882,016	\$238,683	1.000	\$643,352	\$200,000	\$843,000
7/1/11-12	\$973,586	\$0	1.000	\$973,672	\$0	\$974,000
7/1/12-13	\$661,103	\$135,786	1.000	\$525,459	\$100,000	\$625,000
7/1/13-14	\$705,549	\$130,707	1.001	\$575,319	\$100,000	\$675,000
7/1/14-15	\$1,413,246	\$532,603	1.003	\$882,921	\$300,000	\$1,183,000
7/1/15-16	\$1,214,256	\$174,557	1.008	\$1,048,187	\$100,000	\$1,148,000
7/1/16-17	\$1,247,065	\$254,347	1.026	\$1,018,656	\$200,000	\$1,219,000
7/1/17-18	\$742,385	\$0	1.085	\$805,364	\$0	\$805,000
Total	\$13,364,497	\$2,778,456		\$10,686,461	\$1,700,000	\$12,384,000

Accident Period	(A) Paid Losses	(B) Paid on Large Losses	(C) Paid Develop. Factor	(D) Ultimate on Small Claims	(E) Provision for Large Claims	(F) Estimated Ultimate Losses
7/1/02-03	\$65,087	\$0	1.000	\$65,087	\$0	\$65,000
7/1/03-04	\$433,514	\$176,217	1.000	\$257,297	\$100,000	\$357,000
7/1/04-05	\$1,097,512	\$679,175	1.000	\$418,337	\$200,000	\$618,000
7/1/05-06	\$450,928	\$0	1.000	\$450,930	\$0	\$451,000
7/1/06-07	\$549,344	\$114,139	1.000	\$435,210	\$100,000	\$535,000
7/1/07-08	\$759,907	\$0	1.000	\$759,931	\$0	\$760,000
7/1/08-09	\$1,465,586	\$342,241	1.000	\$1,123,435	\$300,000	\$1,423,000
7/1/09-10	\$703,413	\$0	1.000	\$703,556	\$0	\$704,000
7/1/10-11	\$882,016	\$238,683	1.001	\$643,671	\$200,000	\$844,000
7/1/11-12	\$948,273	\$0	1.001	\$949,576	\$0	\$950,000
7/1/12-13	\$661,103	\$135,786	1.004	\$527,224	\$100,000	\$627,000
7/1/13-14	\$705,549	\$130,707	1.010	\$580,423	\$100,000	\$680,000
7/1/14-15	\$1,115,547	\$441,296	1.026	\$691,959	\$300,000	\$992,000
7/1/15-16	\$1,018,738	\$174,557	1.072	\$904,874	\$100,000	\$1,005,000
7/1/16-17	\$957,535	\$148,312	1.199	\$970,454	\$200,000	\$1,170,000
7/1/17-18	\$452,599	\$0	1.559	\$705,660	\$0	\$706,000
Total	\$12,266,651	\$2,581,113		\$10,187,624	\$1,700,000	\$11,887,000

(A) - Exhibit I

(B) - Exhibit II

(C) - Appendix A

(D) = [(A) - (B)] x (C)

(E) = # large x SIR x ccdf

(F) = (D) + (E)

***Estimate Ultimate Losses based on Forecast***

<i>Accident Period</i>	<i>(A) Exposure</i>	<i>(B) Detrended Loss Rate</i>	<i>(C) Forecast</i>
<i>7/1/18-19</i>	11,511	\$119	\$1,369,000
<i>7/1/19-20</i>	11,515	\$122	\$1,403,000

*(A) - Exhibit I*

*(B) - From Forecast, detrended*

*(C) = (A) x (B)*



**Estimated Ultimate Losses Limited to OSIG Retention  
Using Bornhuetter-Ferguson Method**

Accident Period	(A) Prior Ultimate or Forecast	(B) Reported Develop. Factor	(C) Expected % Unreported	(D) Expected Unreported Losses	(E) Limited Reported Losses	(F) Estimated Ultimate Losses
7/1/02-03	\$65,087	1.000	0%	\$0	\$65,087	\$65,000
7/1/03-04	\$357,297	1.000	0%	\$0	\$357,297	\$357,000
7/1/04-05	\$618,336	1.000	0%	\$0	\$618,336	\$618,000
7/1/05-06	\$450,928	1.000	0%	\$0	\$450,928	\$451,000
7/1/06-07	\$535,205	1.000	0%	\$0	\$535,205	\$535,000
7/1/07-08	\$759,907	1.000	0%	\$1	\$759,907	\$760,000
7/1/08-09	\$1,423,346	1.000	0%	\$5	\$1,423,346	\$1,423,000
7/1/09-10	\$706,000	1.000	0%	\$7	\$703,413	\$703,000
7/1/10-11	\$843,000	1.000	0%	\$25	\$843,333	\$843,000
7/1/11-12	\$974,000	1.000	0%	\$87	\$973,586	\$974,000
7/1/12-13	\$626,000	1.000	0%	\$169	\$625,317	\$625,000
7/1/13-14	\$678,000	1.001	0%	\$563	\$674,842	\$675,000
7/1/14-15	\$1,224,000	1.003	0%	\$3,158	\$1,180,674	\$1,184,000
7/1/15-16	\$1,183,000	1.008	1%	\$9,579	\$1,139,699	\$1,149,000
7/1/16-17	\$1,166,000	1.026	3%	\$29,690	\$1,122,718	\$1,152,000
7/1/17-18	\$1,093,000	1.085	8%	\$85,472	\$742,385	\$828,000
7/1/18-19	\$1,369,000	2.088	52%	\$713,220	\$705,465	\$1,419,000
Total	\$14,072,106			\$841,976	\$12,921,537	\$13,761,000

Accident Period	(A) Prior Ultimate or Forecast	(B) Paid Develop. Factor	(C) Expected % Unpaid	(D) Expected Unpaid Losses	(E) Limited Paid Losses	(F) Estimated Ultimate Losses
7/1/02-03	\$65,087	1.000	0%	\$0	\$65,087	\$65,000
7/1/03-04	\$357,297	1.000	0%	\$0	\$357,297	\$357,000
7/1/04-05	\$618,336	1.000	0%	\$1	\$618,336	\$618,000
7/1/05-06	\$450,928	1.000	0%	\$2	\$450,928	\$451,000
7/1/06-07	\$535,205	1.000	0%	\$7	\$535,205	\$535,000
7/1/07-08	\$759,907	1.000	0%	\$24	\$759,907	\$760,000
7/1/08-09	\$1,423,346	1.000	0%	\$113	\$1,423,346	\$1,423,000
7/1/09-10	\$706,000	1.000	0%	\$143	\$703,413	\$704,000
7/1/10-11	\$843,000	1.001	0%	\$443	\$843,333	\$844,000
7/1/11-12	\$974,000	1.001	0%	\$1,336	\$948,273	\$950,000
7/1/12-13	\$626,000	1.004	0%	\$2,265	\$625,317	\$628,000
7/1/13-14	\$678,000	1.010	1%	\$6,519	\$674,842	\$681,000
7/1/14-15	\$1,224,000	1.026	3%	\$31,323	\$890,251	\$922,000
7/1/15-16	\$1,183,000	1.072	7%	\$79,348	\$944,181	\$1,024,000
7/1/16-17	\$1,166,000	1.199	17%	\$193,719	\$861,228	\$1,055,000
7/1/17-18	\$1,093,000	1.559	36%	\$391,967	\$452,599	\$845,000
7/1/18-19	\$1,369,000	3.904	74%	\$1,018,302	\$274,924	\$1,293,000
Total	\$14,072,106			\$1,725,513	\$11,428,466	\$13,155,000

(A) - Exhibit VI, or IV for 7/1/18-19

(B) - Appendix A

(C) = 1 - 1/(B)

(D) = (A) \* (C)

(D) - Exhibit I, limited to SIR

(F) = (D) + (E)

**Summary and Selection of Ultimate Limited Loss Estimates**

Accident Period	(A) Prior Ultimate or Forecast	(B) Reported Loss Development Method	(C) Paid Loss Development Method	(D) Expected Unreported Method	(E) Expected Unpaid Method	(F) Selected Ultimate Loss Estimate
7/1/02-03	\$65,087	\$65,000	\$65,000	\$65,000	\$65,000	\$65,087
7/1/03-04	\$357,297	\$357,000	\$357,000	\$357,000	\$357,000	\$357,297
7/1/04-05	\$618,336	\$618,000	\$618,000	\$618,000	\$618,000	\$618,336
7/1/05-06	\$450,928	\$451,000	\$451,000	\$451,000	\$451,000	\$450,928
7/1/06-07	\$535,205	\$535,000	\$535,000	\$535,000	\$535,000	\$535,205
7/1/07-08	\$759,907	\$760,000	\$760,000	\$760,000	\$760,000	\$759,907
7/1/08-09	\$1,423,346	\$1,423,000	\$1,423,000	\$1,423,000	\$1,423,000	\$1,423,346
7/1/09-10	\$706,000	\$703,000	\$704,000	\$703,000	\$704,000	\$703,413
7/1/10-11	\$843,000	\$843,000	\$844,000	\$843,000	\$844,000	\$843,333
7/1/11-12	\$974,000	\$974,000	\$950,000	\$974,000	\$950,000	\$974,000
7/1/12-13	\$626,000	\$625,000	\$627,000	\$625,000	\$628,000	\$625,000
7/1/13-14	\$678,000	\$675,000	\$680,000	\$675,000	\$681,000	\$675,000
7/1/14-15	\$1,224,000	\$1,183,000	\$992,000	\$1,184,000	\$922,000	\$1,184,000
7/1/15-16	\$1,183,000	\$1,148,000	\$1,005,000	\$1,149,000	\$1,024,000	\$1,149,000
7/1/16-17	\$1,166,000	\$1,219,000	\$1,170,000	\$1,152,000	\$1,055,000	\$1,152,000
7/1/17-18	\$1,093,000	\$805,000	\$706,000	\$828,000	\$845,000	\$828,000
7/1/18-19	\$1,291,000			\$1,419,000	\$1,293,000	\$1,419,000
<b>Total</b>	<b>\$13,994,106</b>	<b>\$12,384,000</b>	<b>\$11,887,000</b>	<b>\$13,761,000</b>	<b>\$13,155,000</b>	<b>\$13,762,852</b>

(A) - From Previous Report as of 6/30/2018

(B) and (C) - Exhibit III

(D) and (E) - Exhibit V

(F) - Selected as Noted:

Limited Reported Losses for 02-03 through 10-11

(D) for 11-12 through 18-19

**Average Ultimate Claim Sizes**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
<i>Accident Period</i>	<i>Reported Claims</i>	<i>Reported Claim Development</i>	<i>Estimated Ultimate Claims</i>	<i>Estimated Ultimate Losses</i>	<i>Estimated Average Ultimate Claim</i>	<i>Exposure (Vehicles)</i>	<i>Loss Rate</i>
7/1/02-03	24	1.000	24.0	\$65,087	\$2,700		
7/1/03-04	81	1.000	81.0	\$357,297	\$4,400		
7/1/04-05	109	1.000	109.0	\$618,336	\$5,700	5,046	\$123
7/1/05-06	134	1.000	134.0	\$450,928	\$3,400	6,391	\$71
7/1/06-07	145	1.000	145.0	\$535,205	\$3,700	7,017	\$76
7/1/07-08	178	1.000	178.0	\$759,907	\$4,300	7,753	\$98
7/1/08-09	207	1.000	207.0	\$1,423,346	\$6,900	7,641	\$186
7/1/09-10	182	1.000	182.0	\$703,413	\$3,900	8,309	\$85
7/1/10-11	187	1.000	187.0	\$843,333	\$4,500	9,022	\$93
7/1/11-12	177	1.000	177.0	\$974,000	\$5,500	6,650	\$146
7/1/12-13	162	1.000	162.0	\$625,000	\$3,900	6,979	\$90
7/1/13-14	185	1.000	185.0	\$675,000	\$3,600	7,460	\$90
7/1/14-15	226	1.000	226.0	\$1,184,000	\$5,200	9,047	\$131
7/1/15-16	226	1.000	226.0	\$1,149,000	\$5,100	9,517	\$121
7/1/16-17	207	1.000	207.0	\$1,152,000	\$5,600	10,334	\$111
7/1/17-18	171	1.002	171.3	\$828,000	\$4,800	10,113	\$82
7/1/18-19	144	1.717	243.9	\$1,419,000	\$5,800	11,511	\$123
7/1/19-20			239.3	\$1,403,000	\$5,900	11,515	\$122
<b>Total</b>	<b>2745</b>		<b>3084.58861</b>	<b>\$15,165,852</b>	<b>\$4,900</b>	<b>134,305</b>	<b>\$113</b>

- 7/1/19-20 from forecast

(A) - Exhibit I

(B) - Appendix A

(C) = (A) x (B)

(D) = Exhibit VI

(E) = (D) / (C)

(F) - Exhibit I, provided by OSIG

(G) = (D) / (F)

**Estimated Outstanding Losses**

<i>Accident Period</i>	<i>(A) Estimated Ultimate Losses</i>	<i>(B) Limited Paid Losses</i>	<i>(C) Limited Reported Losses</i>	<i>(D) Limited Case Reserves</i>	<i>(E) IBNR Losses</i>	<i>(F) Outstanding Losses</i>
<b>As of January 31, 2019</b>						
7/1/02-03	\$65,087	\$65,087	\$65,087	\$0	\$0	\$0
7/1/03-04	\$357,297	\$357,297	\$357,297	\$0	\$0	\$0
7/1/04-05	\$618,336	\$618,336	\$618,336	\$0	\$0	\$0
7/1/05-06	\$450,928	\$450,928	\$450,928	\$0	\$0	\$0
7/1/06-07	\$535,205	\$535,205	\$535,205	\$0	\$0	\$0
7/1/07-08	\$759,907	\$759,907	\$759,907	\$0	\$0	\$0
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	\$0	\$0	\$0
7/1/09-10	\$703,413	\$703,413	\$703,413	\$0	\$0	\$0
7/1/10-11	\$843,333	\$843,333	\$843,333	\$0	\$0	\$0
7/1/11-12	\$974,000	\$948,273	\$973,586	\$25,312	\$0	\$26,000
7/1/12-13	\$625,000	\$625,317	\$625,317	\$0	\$0	\$0
7/1/13-14	\$675,000	\$674,842	\$674,842	\$0	\$0	\$0
7/1/14-15	\$1,184,000	\$890,251	\$1,180,674	\$290,423	\$3,000	\$294,000
7/1/15-16	\$1,149,000	\$944,181	\$1,139,699	\$195,518	\$9,000	\$205,000
7/1/16-17	\$1,152,000	\$861,228	\$1,122,718	\$261,491	\$29,000	\$291,000
7/1/17-18	\$828,000	\$452,599	\$742,385	\$289,786	\$86,000	\$375,000
7/1/18-1/31/19	\$828,000	\$274,924	\$705,465	\$430,541	\$123,000	\$553,000
<b>Total</b>	<b>\$13,172,000</b>	<b>\$11,428,466</b>	<b>\$12,921,537</b>	<b>\$1,493,072</b>	<b>\$250,000</b>	<b>\$1,744,000</b>
2/1-6/30/19	\$591,000					
<b>Projected as of June 30, 2019</b>						
7/1/02-03	\$65,087	\$65,087	\$65,087	\$0	\$0	\$0
7/1/03-04	\$357,297	\$357,297	\$357,297	\$0	\$0	\$0
7/1/04-05	\$618,336	\$618,336	\$618,336	\$0	\$0	\$0
7/1/05-06	\$450,928	\$450,928	\$450,928	\$0	\$0	\$0
7/1/06-07	\$535,205	\$535,205	\$535,205	\$0	\$0	\$0
7/1/07-08	\$759,907	\$759,907	\$759,907	\$0	\$0	\$0
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	\$0	\$0	\$0
7/1/09-10	\$703,413	\$703,413	\$703,413	\$0	\$0	\$0
7/1/10-11	\$843,333	\$843,333	\$843,333	\$0	\$0	\$0
7/1/11-12	\$974,000	\$957,000	\$974,000	\$17,000	\$0	\$17,000
7/1/12-13	\$625,000	\$625,000	\$625,000	\$0	\$0	\$0
7/1/13-14	\$675,000	\$675,000	\$675,000	\$0	\$0	\$0
7/1/14-15	\$1,184,000	\$989,000	\$1,182,000	\$193,000	\$2,000	\$195,000
7/1/15-16	\$1,149,000	\$1,011,000	\$1,143,000	\$132,000	\$6,000	\$138,000
7/1/16-17	\$1,152,000	\$951,000	\$1,134,000	\$183,000	\$18,000	\$201,000
7/1/17-18	\$828,000	\$549,000	\$774,000	\$225,000	\$54,000	\$279,000
7/1/18-19	\$1,419,000	\$640,000	\$1,220,000	\$580,000	\$199,000	\$779,000
<b>Total</b>	<b>\$13,763,000</b>	<b>\$12,153,852</b>	<b>\$13,483,852</b>	<b>\$1,330,000</b>	<b>\$279,000</b>	<b>\$1,609,000</b>

**Total Estimated IBNR as of June 30, 2019 \$279,000**

(A) - Exhibit VI

(B) and (C) - Exhibit V as of 1/31/19

Projected as of 6/30/19 using LDFs

(D) = (C) - (B)

(E) = (A) - (C)

(F) = (A) - (B)

**Comparison of Results with Previous Estimates as of 6/30/18**

	(A) Actual Reported Losses 6/30/2018	(B) Expected Reported Losses 1/31/2019	(C) Actual Reported Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
Accident Period							
7/1/02-03	\$65,087	\$65,087	\$65,087	0.0%	\$65,087	\$65,087	0.0%
7/1/03-04	\$357,297	\$357,297	\$357,297	0.0%	\$357,297	\$357,297	0.0%
7/1/04-05	\$618,336	\$618,336	\$618,336	0.0%	\$618,336	\$618,336	0.0%
7/1/05-06	\$450,928	\$450,928	\$450,928	0.0%	\$450,928	\$450,928	0.0%
7/1/06-07	\$535,205	\$535,205	\$535,205	0.0%	\$535,205	\$535,205	0.0%
7/1/07-08	\$759,907	\$759,907	\$759,907	0.0%	\$759,907	\$759,907	0.0%
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	0.0%	\$1,423,346	\$1,423,346	0.0%
7/1/09-10	\$703,413	\$704,624	\$703,413	-0.2%	\$706,000	\$703,413	-0.4%
7/1/10-11	\$843,333	\$843,176	\$843,333	0.0%	\$843,000	\$843,333	0.0%
7/1/11-12	\$973,586	\$973,783	\$973,586	0.0%	\$974,000	\$974,000	0.0%
7/1/12-13	\$625,317	\$625,645	\$625,317	-0.1%	\$626,000	\$625,000	-0.2%
7/1/13-14	\$674,842	\$676,369	\$674,842	-0.2%	\$678,000	\$675,000	-0.4%
7/1/14-15	\$1,221,735	\$1,222,838	\$1,180,674	-3.4%	\$1,224,000	\$1,184,000	-3.3%
7/1/15-16	\$1,159,787	\$1,171,119	\$1,139,699	-2.7%	\$1,183,000	\$1,149,000	-2.9%
7/1/16-17	\$1,124,122	\$1,144,384	\$1,122,718	-1.9%	\$1,166,000	\$1,152,000	-1.2%
7/1/17-18	\$925,038	\$1,002,617	\$742,385	-26.0%	\$1,093,000	\$828,000	-24.2%
7/1/18-19		\$619,774	\$705,465	13.8%	\$1,291,000	\$1,419,000	9.9%
<b>Total</b>	<b>\$12,461,279</b>	<b>\$13,194,433</b>	<b>\$12,921,537</b>	<b>-2.1%</b>	<b>\$13,994,106</b>	<b>\$13,762,852</b>	<b>-1.7%</b>

	(A) Actual Paid Losses 6/30/2018	(B) Expected Paid Losses 1/31/2019	(C) Actual Paid Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
Accident Period							
7/1/02-03	\$65,087	\$65,087	\$65,087	0.0%	\$65,087	\$65,087	0.0%
7/1/03-04	\$357,297	\$357,297	\$357,297	0.0%	\$357,297	\$357,297	0.0%
7/1/04-05	\$618,336	\$618,336	\$618,336	0.0%	\$618,336	\$618,336	0.0%
7/1/05-06	\$450,928	\$450,928	\$450,928	0.0%	\$450,928	\$450,928	0.0%
7/1/06-07	\$535,205	\$535,205	\$535,205	0.0%	\$535,205	\$535,205	0.0%
7/1/07-08	\$759,907	\$759,907	\$759,907	0.0%	\$759,907	\$759,907	0.0%
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	0.0%	\$1,423,346	\$1,423,346	0.0%
7/1/09-10	\$703,413	\$704,348	\$703,413	-0.1%	\$706,000	\$703,413	-0.4%
7/1/10-11	\$843,333	\$843,208	\$843,333	0.0%	\$843,000	\$843,333	0.0%
7/1/11-12	\$947,823	\$957,946	\$948,273	-1.0%	\$974,000	\$974,000	0.0%
7/1/12-13	\$625,317	\$625,590	\$625,317	0.0%	\$626,000	\$625,000	-0.2%
7/1/13-14	\$674,842	\$676,147	\$674,842	-0.2%	\$678,000	\$675,000	-0.4%
7/1/14-15	\$874,245	\$1,022,678	\$890,251	-12.9%	\$1,224,000	\$1,184,000	-3.3%
7/1/15-16	\$924,765	\$1,035,095	\$944,181	-8.8%	\$1,183,000	\$1,149,000	-2.9%
7/1/16-17	\$853,354	\$980,425	\$861,228	-12.2%	\$1,166,000	\$1,152,000	-1.2%
7/1/17-18	\$390,369	\$624,766	\$452,599	-27.6%	\$1,093,000	\$828,000	-24.2%
7/1/18-19		\$344,610	\$274,924	-20.2%	\$1,291,000	\$1,419,000	9.9%
<b>Total</b>	<b>\$11,047,566</b>	<b>\$12,024,920</b>	<b>\$11,428,466</b>	<b>-5.0%</b>	<b>\$13,994,106</b>	<b>\$13,762,852</b>	<b>-1.7%</b>

(A) and (E) - From Previous actuarial report as of 06/30/2018  
 (B) - Derived from (E) and (A) using loss development patterns  
 (C) - Exhibit I, limited to retention  
 (D) = [(C) / (B)] - 1  
 (F) - Exhibit VI  
 (G) = [(F) / (E)] - 1

**Comparison of Results with Previous Estimates as of 01/31/18**

Accident Period	(A) Actual Reported Losses 1/31/2018	(B) Expected Reported Losses 1/31/2019	(C) Actual Reported Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 1/31/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
7/1/02-03	\$65,087	\$65,087	\$65,087	0.0%	\$65,087	\$65,087	0.0%
7/1/03-04	\$357,297	\$357,297	\$357,297	0.0%	\$357,297	\$357,297	0.0%
7/1/04-05	\$618,336	\$618,336	\$618,336	0.0%	\$618,336	\$618,336	0.0%
7/1/05-06	\$450,928	\$450,928	\$450,928	0.0%	\$450,928	\$450,928	0.0%
7/1/06-07	\$535,205	\$535,205	\$535,205	0.0%	\$535,205	\$535,205	0.0%
7/1/07-08	\$759,907	\$759,907	\$759,907	0.0%	\$759,907	\$759,907	0.0%
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	0.0%	\$1,423,346	\$1,423,346	0.0%
7/1/09-10	\$706,085	\$706,029	\$703,413	-0.4%	\$706,000	\$703,413	-0.4%
7/1/10-11	\$843,333	\$843,111	\$843,333	0.0%	\$843,000	\$843,333	0.0%
7/1/11-12	\$973,586	\$973,863	\$973,586	0.0%	\$974,000	\$974,000	0.0%
7/1/12-13	\$625,317	\$625,778	\$625,317	-0.1%	\$626,000	\$625,000	-0.2%
7/1/13-14	\$700,899	\$702,325	\$674,842	-3.9%	\$703,000	\$675,000	-4.0%
7/1/14-15	\$1,164,683	\$1,171,035	\$1,180,674	0.8%	\$1,174,000	\$1,184,000	0.9%
7/1/15-16	\$1,129,687	\$1,149,007	\$1,139,699	-0.8%	\$1,158,000	\$1,149,000	-0.8%
7/1/16-17	\$1,065,183	\$1,133,224	\$1,122,718	-0.9%	\$1,166,000	\$1,152,000	-1.2%
7/1/17-18	\$531,156	\$1,052,078	\$742,385	-29.4%	\$1,143,000	\$828,000	-27.6%
7/1/18-19		\$619,774	\$705,465	13.8%	\$1,291,000	\$1,419,000	9.9%
<b>Total</b>	<b>\$11,950,035</b>	<b>\$13,186,329</b>	<b>\$12,921,537</b>	<b>-2.0%</b>	<b>\$13,994,106</b>	<b>\$13,762,852</b>	<b>-1.7%</b>

Accident Period	(A) Actual Paid Losses 1/31/2018	(B) Expected Paid Losses 1/31/2019	(C) Actual Paid Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 1/31/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
7/1/02-03	\$65,087	\$65,087	\$65,087	0.0%	\$65,087	\$65,087	0.0%
7/1/03-04	\$357,297	\$357,297	\$357,297	0.0%	\$357,297	\$357,297	0.0%
7/1/04-05	\$618,336	\$618,336	\$618,336	0.0%	\$618,336	\$618,336	0.0%
7/1/05-06	\$450,928	\$450,928	\$450,928	0.0%	\$450,928	\$450,928	0.0%
7/1/06-07	\$535,205	\$535,205	\$535,205	0.0%	\$535,205	\$535,205	0.0%
7/1/07-08	\$759,907	\$759,907	\$759,907	0.0%	\$759,907	\$759,907	0.0%
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	0.0%	\$1,423,346	\$1,423,346	0.0%
7/1/09-10	\$687,646	\$697,551	\$703,413	0.8%	\$706,000	\$703,413	-0.4%
7/1/10-11	\$843,333	\$843,148	\$843,333	0.0%	\$843,000	\$843,333	0.0%
7/1/11-12	\$947,823	\$962,766	\$948,273	-1.5%	\$974,000	\$974,000	0.0%
7/1/12-13	\$625,317	\$625,718	\$625,317	-0.1%	\$626,000	\$625,000	-0.2%
7/1/13-14	\$673,722	\$691,353	\$674,842	-2.4%	\$703,000	\$675,000	-4.0%
7/1/14-15	\$862,433	\$1,053,602	\$890,251	-15.5%	\$1,174,000	\$1,184,000	0.9%
7/1/15-16	\$889,240	\$1,053,890	\$944,181	-10.4%	\$1,158,000	\$1,149,000	-0.8%
7/1/16-17	\$833,576	\$1,025,558	\$861,228	-16.0%	\$1,166,000	\$1,152,000	-1.2%
7/1/17-18	\$217,543	\$738,581	\$452,599	-38.7%	\$1,143,000	\$828,000	-27.6%
7/1/18-19		\$344,610	\$274,924	-20.2%	\$1,291,000	\$1,419,000	9.9%
<b>Total</b>	<b>\$10,790,739</b>	<b>\$12,246,883</b>	<b>\$11,428,466</b>	<b>-6.7%</b>	<b>\$13,994,106</b>	<b>\$13,762,852</b>	<b>-1.7%</b>

(A) and (E) - From Previous actuarial report as of 1/31/2018  
 (B) - Derived from (E) and (A) using loss development patterns  
 (C) - Exhibit I, limited to retention  
 (D) = [(C) / (B)] - 1  
 (F) - Exhibit VI  
 (G) = [(F) / (E)] - 1

**Estimation of Cumulative Reported Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	<b>1.156</b>	-6.8690	-1.8567	47.183	3.4472	12.7535	<b>199</b>	<b>1.000</b>
24	<b>1.061</b>	-6.8814	-2.8014	47.354	7.8476	19.2773	<b>187</b>	<b>1.000</b>
36	<b>1.015</b>	-6.8937	-4.1964	47.522	17.6096	28.9284	<b>175</b>	<b>1.000</b>
48	<b>1.005</b>	-6.9058	-5.2983	47.689	28.0722	36.5889	<b>163</b>	<b>1.000</b>
							<b>151</b>	<b>1.000</b>
							<b>139</b>	<b>1.000</b>
							<b>127</b>	<b>1.000</b>
							<b>115</b>	<b>1.000</b>
							<b>103</b>	<b>1.000</b>
							<b>91</b>	<b>1.000</b>
							<b>79</b>	<b>1.000</b>
Sum		-27.5498	-14.1527	189.7491	56.9766	97.5480	<b>67</b>	<b>1.001</b>
Average		-6.8875	-3.5382	47.4373	14.2441	24.3870	<b>55</b>	<b>1.003</b>
							<b>43</b>	<b>1.008</b>
							<b>31</b>	<b>1.026</b>
							<b>19</b>	<b>1.085</b>
							<b>7</b>	<b>2.088</b>

N =	4		
A =	4.716E+284		
B =	95.685	R^2 =	0.99474
C =	950		

\* - Appendix A4

**Estimation of Cumulative Paid Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	<b>2.018</b>	-6.8690	0.0179	47.183	0.0003	-0.1227	<b>199</b>	<b>1.000</b>
24	<b>1.368</b>	-6.8814	-1.0006	47.354	1.0012	6.8857	<b>187</b>	<b>1.000</b>
36	<b>1.126</b>	-6.8937	-2.0686	47.522	4.2790	14.2601	<b>175</b>	<b>1.000</b>
48	<b>1.050</b>	-6.9058	-2.9972	47.689	8.9830	20.6977	<b>163</b>	<b>1.000</b>
60	<b>1.017</b>	-6.9177	-4.0866	47.855	16.7006	28.2702	<b>151</b>	<b>1.000</b>
							<b>139</b>	<b>1.000</b>
							<b>127</b>	<b>1.000</b>
							<b>115</b>	<b>1.000</b>
							<b>103</b>	<b>1.001</b>
							<b>91</b>	<b>1.001</b>
							<b>79</b>	<b>1.004</b>
Sum		-34.4675	-10.1352	237.6038	30.9643	69.9910	<b>67</b>	<b>1.010</b>
Average		-6.8935	-2.0270	47.5208	6.1929	13.9982	<b>55</b>	<b>1.026</b>
							<b>43</b>	<b>1.072</b>
							<b>31</b>	<b>1.199</b>
							<b>19</b>	<b>1.559</b>
							<b>7</b>	<b>3.904</b>

N =	5	
A =	1.296E+250	
B =	83.837	R^2 = 0.999499
C =	950	

\* - Appendix A5



**Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.002	-2.4849	-6.2836	6.175	39.4833	15.6141	199	1.000
24	1.002	-3.1781	-6.2719	10.100	39.3371	19.9325	187	1.000
							175	1.000
							163	1.000
							151	1.000
							139	1.000
							127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
Sum		-5.6630	-12.5555	16.2748	78.8204	35.5466	67	1.000
Average		-2.8315	-6.2778	8.1374	39.4102	17.7733	55	1.000
							43	1.000
							31	1.000
							19	1.002
							7	1.717

N =	2		
A =	1.790E-03		
B =	-0.017	R^2 =	1.00000
C =	0		

\* - Appendix A6

**Analysis of Reported Loss Development**  
**Total Loss and ALAE Net of Member Deductibles**

Reported Losses and ALAE as of (months):										
Year	12	24	36	48	60	72	84	96	108	120
7/1/04-05	\$1,047,750	\$1,095,895	\$1,133,243	\$1,145,262	\$1,145,262	\$1,145,262	\$1,097,512	\$1,097,512	\$1,097,512	\$1,097,512
7/1/05-06	\$456,117	\$547,145	\$662,524	\$632,070	\$450,928	\$450,928	\$450,928	\$450,928	\$450,928	\$450,928
7/1/06-07	\$890,604	\$608,898	\$583,493	\$524,344	\$549,344	\$549,344	\$549,344	\$549,344	\$549,344	\$549,344
7/1/07-08	\$847,622	\$783,605	\$855,237	\$856,228	\$856,441	\$759,907	\$759,907	\$759,907	\$759,907	\$759,907
7/1/08-09	\$1,417,952	\$1,726,246	\$1,741,617	\$1,664,608	\$1,594,733	\$1,576,121	\$1,465,586	\$1,465,586	\$1,465,586	\$1,465,586
7/1/09-10	\$941,486	\$765,020	\$725,671	\$725,680	\$701,085	\$706,085	\$706,085	\$706,085	\$703,413	
7/1/10-11	\$942,102	\$880,763	\$858,871	\$882,516	\$882,516	\$882,016	\$882,016	\$882,016		
7/1/11-12	\$987,456	\$965,945	\$1,000,368	\$1,002,546	\$1,003,435	\$1,003,435	\$973,586			
7/1/12-13	\$777,945	\$702,440	\$663,518	\$661,103	\$661,103	\$661,103				
7/1/13-14	\$878,884	\$737,621	\$731,921	\$731,921	\$705,549					
7/1/14-15	\$909,436	\$947,227	\$1,251,043	\$1,483,264						
7/1/15-16	\$1,112,258	\$1,173,527	\$1,234,344							
7/1/16-17	\$1,204,106	\$1,168,469								
7/1/17-18	\$940,038									

Age-to-Age Factors										
Year	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05	1.046	1.034	1.011	1.000	1.000	0.958	1.000	1.000	1.000	
7/1/05-06	1.200	1.211	0.954	0.713	1.000	1.000	1.000	1.000	1.000	
7/1/06-07	0.684	0.958	0.899	1.048	1.000	1.000	1.000	1.000	1.000	
7/1/07-08	0.924	1.091	1.001	1.000	0.887	1.000	1.000	1.000	1.000	
7/1/08-09	1.217	1.009	0.956	0.958	0.988	0.930	1.000	1.000	1.000	
7/1/09-10	0.813	0.949	1.000	0.966	1.007	1.000	1.000	0.996		
7/1/10-11	0.935	0.975	1.028	1.000	0.999	1.000	1.000			
7/1/11-12	0.978	1.036	1.002	1.001	1.000	0.970				
7/1/12-13	0.903	0.945	0.996	1.000	1.000					
7/1/13-14	0.839	0.992	1.000	0.964						
7/1/14-15	1.042	1.321	1.186							
7/1/15-16	1.055	1.052								
7/1/16-17	0.970									

Average	0.970	1.048	1.003	0.965	0.987	0.982	1.000	0.999	1.000	
Wtd. Avg.	0.975	1.046	1.010	0.969	0.986	0.973	1.000	0.999	1.000	
Industry	1.478	1.176	1.070	1.031	1.015	1.007	1.004	1.002	1.001	1.003
OK Benchmark	1.347	1.092	1.023	1.010	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.100	1.040	1.010	1.005	1.000	1.000	1.000	1.000	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	1.090	1.045	1.010	1.005	1.000	1.000	1.000	1.000	1.000	1.000
Cumulative	1.156	1.061	1.015	1.005	1.000	1.000	1.000	1.000	1.000	1.000

**Analysis of Paid Loss Development**  
**Total Loss and ALAE Net of Member Deductibles**

<i>Paid Losses and ALAE as of (months):</i>										
<i>Year</i>	<i>12</i>	<i>24</i>	<i>36</i>	<i>48</i>	<i>60</i>	<i>72</i>	<i>84</i>	<i>96</i>	<i>108</i>	<i>120</i>
7/1/04-05	\$373,545	\$848,811	\$1,035,459	\$1,095,262	\$1,095,262	\$1,097,512	\$1,097,512	\$1,097,512	\$1,097,512	\$1,097,512
7/1/05-06	\$245,922	\$315,713	\$386,966	\$415,031	\$450,928	\$450,928	\$450,928	\$450,928	\$450,928	\$450,928
7/1/06-07	\$306,414	\$364,626	\$488,241	\$524,344	\$549,344	\$549,344	\$549,344	\$549,344	\$549,344	\$549,344
7/1/07-08	\$382,647	\$542,781	\$699,055	\$711,020	\$726,360	\$759,907	\$759,907	\$759,907	\$759,907	\$759,907
7/1/08-09	\$527,674	\$1,042,468	\$1,233,445	\$1,312,558	\$1,427,617	\$1,439,750	\$1,465,586	\$1,465,586	\$1,465,586	\$1,465,586
7/1/09-10	\$454,322	\$567,769	\$662,046	\$677,216	\$682,330	\$686,578	\$687,068	\$687,068	\$703,413	
7/1/10-11	\$398,166	\$711,060	\$836,794	\$882,516	\$882,516	\$882,016	\$882,016	\$882,016		
7/1/11-12	\$636,923	\$793,177	\$875,075	\$935,985	\$940,184	\$948,005	\$947,823			
7/1/12-13	\$384,700	\$492,970	\$661,008	\$661,103	\$661,103	\$661,103				
7/1/13-14	\$489,337	\$688,008	\$703,536	\$704,744	\$705,549					
7/1/14-15	\$489,849	\$598,952	\$825,663	\$1,099,572						
7/1/15-16	\$612,592	\$780,728	\$999,322							
7/1/16-17	\$544,386	\$879,661								
7/1/17-18	\$390,369									

<i>Age-to-Age Factors</i>										
<i>Year</i>	<i>12:24</i>	<i>24:36</i>	<i>36:48</i>	<i>48:60</i>	<i>60:72</i>	<i>72:84</i>	<i>84:96</i>	<i>96:108</i>	<i>108:120</i>	<i>120:ult</i>
7/1/04-05	2.272	1.220	1.058	1.000	1.002	1.000	1.000	1.000	1.000	
7/1/05-06	1.284	1.226	1.073	1.086	1.000	1.000	1.000	1.000	1.000	
7/1/06-07	1.190	1.339	1.074	1.048	1.000	1.000	1.000	1.000	1.000	
7/1/07-08	1.418	1.288	1.017	1.022	1.046	1.000	1.000	1.000	1.000	
7/1/08-09	1.976	1.183	1.064	1.088	1.008	1.018	1.000	1.000	1.000	
7/1/09-10	1.250	1.166	1.023	1.008	1.006	1.001	1.000	1.024		
7/1/10-11	1.786	1.177	1.055	1.000	0.999	1.000	1.000			
7/1/11-12	1.245	1.103	1.070	1.004	1.008	1.000				
7/1/12-13	1.281	1.341	1.000	1.000	1.000					
7/1/13-14	1.406	1.023	1.002	1.001						
7/1/14-15	1.223	1.379	1.332							
7/1/15-16	1.274	1.280								
7/1/16-17	1.616									
Average	1.479	1.227	1.070	1.026	1.008	1.002	1.000	1.004	1.000	
Wtd. Avg.	1.476	1.214	1.073	1.025	1.008	1.004	1.000	1.003	1.000	
Industry	2.185	1.535	1.231	1.102	1.047	1.023	1.012	1.007	1.004	1.006
OK benchmark	1.724	1.372	1.054	1.040	1.018	1.004	1.000	1.000	1.000	1.000
Prior	1.461	1.207	1.045	1.028	1.009	1.004	1.000	1.000	1.000	1.000
	<i>12</i>	<i>24</i>	<i>36</i>	<i>48</i>	<i>60</i>	<i>72</i>	<i>84</i>	<i>96</i>	<i>108</i>	<i>120</i>
Selected	1.476	1.214	1.073	1.033	1.013	1.004	1.000	1.000	1.000	1.000
<b>Cumulative</b>	<b>2.018</b>	<b>1.368</b>	<b>1.126</b>	<b>1.050</b>	<b>1.017</b>	<b>1.004</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>

**Analysis of Reported Occurrences**

Reported Claims as of (months):										
Year	12	24	36	48	60	72	84	96	108	120
7/1/04-05		108	109	109	109	109	109	109	109	109
7/1/05-06	133	134	135	134	134	134	134	134	134	134
7/1/06-07	142	143	145	145	145	145	145	145	145	145
7/1/07-08	172	178	178	178	178	178	178	178	178	178
7/1/08-09	205	207	207	207	207	207	207	207	207	207
7/1/09-10	183	182	182	182	182	182	182	182	182	
7/1/10-11	182	187	188	188	188	187	187	187		
7/1/11-12	177	178	177	177	177	177	177			
7/1/12-13	163	164	164	162	162	162				
7/1/13-14	196	185	185	185	185					
7/1/14-15	228	225	226	226						
7/1/15-16	225	227	226							
7/1/16-17	213	206								
7/1/17-18	191									

Age-to-Age Factors										
Year	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05		1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/05-06	1.008	1.007	0.993	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/06-07	1.007	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/07-08	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/08-09	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/09-10	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/10-11	1.027	1.005	1.000	1.000	0.995	1.000	1.000			
7/1/11-12	1.006	0.994	1.000	1.000	1.000	1.000				
7/1/12-13	1.006	1.000	0.988	1.000	1.000					
7/1/13-14	0.944	1.000	1.000	1.000						
7/1/14-15	0.987	1.004	1.000							
7/1/15-16	1.009	0.996								
7/1/16-17	0.967									

Average	1.000	1.003	0.998	1.000	0.999	1.000	1.000	1.000	1.000	
Wtd. Avg.	0.999	1.002	0.998	1.000	0.999	1.000	1.000	1.000	1.000	
OK benchmark	1.128	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.003	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
<b>Cumulative</b>	<b>1.002</b>	<b>1.002</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>

**Derivation of Lognomoral Parameters  
Based on Reported Loss Development**

Year	Natural Logarithm of Age to Age Factors								
	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120
7/1/04-05	0.045	0.034	0.011	0.000	0.000	-0.043	0.000	0.000	0.000
7/1/05-06	0.182	0.191	-0.047		0.000	0.000	0.000	0.000	0.000
7/1/06-07		-0.043	-0.107	0.047	0.000	0.000	0.000	0.000	0.000
7/1/07-08	-0.079	0.087	0.001	0.000	-0.120	0.000	0.000	0.000	0.000
7/1/08-09	0.197	0.009	-0.045	-0.043	-0.012	-0.073	0.000	0.000	0.000
7/1/09-10	-0.208	-0.053	0.000	-0.034	0.007	0.000	0.000	-0.004	
7/1/10-11	-0.067	-0.025	0.027	0.000	-0.001	0.000	0.000		
7/1/11-12	-0.022	0.035	0.002	0.001	0.000	-0.030			
7/1/12-13	-0.102	-0.057	-0.004	0.000	0.000				
7/1/13-14	-0.175	-0.008	0.000	-0.037					
7/1/14-15	0.041	0.278	0.170						
7/1/15-16	0.054	0.051							
7/1/16-17	-0.030								

	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>	<u>96</u>	<u>108</u>
Variance	0.016	0.010	0.005	0.001	0.002	0.001	0.000	0.000	0.000
Cum. Variance	0.034	0.018	0.008	0.003	0.002	0.001	0.000	0.000	0.000
SD	0.184	0.134	0.088	0.056	0.049	0.028	0.002	0.002	0.000

## General Liability Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Large Claim Listing
Exhibit III	Loss Development Methods
Exhibit IV	Forecast for Current Year
Exhibit V	Bornhuetter-Ferguson Methods
Exhibit VI	Summary and Selection of Ultimate Losses
Exhibit VII	Average Claim Size
Exhibit VIII	Outstanding Losses as of 1/31/2019 and Projected as of 6/30/2019
Appendix A	Loss Development Factors and Triangles



**Summary of Loss Data as of January 31, 2019**  
**Total Experience Net of Member Deductibles**

(A)	(B)	(C)	(D)		(E)	(F)	(G)	(H)
Accident Period	Evaluation Date	Maturity (months)	Total Claims	Open Claims	Loss and Expense Payments	Loss and Expense Reserves	Loss and Expense Incurred	Students
7/1/02-03	1/31/2019	199	28	0	\$168,909	\$0	\$168,909	
7/1/03-04	1/31/2019	187	88	0	\$848,061	\$0	\$848,061	
7/1/04-05	1/31/2019	175	115	0	\$525,685	\$0	\$525,685	198,498
7/1/05-06	1/31/2019	163	136	0	\$1,330,178	\$0	\$1,330,178	249,419
7/1/06-07	1/31/2019	151	132	0	\$1,351,835	\$0	\$1,351,835	267,684
7/1/07-08	1/31/2019	139	163	0	\$1,501,995	\$0	\$1,501,995	308,999
7/1/08-09	1/31/2019	127	155	0	\$2,172,804	\$0	\$2,172,804	313,473
7/1/09-10	1/31/2019	115	144	1	\$1,503,548	\$20,650	\$1,524,198	314,947
7/1/10-11	1/31/2019	103	110	1	\$2,405,902	\$28,859	\$2,434,762	356,970
7/1/11-12	1/31/2019	91	87	0	\$3,688,203	\$0	\$3,688,203	309,147
7/1/12-13	1/31/2019	79	109	3	\$1,064,655	\$61,678	\$1,126,334	282,168
7/1/13-14	1/31/2019	67	86	1	\$847,442	\$48,240	\$895,683	325,035
7/1/14-15	1/31/2019	55	116	5	\$2,028,164	\$214,149	\$2,242,313	381,156
7/1/15-16	1/31/2019	43	119	16	\$1,573,588	\$590,755	\$2,164,343	381,204
7/1/16-17	1/31/2019	31	132	23	\$1,283,869	\$2,134,635	\$3,418,504	393,462
7/1/17-18	1/31/2019	19	82	40	\$154,356	\$956,848	\$1,111,204	393,700
7/1/18-19	1/31/2019	7	66	58	\$14,067	\$869,692	\$883,759	448,676
7/1/19-20								448,748
			1,868	148	\$22,463,261	\$4,925,507	\$27,388,768	5,373,286

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Claims are grouped by occurrence, exclude claims with \$0 incurred
- Losses are net of member deductibles



Summary of Large Claim Information

Occurrence #	School	Loss Date	Status	Net Paid	Net Incurred	SIR	Excess Recoveries	Excess Paid	Excess Reported	Severity Factor	Ultimate Net
00286	BOISE CITY ISD	5/3/2004	Closed	\$107,737	\$107,737	\$100,000	\$7,787	\$7,787	\$7,787	1.000	\$107,737
00709	HARDESTY ISD	9/1/2004	Closed	\$136,712	\$136,712	\$100,000	\$36,712	\$36,712	\$36,712	1.000	\$136,713
00919	MANFORD PUBLIC SCHOOL	10/31/2005	Closed	\$139,329	\$139,329	\$100,000	\$39,329	\$39,329	\$39,329	1.000	\$139,331
00951	GORE ISD #6	1/9/2006	Closed	\$137,400	\$137,400	\$100,000	\$37,400	\$37,400	\$37,400	1.000	\$137,402
01194	OLOGAH TALALA ISD	7/7/2006	Closed	\$104,657	\$104,657	\$100,000	\$4,657	\$4,657	\$4,657	1.000	\$104,660
01213	POCOLA ISD	7/26/2006	Closed	\$113,021	\$113,021	\$100,000	\$13,021	\$13,021	\$13,021	1.000	\$113,025
02076	DEER CREEK ISD	4/6/2007	Closed	\$470,603	\$470,603	\$100,000	\$370,603	\$370,603	\$370,603	1.000	\$470,618
01955	MIDWAY PUBLIC SCHOOL	5/15/2007	Closed	\$110,316	\$110,316	\$100,000	\$10,316	\$10,316	\$10,316	1.000	\$110,320
02387	KIAMICHI TECHNOLOGY CENTER	7/31/2007	Closed	\$102,095	\$102,095	\$100,000	\$2,095	\$2,095	\$2,095	1.000	\$102,102
02047	POTEAU ISD	10/19/2007	Closed	\$109,798	\$109,798	\$100,000	\$9,798	\$9,798	\$9,798	1.000	\$109,805
01968	GUTHRIE PUBLIC SCHOOLS	11/2/2007	Closed	\$121,452	\$121,452	\$100,000	\$26,452	\$26,452	\$26,452	1.000	\$121,460
02250	BLANCHARD PUBLIC SCHOOLS	4/25/2008	Closed	\$131,036	\$131,036	\$100,000	\$31,036	\$31,036	\$31,036	1.000	\$131,045
02595	BYNG SCHOOL DISTRICT I-16	10/20/2008	Closed	\$1,075,745	\$1,075,745	\$100,000	\$975,745	\$975,745	\$975,745	1.000	\$1,075,911
02711	SHAWNEE PUBLIC SCHOOL	1/13/2009	Closed	\$124,447	\$124,447	\$100,000	\$24,447	\$24,447	\$24,447	1.000	\$124,467
03297	BIXBY PUBLIC SCHOOL	5/28/2009	Closed	\$113,070	\$113,070	\$100,000	\$13,070	\$13,070	\$13,070	1.000	\$113,087
03267	LAWTON BOARD OF EDUCATION ISD#8	11/4/2009	Closed	\$107,144	\$107,144	\$100,000	\$7,144	\$7,144	\$7,144	1.000	\$107,181
03567	OLOGAH TALALA ISD	2/18/2010	Closed	\$117,345	\$117,345	\$100,000	\$19,845	\$19,845	\$19,845	1.000	\$117,385
90906	MOUNDS PUBLIC SCHOOLS	5/10/2010	Closed	\$304,711	\$304,711	\$100,000	\$204,711	\$204,711	\$204,711	1.000	\$304,814
90054	CANTON ISD	7/29/2010	Closed	\$114,574	\$114,574	\$100,000	\$17,074	\$17,074	\$17,074	1.001	\$114,662
90084	PUTNAM CITY ISD	8/22/2010	Closed	\$115,615	\$115,615	\$100,000	\$15,615	\$15,615	\$15,615	1.001	\$115,703
90118	JAY PUBLIC SCHOOLS	9/1/2010	Closed	\$136,645	\$136,645	\$100,000	\$36,645	\$36,645	\$36,645	1.001	\$136,749
90205	HOMINY BOARD OF EDUCATION	10/14/2010	Closed	\$123,444	\$123,444	\$100,000	\$23,444	\$23,444	\$23,444	1.001	\$123,537
90236	ARDMORE ISD #19	10/25/2010	Closed	\$290,942	\$290,942	\$100,000	\$190,942	\$190,942	\$190,942	1.001	\$291,163
90297	LAWTON BOARD OF EDUCATION ISD#8	12/6/2010	Closed	\$157,221	\$157,221	\$100,000	\$62,221	\$62,221	\$62,221	1.001	\$157,340
90313	BOSWELL PUBLIC SCHOOL	12/14/2010	Closed	\$104,163	\$104,163	\$100,000	\$6,663	\$6,663	\$6,663	1.001	\$104,242
90519	VERDIGRIS ISD #8	3/11/2011	Closed	\$122,502	\$122,502	\$100,000	\$22,502	\$22,502	\$22,502	1.001	\$122,595
90708	CHOUTEAU MAZIE SCHOOL DISTRICT	3/22/2011	Closed	\$141,522	\$141,522	\$100,000	\$41,522	\$41,522	\$41,522	1.001	\$141,630
90838	TAHLEQUAH PUBLIC SCHOOL	6/30/2011	Closed	\$280,047	\$280,047	\$100,000	\$180,047	\$180,047	\$180,047	1.001	\$280,260
91394	ALTUS PUBLIC SCHOOL	9/1/2011	Closed	\$149,418	\$149,418	\$100,000	\$49,418	\$49,418	\$49,418	1.002	\$149,673
91014	PADEN PUBLIC SCHOOL	10/13/2011	Closed	\$153,190	\$153,190	\$100,000	\$53,190	\$53,190	\$53,190	1.002	\$153,452
91388	NOWATA ISD	10/25/2011	Closed	\$443,010	\$443,010	\$100,000	\$343,010	\$343,010	\$343,010	1.002	\$443,767
91040	MCLLOUD ISD	11/11/2011	Closed	\$1,708,795	\$1,708,795	\$200,000	\$1,508,795	\$1,508,795	\$1,508,795	1.002	\$1,711,713
91405	FAIRLAND ISD	4/20/2012	Closed	\$263,443	\$263,443	\$100,000	\$163,443	\$163,443	\$163,443	1.002	\$263,893
91564	LAWTON BOARD OF EDUCATION ISD#8	5/28/2012	Closed	\$210,533	\$210,533	\$100,000	\$110,533	\$110,533	\$110,533	1.002	\$210,893
91445	CHOUTEAU MAZIE SCHOOL DISTRICT	8/29/2012	Closed	\$420,468	\$420,468	\$100,000	\$320,468	\$320,468	\$320,468	1.004	\$422,092
92222	SPIRO PUBLIC SCHOOLS	12/23/2013	Closed	\$145,266	\$145,266	\$100,000	\$45,266	\$45,266	\$45,266	1.009	\$146,544
92382	BROKEN ARROW PUBLIC SCHOOLS	1/29/2014	Closed	\$100,352	\$100,352	\$100,000	\$352	\$352	\$352	1.009	\$101,234
92867	HOLLIS ISD	4/4/2014	Closed	\$176,221	\$176,221	\$100,000	\$76,221	\$76,221	\$76,221	1.009	\$177,770
92999	SAPULPA ISD	3/2/2015	Closed	\$240,862	\$240,862	\$100,000	\$140,862	\$140,862	\$140,862	1.020	\$245,717
93289	JAY PUBLIC SCHOOLS	3/22/2015	Closed	\$211,827	\$211,827	\$100,000	\$111,827	\$111,827	\$111,827	1.020	\$216,096
94241	LUTHER PUBLIC SCHOOLS	4/16/2015	Open	\$360,763	\$411,112	\$100,000	\$0	\$260,763	\$311,112	1.020	\$419,398
93143	POTEAU ISD	5/15/2015	Closed	\$141,576	\$141,576	\$100,000	\$41,576	\$41,576	\$41,576	1.020	\$144,430
94194	HARTSHORNE PUBLIC SCHOOL	12/9/2015	Open	\$22,576	\$104,000	\$100,000	\$0	\$0	\$4,000	1.046	\$108,826
93680	ARDMORE ISD #19	3/7/2016	Closed	\$175,028	\$175,028	\$100,000	\$75,028	\$75,028	\$75,028	1.046	\$183,150
94063	KIAMICHI TECHNOLOGY CENTER	3/24/2016	Open	\$153,730	\$154,400	\$100,000	\$0	\$53,730	\$54,400	1.046	\$161,565
94446	VIAN PUBLIC SCHOOLS	5/5/2016	Open	\$167,801	\$226,400	\$100,000	\$0	\$67,801	\$126,400	1.046	\$236,905
94291	MORRIS ISD #3	12/16/2016	Open	\$84,432	\$131,000	\$100,000	\$0	\$0	\$31,000	1.107	\$144,956
94229	BLAIR PUBLIC SCHOOLS	1/2/2017	Open	\$8,904	\$112,147	\$100,000	\$0	\$0	\$12,147	1.107	\$124,095
94280	FERRY ISD	1/27/2017	Open	\$267,160	\$1,408,000	\$200,000	\$0	\$67,160	\$1,208,000	1.107	\$1,557,999
P625-17-95484	POINCA CITY ISD	6/26/2017	Open	\$2,063	\$95,000	\$100,000	\$0	\$0	\$0	1.107	\$105,121
95055	MIDWEST CITY-DEL CITY ISD	5/3/2018	Open	\$2,791	\$107,500	\$100,000	\$0	\$0	\$7,500	1.235	\$132,772
95430	SAND SPRINGS PUBLIC SCHOOLS	11/26/2018	Open	\$0	\$130,000	\$100,000	\$0	\$0	\$30,000	1.378	\$179,076
				\$10,823,505	\$12,632,844		\$5,470,834	\$5,920,289	\$7,255,394		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services

Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.

**Calculation of Limited Losses**

Policy Period	(A) Retention	(B) Unlimited Paid Losses	(C) Unlimited Reported Losses	(D) Paid Excess of Primary	(E) Reported Excess of Primary	(F) Paid Limited to Primary	(G) Reported Limited to Primary
7/1/02-03	\$100,000	\$168,909	\$168,909	\$0	\$0	\$168,909	\$168,909
7/1/03-04	\$100,000	\$848,061	\$848,061	\$7,787	\$7,787	\$840,274	\$840,274
7/1/04-05	\$100,000	\$525,685	\$525,685	\$36,712	\$36,712	\$488,972	\$488,972
7/1/05-06	\$100,000	\$1,330,178	\$1,330,178	\$76,729	\$76,729	\$1,253,449	\$1,253,449
7/1/06-07	\$100,000	\$1,351,835	\$1,351,835	\$398,598	\$398,598	\$953,237	\$953,237
7/1/07-08	\$100,000	\$1,501,995	\$1,501,995	\$69,380	\$69,380	\$1,432,614	\$1,432,614
7/1/08-09	\$100,000	\$2,172,804	\$2,172,804	\$1,013,263	\$1,013,263	\$1,159,541	\$1,159,541
7/1/09-10	\$100,000	\$1,503,548	\$1,524,198	\$231,700	\$231,700	\$1,271,848	\$1,292,498
7/1/10-11	\$100,000	\$2,405,902	\$2,434,762	\$596,676	\$596,676	\$1,809,227	\$1,838,086
7/1/11-12	\$100,000	\$3,688,203	\$3,688,203	\$2,228,390	\$2,228,390	\$1,459,814	\$1,459,814
7/1/12-13	\$100,000	\$1,064,655	\$1,126,334	\$320,468	\$320,468	\$744,187	\$805,866
7/1/13-14	\$100,000	\$847,442	\$895,683	\$121,838	\$121,838	\$725,604	\$773,844
7/1/14-15	\$100,000	\$2,028,164	\$2,242,313	\$555,029	\$605,377	\$1,473,135	\$1,636,936
7/1/15-16	\$100,000	\$1,573,588	\$2,164,343	\$196,559	\$259,828	\$1,377,029	\$1,904,515
7/1/16-17	\$100,000	\$1,283,869	\$3,418,504	\$67,160	\$1,251,147	\$1,216,709	\$2,167,357
7/1/17-18	\$100,000	\$154,356	\$1,111,204	\$0	\$7,500	\$154,356	\$1,103,704
7/1/18-19	\$100,000	\$14,067	\$883,759	\$0	\$30,000	\$14,067	\$853,759
Total		\$22,463,261	\$27,388,768	\$5,920,289	\$7,255,394	\$16,542,972	\$20,133,374

(A) and (B) - Exhibit I

(D) and (E) - Excess amounts from claims in Exhibit II, page 1

(F) = (B) - (D)

(G) = (C) - (E)

**Estimated Ultimate Losses Limited to OSIG Retentions  
Using Loss Development Methods**

<i>Accident Period</i>	<i>(A) Net Reported Losses</i>	<i>(B) Net Reported on Large Losses</i>	<i>(C) Reported Develop. Factor</i>	<i>(D) Ultimate on Small Claims</i>	<i>(E) Provision for Large Claims</i>	<i>(F) Estimated Ultimate Net Losses</i>
7/1/02-03	\$168,909	\$0	1.000	\$168,909	\$0	\$169,000
7/1/03-04	\$848,061	\$107,737	1.000	\$740,326	\$100,000	\$840,000
7/1/04-05	\$525,685	\$136,712	1.000	\$388,975	\$100,000	\$489,000
7/1/05-06	\$1,330,178	\$276,729	1.000	\$1,053,464	\$200,000	\$1,253,000
7/1/06-07	\$1,351,835	\$798,598	1.000	\$553,255	\$400,000	\$953,000
7/1/07-08	\$1,501,995	\$464,380	1.000	\$1,037,686	\$400,000	\$1,438,000
7/1/08-09	\$2,172,804	\$1,313,263	1.000	\$859,673	\$300,000	\$1,160,000
7/1/09-10	\$1,524,198	\$529,200	1.000	\$995,337	\$300,000	\$1,295,000
7/1/10-11	\$2,434,762	\$1,586,676	1.001	\$848,730	\$1,000,000	\$1,849,000
7/1/11-12	\$3,688,203	\$2,928,390	1.002	\$761,111	\$700,000	\$1,461,000
7/1/12-13	\$1,126,334	\$420,468	1.004	\$708,592	\$100,000	\$809,000
7/1/13-14	\$895,683	\$421,838	1.009	\$478,013	\$300,001	\$778,000
7/1/14-15	\$2,242,313	\$1,005,377	1.020	\$1,261,899	\$400,011	\$1,662,000
7/1/15-16	\$2,164,343	\$659,828	1.047	\$1,574,661	\$400,085	\$1,975,000
7/1/16-17	\$3,418,504	\$1,746,147	1.108	\$1,853,801	\$500,887	\$2,355,000
7/1/17-18	\$1,111,204	\$107,500	1.254	\$1,258,991	\$101,559	\$1,361,000
<i>Total</i>	\$26,505,008	\$12,502,844		\$14,543,424	\$5,302,543	\$19,847,000

<i>Accident Period</i>	<i>(A) Net Paid Losses</i>	<i>(B) Net Paid on Large Losses</i>	<i>(C) Paid Develop. Factor</i>	<i>(D) Ultimate on Small Claims</i>	<i>(E) Provision for Large Claims</i>	<i>(F) Estimated Ultimate Net Losses</i>
7/1/02-03	\$168,909	\$0	1.000	\$168,914	\$0	\$169,000
7/1/03-04	\$848,061	\$107,737	1.000	\$740,361	\$100,000	\$840,000
7/1/04-05	\$525,685	\$136,712	1.000	\$389,004	\$100,000	\$489,000
7/1/05-06	\$1,330,178	\$276,729	1.000	\$1,053,595	\$200,000	\$1,254,000
7/1/06-07	\$1,351,835	\$798,598	1.000	\$553,372	\$400,000	\$953,000
7/1/07-08	\$1,501,995	\$464,380	1.000	\$1,038,071	\$400,000	\$1,438,000
7/1/08-09	\$2,172,804	\$1,313,263	1.001	\$860,248	\$300,000	\$1,160,000
7/1/09-10	\$1,503,548	\$529,200	1.002	\$975,908	\$300,000	\$1,276,000
7/1/10-11	\$2,405,902	\$1,586,676	1.003	\$821,899	\$1,000,000	\$1,822,000
7/1/11-12	\$3,688,203	\$2,928,390	1.007	\$765,132	\$700,000	\$1,465,000
7/1/12-13	\$1,064,655	\$420,468	1.016	\$654,463	\$100,000	\$754,000
7/1/13-14	\$847,442	\$421,838	1.039	\$442,211	\$300,001	\$742,000
7/1/14-15	\$2,028,164	\$955,029	1.104	\$1,184,536	\$400,011	\$1,585,000
7/1/15-16	\$1,573,588	\$519,135	1.306	\$1,376,737	\$400,085	\$1,777,000
7/1/16-17	\$1,283,869	\$362,559	2.020	\$1,860,653	\$500,887	\$2,362,000
7/1/17-18	\$154,356	\$2,791	4.982	\$755,029	\$101,559	\$857,000
<i>Total</i>	\$22,449,194	\$10,823,505		\$13,640,134	\$5,302,543	\$18,943,000

(A) - Exhibit I  
(B) - Exhibit II  
(C) - Appendix A  
(D) = [(A) - (B)] x (C)  
(E) = # large x SIR x ccdf  
(F) = (D) + (E)

***Estimated Ultimate Losses Based on Forecast***

<i>Accident Period</i>	<i>(A) Exposure</i>	<i>(B) Detrended Loss Rate</i>	<i>(C) Forecast</i>
<i>7/1/18-19</i>	448,676	\$5.02	\$2,252,000
<i>7/1/19-20</i>	448,748	\$5.13	\$2,300,000

*(A) - Exhibit I*

*(B) - From Forecast, detrended*

*(C) = (A) x (B)*

**Estimated Ultimate Losses Limited to OSIG Retention  
Using Bornhuetter-Ferguson Method**

Accident Period	(A) Prior Ultimate or Forecast	(B) Reported Develop. Factor	(C) Expected % Unreported	(D) Expected Unreported Losses	(E) Limited Reported Losses	(F) Estimated Ultimate Losses
7/1/02-03	\$168,909	1.000	0%	\$0	\$168,909	\$169,000
7/1/03-04	\$840,274	1.000	0%	\$3	\$840,274	\$840,000
7/1/04-05	\$488,972	1.000	0%	\$3	\$488,972	\$489,000
7/1/05-06	\$1,253,449	1.000	0%	\$18	\$1,253,449	\$1,253,000
7/1/06-07	\$953,237	1.000	0%	\$30	\$953,237	\$953,000
7/1/07-08	\$1,432,614	1.000	0%	\$100	\$1,432,614	\$1,433,000
7/1/08-09	\$1,159,541	1.000	0%	\$178	\$1,159,541	\$1,160,000
7/1/09-10	\$1,294,000	1.000	0%	\$440	\$1,292,498	\$1,293,000
7/1/10-11	\$1,842,000	1.001	0%	\$1,399	\$1,838,086	\$1,839,000
7/1/11-12	\$1,470,000	1.002	0%	\$2,506	\$1,459,814	\$1,462,000
7/1/12-13	\$861,000	1.004	0%	\$3,313	\$805,866	\$809,000
7/1/13-14	\$844,000	1.009	1%	\$7,361	\$773,844	\$781,000
7/1/14-15	\$1,810,000	1.020	2%	\$35,806	\$1,636,936	\$1,673,000
7/1/15-16	\$2,100,000	1.047	4%	\$93,549	\$1,904,515	\$1,998,000
7/1/16-17	\$2,402,000	1.108	10%	\$235,101	\$2,167,357	\$2,402,000
7/1/17-18	\$1,430,000	1.254	20%	\$289,962	\$1,103,704	\$1,394,000
7/1/18-19	\$2,252,000	2.575	61%	\$1,377,353	\$853,759	\$2,231,000
Total	\$22,601,996			\$2,047,122	\$20,133,374	\$22,179,000

Accident Period	(A) Prior Ultimate or Forecast	(B) Paid Develop. Factor	(C) Expected % Unpaid	(D) Expected Unpaid Losses	(E) Limited Paid Losses	(F) Estimated Ultimate Losses
7/1/02-03	\$168,909	1.000	0%	\$5	\$168,909	\$169,000
7/1/03-04	\$840,274	1.000	0%	\$42	\$840,274	\$840,000
7/1/04-05	\$488,972	1.000	0%	\$40	\$488,972	\$489,000
7/1/05-06	\$1,253,449	1.000	0%	\$175	\$1,253,449	\$1,254,000
7/1/06-07	\$953,237	1.000	0%	\$232	\$953,237	\$953,000
7/1/07-08	\$1,432,614	1.000	0%	\$630	\$1,432,614	\$1,433,000
7/1/08-09	\$1,159,541	1.001	0%	\$953	\$1,159,541	\$1,160,000
7/1/09-10	\$1,294,000	1.002	0%	\$2,069	\$1,271,848	\$1,274,000
7/1/10-11	\$1,842,000	1.003	0%	\$5,989	\$1,809,227	\$1,815,000
7/1/11-12	\$1,470,000	1.007	1%	\$10,217	\$1,459,814	\$1,470,000
7/1/12-13	\$861,000	1.016	2%	\$13,519	\$744,187	\$758,000
7/1/13-14	\$844,000	1.039	4%	\$31,696	\$725,604	\$757,000
7/1/14-15	\$1,810,000	1.104	9%	\$170,223	\$1,473,135	\$1,643,000
7/1/15-16	\$2,100,000	1.306	23%	\$491,596	\$1,377,029	\$1,869,000
7/1/16-17	\$2,402,000	2.020	50%	\$1,212,639	\$1,216,709	\$2,429,000
7/1/17-18	\$1,430,000	4.982	80%	\$1,142,940	\$154,356	\$1,297,000
7/1/18-19	\$2,252,000	24.853	96%	\$2,161,386	\$14,067	\$2,175,000
Total	\$22,601,996			\$5,244,352	\$16,542,972	\$21,785,000

(A) - Exhibit VI, IV for 7/1/18-19  
 (B) - Appendix A  
 (C) = 1 - 1/(B)  
 (D) = (A) \* (C)  
 (D) - Exhibit I, limited to SIR  
 (F) = (D) + (E)

**Summary and Selection of Ultimate Limited Loss Estimates**

<i>Accident Period</i>	<i>(A) Prior Ultimate</i>	<i>(B) Reported Loss Development Method</i>	<i>(C) Paid Loss Development Method</i>	<i>(D) Expected Unreported Method</i>	<i>(E) Expected Unpaid Method</i>	<i>(F) Selected Ultimate Loss Estimate</i>
7/1/02-03	\$168,909	\$169,000	\$169,000	\$169,000	\$169,000	\$168,909
7/1/03-04	\$840,274	\$840,000	\$840,000	\$840,000	\$840,000	\$840,274
7/1/04-05	\$488,972	\$489,000	\$489,000	\$489,000	\$489,000	\$488,972
7/1/05-06	\$1,253,449	\$1,253,000	\$1,254,000	\$1,253,000	\$1,254,000	\$1,253,449
7/1/06-07	\$953,237	\$953,000	\$953,000	\$953,000	\$953,000	\$953,237
7/1/07-08	\$1,432,614	\$1,438,000	\$1,438,000	\$1,433,000	\$1,433,000	\$1,432,614
7/1/08-09	\$1,159,541	\$1,160,000	\$1,160,000	\$1,160,000	\$1,160,000	\$1,159,541
7/1/09-10	\$1,294,000	\$1,295,000	\$1,276,000	\$1,293,000	\$1,274,000	\$1,295,000
7/1/10-11	\$1,842,000	\$1,849,000	\$1,822,000	\$1,839,000	\$1,815,000	\$1,849,000
7/1/11-12	\$1,470,000	\$1,461,000	\$1,465,000	\$1,462,000	\$1,470,000	\$1,461,000
7/1/12-13	\$861,000	\$809,000	\$754,000	\$809,000	\$758,000	\$809,000
7/1/13-14	\$844,000	\$778,000	\$742,000	\$781,000	\$757,000	\$781,000
7/1/14-15	\$1,810,000	\$1,662,000	\$1,585,000	\$1,673,000	\$1,643,000	\$1,673,000
7/1/15-16	\$2,100,000	\$1,975,000	\$1,777,000	\$1,998,000	\$1,869,000	\$1,998,000
7/1/16-17	\$2,402,000	\$2,355,000	\$2,362,000	\$2,402,000	\$2,429,000	\$2,402,000
7/1/17-18	\$1,430,000	\$1,361,000	\$857,000	\$1,394,000	\$1,297,000	\$1,394,000
7/1/18-19	\$2,388,000			\$2,231,000	\$2,175,000	\$2,231,000
<b>Total</b>	<b>\$22,737,996</b>	<b>\$19,847,000</b>	<b>\$18,943,000</b>	<b>\$22,179,000</b>	<b>\$21,785,000</b>	<b>\$22,189,996</b>

(A) - From Previous Report as of 06/30/18

(B) and (C) - Exhibit III

(D) and (E) - Exhibit V

(F) - Selected as noted

Limited reported Losses for 02-03 through 08-09

(B) for 09-10 through 12-13

(D) for 13-14 through 18-19

**Average Ultimate Claim Sizes**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
<i>Accident Period</i>	<i>Reported Claims</i>	<i>Reported Claim Development</i>	<i>Estimated Ultimate Claims</i>	<i>Estimated Ultimate Losses</i>	<i>Estimated Average Ultimate Claim</i>	<i>Exposure (Students)</i>	<i>Loss Rate</i>
7/1/02-03	28	1.000	28.0	\$168,909	\$6,000		
7/1/03-04	88	1.000	88.0	\$840,274	\$9,500		
7/1/04-05	115	1.000	115.0	\$488,972	\$4,300	198,498	\$2.46
7/1/05-06	136	1.000	136.0	\$1,253,449	\$9,200	249,419	\$5.03
7/1/06-07	132	1.000	132.0	\$953,237	\$7,200	267,684	\$3.56
7/1/07-08	163	1.000	163.0	\$1,432,614	\$8,800	308,999	\$4.64
7/1/08-09	155	1.000	155.0	\$1,159,541	\$7,500	313,473	\$3.70
7/1/09-10	144	1.000	144.0	\$1,295,000	\$9,000	314,947	\$4.11
7/1/10-11	110	1.000	110.0	\$1,849,000	\$16,800	356,970	\$5.18
7/1/11-12	87	1.000	87.0	\$1,461,000	\$16,800	309,147	\$4.73
7/1/12-13	109	1.000	109.0	\$809,000	\$7,400	282,168	\$2.87
7/1/13-14	86	1.000	86.0	\$781,000	\$9,100	325,035	\$2.40
7/1/14-15	116	1.000	116.0	\$1,673,000	\$14,400	381,156	\$4.39
7/1/15-16	119	1.000	119.0	\$1,998,000	\$16,800	381,204	\$5.24
7/1/16-17	132	1.002	132.2	\$2,402,000	\$18,200	393,462	\$6.10
7/1/17-18	82	1.016	83.3	\$1,394,000	\$16,700	393,700	\$3.54
7/1/18-19	66	1.869	124.7	\$2,231,000	\$17,900	448,676	\$4.97
7/1/19-20			126.3	\$2,300,000	\$18,200	448,676	\$5.13
<b>Total</b>	<b>1,868</b>		<b>2,054.5</b>	<b>\$24,489,996</b>	<b>\$11,900</b>	<b>5,373,214</b>	<b>\$4.56</b>

- Results for 7/1/19-20 are from Forecast Report

(A) - Exhibit I

(B) - Appendix A

(C) = (A) x (B)

(D) = Exhibit VI

(E) = (D) / (C)

(F) - Exhibit I, provided by OSIG

(G) = (D) / (F)

**Estimated Outstanding Losses**

Accident Period	(A) Estimated Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b>As of January 31, 2019</b>						
7/1/02-03	\$168,909	\$168,909	\$168,909	\$0	\$0	\$0
7/1/03-04	\$840,274	\$840,274	\$840,274	\$0	\$0	\$0
7/1/04-05	\$488,972	\$488,972	\$488,972	\$0	\$0	\$0
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	\$0	\$0	\$0
7/1/06-07	\$953,237	\$953,237	\$953,237	\$0	\$0	\$0
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	\$0	\$0	\$0
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	\$0	\$0	\$0
7/1/09-10	\$1,295,000	\$1,271,848	\$1,292,498	\$20,650	\$3,000	\$23,000
7/1/10-11	\$1,849,000	\$1,809,227	\$1,838,086	\$28,859	\$11,000	\$40,000
7/1/11-12	\$1,461,000	\$1,459,814	\$1,459,814	\$0	\$1,000	\$1,000
7/1/12-13	\$809,000	\$744,187	\$805,866	\$61,678	\$3,000	\$65,000
7/1/13-14	\$781,000	\$725,604	\$773,844	\$48,240	\$7,000	\$55,000
7/1/14-15	\$1,673,000	\$1,473,135	\$1,636,936	\$163,801	\$36,000	\$200,000
7/1/15-16	\$1,998,000	\$1,377,029	\$1,904,515	\$527,486	\$93,000	\$621,000
7/1/16-17	\$2,402,000	\$1,216,709	\$2,167,357	\$950,648	\$235,000	\$1,185,000
7/1/17-18	\$1,394,000	\$154,356	\$1,103,704	\$949,348	\$290,000	\$1,240,000
7/1/18-1/31/19	\$1,301,000	\$14,067	\$853,759	\$839,692	\$447,000	\$1,287,000
<b>Total</b>	<b>\$21,259,996</b>	<b>\$16,542,972</b>	<b>\$20,133,374</b>	<b>\$3,590,402</b>	<b>\$1,126,000</b>	<b>\$4,717,000</b>
2/1-6/30/19	\$930,000					
<b>Projected as of June 30, 2019</b>						
7/1/02-03	\$168,909	\$168,909	\$168,909	\$0	\$0	\$0
7/1/03-04	\$840,274	\$840,274	\$840,274	\$0	\$0	\$0
7/1/04-05	\$488,972	\$488,972	\$488,972	\$0	\$0	\$0
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	\$0	\$0	\$0
7/1/06-07	\$953,237	\$953,237	\$953,237	\$0	\$0	\$0
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	\$0	\$0	\$0
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	\$0	\$0	\$0
7/1/09-10	\$1,295,000	\$1,278,000	\$1,293,000	\$15,000	\$2,000	\$17,000
7/1/10-11	\$1,849,000	\$1,820,000	\$1,841,000	\$21,000	\$8,000	\$29,000
7/1/11-12	\$1,461,000	\$1,460,000	\$1,460,000	\$0	\$1,000	\$1,000
7/1/12-13	\$809,000	\$763,000	\$807,000	\$44,000	\$2,000	\$46,000
7/1/13-14	\$781,000	\$743,000	\$776,000	\$33,000	\$5,000	\$38,000
7/1/14-15	\$1,673,000	\$1,537,000	\$1,647,000	\$110,000	\$26,000	\$136,000
7/1/15-16	\$1,998,000	\$1,570,000	\$1,931,000	\$361,000	\$67,000	\$428,000
7/1/16-17	\$2,402,000	\$1,515,000	\$2,232,000	\$717,000	\$170,000	\$887,000
7/1/17-18	\$1,394,000	\$326,000	\$1,177,000	\$851,000	\$217,000	\$1,068,000
7/1/18-19	\$2,231,000	\$138,000	\$1,565,000	\$1,427,000	\$666,000	\$2,093,000
<b>Total</b>	<b>\$22,189,996</b>	<b>\$17,446,996</b>	<b>\$21,025,996</b>	<b>\$3,579,000</b>	<b>\$1,164,000</b>	<b>\$4,743,000</b>

**Total Estimated IBNR as of June 30, 2019 \$2729, 000**

(A) - Exhibit VI

(B) and (C) - Exhibit V as of 1/31/19

Projected as of 6/30/19 using LDFs

(D) = (C) - (B)

(E) = (A) - (C)

(F) = (A) - (B)



**Comparison of Results with Previous Estimates as of 06/30/18**

	(A) Actual Reported Losses 6/30/2018	(B) Projected Reported Losses 1/31/2019	(C) Actual Reported Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
7/1/02-03	\$168,909	\$168,909	\$168,909	0.0%	\$168,909	\$168,909	0.0%
7/1/03-04	\$840,274	\$840,274	\$840,274	0.0%	\$840,274	\$840,274	0.0%
7/1/04-05	\$488,972	\$488,972	\$488,972	0.0%	\$488,972	\$488,972	0.0%
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	0.0%	\$1,253,449	\$1,253,449	0.0%
7/1/06-07	\$953,237	\$953,237	\$953,237	0.0%	\$953,237	\$953,237	0.0%
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	0.0%	\$1,432,614	\$1,432,614	0.0%
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	0.0%	\$1,159,541	\$1,159,541	0.0%
7/1/09-10	\$1,292,498	\$1,293,025	\$1,292,498	0.0%	\$1,294,000	\$1,295,000	0.1%
7/1/10-11	\$1,838,086	\$1,839,466	\$1,838,086	-0.1%	\$1,842,000	\$1,849,000	0.4%
7/1/11-12	\$1,459,814	\$1,463,424	\$1,459,814	-0.2%	\$1,470,000	\$1,461,000	-0.6%
7/1/12-13	\$847,052	\$852,015	\$805,866	-5.4%	\$861,000	\$809,000	-6.0%
7/1/13-14	\$821,705	\$829,650	\$773,844	-6.7%	\$844,000	\$781,000	-7.5%
7/1/14-15	\$1,737,044	\$1,762,939	\$1,636,936	-7.1%	\$1,810,000	\$1,673,000	-7.6%
7/1/15-16	\$1,937,319	\$1,994,165	\$1,904,515	-4.5%	\$2,100,000	\$1,998,000	-4.9%
7/1/16-17	\$2,103,443	\$2,203,667	\$2,167,357	-1.6%	\$2,402,000	\$2,402,000	0.0%
7/1/17-18	\$917,464	\$1,074,885	\$1,103,704	2.7%	\$1,430,000	\$1,394,000	-2.5%
7/1/18-19		\$1,012,719	\$853,759	-15.7%	\$2,388,000	\$2,231,000	-6.6%
<b>Total</b>	<b>\$19,251,420</b>	<b>\$20,622,950</b>	<b>\$20,133,374</b>	<b>-2.4%</b>	<b>\$22,737,996</b>	<b>\$22,189,996</b>	<b>-2.4%</b>

	(A) Actual Paid Losses 6/30/2018	(B) Projected Paid Losses 1/31/2019	(C) Actual Paid Losses 1/31/2019	(D) Percent Difference	(E) Expected Ultimate Losses 6/30/2018	(F) Actual Ultimate Losses 1/31/2019	(G) Percent Difference
7/1/02-03	\$168,909	\$168,909	\$168,909	0.0%	\$168,909	\$168,909	0.0%
7/1/03-04	\$840,274	\$840,274	\$840,274	0.0%	\$840,274	\$840,274	0.0%
7/1/04-05	\$488,972	\$488,972	\$488,972	0.0%	\$488,972	\$488,972	0.0%
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	0.0%	\$1,253,449	\$1,253,449	0.0%
7/1/06-07	\$953,237	\$953,237	\$953,237	0.0%	\$953,237	\$953,237	0.0%
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	0.0%	\$1,432,614	\$1,432,614	0.0%
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	0.0%	\$1,159,541	\$1,159,541	0.0%
7/1/09-10	\$1,271,815	\$1,278,669	\$1,271,848	-0.5%	\$1,294,000	\$1,295,000	0.1%
7/1/10-11	\$1,804,139	\$1,816,599	\$1,809,227	-0.4%	\$1,842,000	\$1,849,000	0.4%
7/1/11-12	\$1,459,814	\$1,463,393	\$1,459,814	-0.2%	\$1,470,000	\$1,461,000	-0.6%
7/1/12-13	\$738,029	\$784,164	\$744,187	-5.1%	\$861,000	\$809,000	-6.0%
7/1/13-14	\$716,792	\$767,405	\$725,604	-5.4%	\$844,000	\$781,000	-7.5%
7/1/14-15	\$1,297,850	\$1,508,027	\$1,473,135	-2.3%	\$1,810,000	\$1,673,000	-7.6%
7/1/15-16	\$1,219,220	\$1,559,724	\$1,377,029	-11.7%	\$2,100,000	\$1,998,000	-4.9%
7/1/16-17	\$740,062	\$1,210,800	\$1,216,709	0.5%	\$2,402,000	\$2,402,000	0.0%
7/1/17-18	\$56,435	\$230,549	\$154,356	-33.0%	\$1,430,000	\$1,394,000	-2.5%
7/1/18-19		\$90,964	\$14,067	-84.5%	\$2,388,000	\$2,231,000	-6.6%
<b>Total</b>	<b>\$15,601,151</b>	<b>\$17,007,289</b>	<b>\$16,542,972</b>	<b>-2.7%</b>	<b>\$22,737,996</b>	<b>\$22,189,996</b>	<b>-2.4%</b>

(A) and (E) - From Previous actuarial report as of 06/30/2018  
 (B) - Derived from (E) and (A) using loss development patterns  
 (C) - Exhibit I, limited to retention  
 (D) = [(C) / (B)] - 1  
 (F) - Exhibit VI  
 (G) = [(F) / (E)] - 1

**Comparison of Results with Previous Estimates as of 01/31/18**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
	Actual	Projected	Actual		Expected	Actual	
Accident	Reported	Reported	Reported		Ultimate	Ultimate	
Period	Losses	Losses	Losses	Percent	Losses	Losses	Percent
	1/31/2018	1/31/2019	1/31/2019	Difference	1/31/2018	1/31/2019	Difference
7/1/02-03	\$168,909	\$168,909	\$168,909	0.0%	\$168,909	\$168,909	0.0%
7/1/03-04	\$840,274	\$840,274	\$840,274	0.0%	\$840,274	\$840,274	0.0%
7/1/04-05	\$488,972	\$488,972	\$488,972	0.0%	\$488,972	\$488,972	0.0%
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	0.0%	\$1,253,449	\$1,253,449	0.0%
7/1/06-07	\$953,237	\$953,237	\$953,237	0.0%	\$953,237	\$953,237	0.0%
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	0.0%	\$1,432,614	\$1,432,614	0.0%
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	0.0%	\$1,159,541	\$1,159,541	0.0%
7/1/09-10	\$1,292,498	\$1,293,284	\$1,292,498	-0.1%	\$1,294,000	\$1,295,000	0.1%
7/1/10-11	\$1,838,086	\$1,840,144	\$1,838,086	-0.1%	\$1,842,000	\$1,849,000	0.4%
7/1/11-12	\$1,489,325	\$1,492,322	\$1,459,814	-2.2%	\$1,495,000	\$1,461,000	-2.3%
7/1/12-13	\$878,345	\$882,254	\$805,866	-8.7%	\$886,000	\$809,000	-8.7%
7/1/13-14	\$826,108	\$836,413	\$773,844	-7.5%	\$844,000	\$781,000	-7.5%
7/1/14-15	\$1,815,129	\$1,848,949	\$1,636,936	-11.5%	\$1,885,000	\$1,673,000	-11.2%
7/1/15-16	\$2,020,067	\$2,110,984	\$1,904,515	-9.8%	\$2,200,000	\$1,998,000	-9.2%
7/1/16-17	\$2,029,363	\$2,200,107	\$2,167,357	-1.5%	\$2,402,000	\$2,402,000	0.0%
7/1/17-18	\$400,116	\$1,440,508	\$1,103,704	-23.4%	\$1,730,000	\$1,394,000	-19.4%
<b>Total</b>	<b>\$18,886,034</b>	<b>\$20,241,962</b>	<b>\$19,279,615</b>	<b>-4.8%</b>	<b>\$20,874,996</b>	<b>\$19,958,996</b>	<b>-4.4%</b>

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
	Actual	Projected	Actual		Expected	Actual	
Accident	Paid	Paid	Paid		Ultimate	Ultimate	
Period	Losses	Losses	Losses	Percent	Losses	Losses	Percent
	1/31/2018	1/31/2019	1/31/2019	Difference	1/31/2018	1/31/2019	Difference
7/1/02-03	\$168,909	\$168,909	\$168,909	0.0%	\$168,909	\$168,909	0.0%
7/1/03-04	\$840,274	\$840,274	\$840,274	0.0%	\$840,274	\$840,274	0.0%
7/1/04-05	\$488,972	\$488,972	\$488,972	0.0%	\$488,972	\$488,972	0.0%
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	0.0%	\$1,253,449	\$1,253,449	0.0%
7/1/06-07	\$953,237	\$953,237	\$953,237	0.0%	\$953,237	\$953,237	0.0%
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	0.0%	\$1,432,614	\$1,432,614	0.0%
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	0.0%	\$1,159,541	\$1,159,541	0.0%
7/1/09-10	\$1,271,788	\$1,282,331	\$1,271,848	-0.8%	\$1,294,000	\$1,295,000	0.1%
7/1/10-11	\$1,799,847	\$1,820,981	\$1,809,227	-0.6%	\$1,842,000	\$1,849,000	0.4%
7/1/11-12	\$1,470,989	\$1,483,716	\$1,459,814	-1.6%	\$1,495,000	\$1,461,000	-2.3%
7/1/12-13	\$734,356	\$871,623	\$744,187	-14.6%	\$886,000	\$809,000	-8.7%
7/1/13-14	\$711,535	\$812,909	\$725,604	-10.7%	\$844,000	\$781,000	-7.5%
7/1/14-15	\$1,257,224	\$1,717,578	\$1,473,135	-14.2%	\$1,885,000	\$1,673,000	-11.2%
7/1/15-16	\$1,078,684	\$1,719,192	\$1,377,029	-19.9%	\$2,200,000	\$1,998,000	-9.2%
7/1/16-17	\$480,867	\$1,241,363	\$1,216,709	-2.0%	\$2,402,000	\$2,402,000	0.0%
7/1/17-18	\$28,936	\$357,700	\$154,356	-56.8%	\$1,730,000	\$1,394,000	-19.4%
<b>Total</b>	<b>\$15,131,223</b>	<b>\$17,604,388</b>	<b>\$16,528,905</b>	<b>-6.1%</b>	<b>\$20,874,996</b>	<b>\$19,958,996</b>	<b>-4.4%</b>

(A) and (E) - From Previous actuarial report as of 01/31/2018  
 (B) - Derived from (E) and (A) using loss development patterns  
 (C) - Exhibit I, limited to retention  
 (D) = [(C) / (B)] - 1  
 (F) - Exhibit VI  
 (G) = [(F) / (E)] - 1

**Estimation of Cumulative Reported Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(2/(X+C))^B + 2$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	21.2	-7.2167	-0.8655	52.081	0.7491	6.2462	255	21000
24	2262	-7.2255	-1.7098	52.208	2.9233	12.3538	268	21000
36	2108.	-7.2342	-2.6286	52.333	6.9093	19.0154	283	21000
48	21044	-7.2428	-3.4183	52.458	11.6844	24.7577	294	21000
60	21029	-7.2513	-4.1559	52.582	17.2715	30.1358	232	21000
72	21009	-7.2598	-5.1317	52.705	26.3346	37.2554	245	21000
Sum		-43.4303	-17.9097	314.3669	65.8722	129.7644	33	210.0
Average		-7.2384	-2.9850	52.3945	10.9787	21.6274	, 4	210, 8
							42	21206
							25	213,
							8	. 1383

N =	9
A =	416, , E+403
B =	5810.2
C =	2430
R^2 =	0.556866

\* - Appendix A4

**Estimation of Cumulative Paid Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(2/(X+C))^B + 2$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	221.86	-4.3694	2.3300	19.092	5.4291	-10.1810	255	21000
24	1543	-4.5109	0.6603	20.348	0.4360	-2.9784	268	21000
36	21356	-4.6347	-0.5135	21.481	0.2637	2.3799	283	21000
48	2125	-4.7449	-1.5191	22.514	2.3077	7.2081	294	21000
60	21099	-4.8442	-2.7132	23.466	7.3615	13.1433	232	21000
72	210.8	-4.9345	-3.6126	24.349	13.0506	17.8261	245	21000
84	21022	-5.0173	-4.5203	25.173	20.4327	22.6794	2.8	21002
							223	2100.
							204	21004
							52	21008
							85	21029
							98	21045
Sum		-33.0559	-9.8884	156.4233	49.2813	50.0775	33	2120,
Average		-4.7223	-1.4126	22.3462	7.0402	7.1539	, 4	21409
							42	. 10. 0
							25	, 156.
							8	. , 1634

N =	8
A =	31593E+. 0
B =	201. 5
C =	98
R^2 =	01556639

\* - Appendix A5

**Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(2/(X+C))^B + 2$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	21090	-6.2383	-2.8126	38.917	7.9106	17.5458	255	21000
24	21009	-6.2615	-5.1880	39.206	26.9155	32.4847	268	21000
36	21002	-6.2841	-7.1670	39.490	51.3659	45.0384	283	21000
							294	21000
							232	21000
							245	21000
							2. 8	21000
							223	21000
							204	21000
							52	21000
							85	21000
							98	21000
Sum		-18.7840	-15.1676	117.6133	86.1920	95.0689	33	21000
Average		-6.2613	-5.0559	39.2044	28.7307	31.6896	, 4	21000
							42	2100.
							25	21029
							8	21695

N =	4
A =	. 1 56E+. 39
B =	53106,
C =	300
	R^2. = 0.55865,

\* - Appendix A6

**Analysis of Reported Loss Development**  
**Reported Losses and ALAE Net of Member Deductibles**

Reported Losses and ALAE as of (months):										
Year	12	24	36	48	60	72	84	96	108	120
7/1/04-05	\$334,164	\$494,404	\$546,889	\$667,336	\$536,764	\$525,685	\$525,685	\$525,685	\$525,685	\$525,685
7/1/05-06	\$816,923	\$1,112,049	\$1,229,274	\$1,405,786	\$1,398,668	\$1,318,468	\$1,335,203	\$1,330,178	\$1,330,178	\$1,330,178
7/1/06-07	\$980,380	\$1,099,400	\$1,048,254	\$1,108,562	\$1,328,586	\$1,351,525	\$1,411,197	\$1,411,197	\$1,351,835	\$1,351,835
7/1/07-08	\$1,546,988	\$1,678,303	\$1,820,948	\$1,681,989	\$1,578,663	\$1,528,365	\$1,501,995	\$1,501,995	\$1,501,995	\$1,501,995
7/1/08-09	\$1,818,383	\$1,498,349	\$1,690,273	\$1,328,980	\$1,211,633	\$1,303,460	\$2,248,460	\$2,172,804	\$2,172,804	\$2,172,804
7/1/09-10	\$1,911,271	\$1,672,753	\$1,443,458	\$1,751,670	\$1,603,126	\$1,564,138	\$1,524,198	\$1,524,198	\$1,524,198	
7/1/10-11	\$2,532,003	\$2,683,693	\$2,774,100	\$2,589,243	\$2,532,090	\$2,434,762	\$2,434,762	\$2,434,762		
7/1/11-12	\$1,927,480	\$2,611,099	\$3,751,625	\$3,977,466	\$3,919,928	\$3,747,985	\$3,688,203			
7/1/12-13	\$1,311,489	\$1,442,277	\$1,150,970	\$1,348,515	\$1,213,833	\$1,167,520				
7/1/13-14	\$1,136,920	\$1,270,561	\$1,003,224	\$1,041,935	\$943,543					
7/1/14-15	\$1,195,898	\$1,507,077	\$1,985,502	\$2,246,921						
7/1/15-16	\$1,726,427	\$1,880,174	\$2,190,719							
7/1/16-17	\$2,362,228	\$3,423,590								
7/1/17-18	\$917,464									

Age-to-Age Factors										
Year	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05	1.480	1.106	1.220	0.804	0.979	1.000	1.000	1.000	1.000	
7/1/05-06	1.361	1.105	1.144	0.995	0.943	1.013	0.996	1.000	1.000	
7/1/06-07	1.121	0.953	1.058	1.198	1.017	1.044	1.000	0.958	1.000	
7/1/07-08	1.085	1.085	0.924	0.939	0.968	0.983	1.000	1.000	1.000	
7/1/08-09	0.824	1.128	0.786	0.912	1.076	1.725	0.966	1.000	1.000	
7/1/09-10	0.875	0.863	1.214	0.915	0.976	0.974	1.000	1.000		
7/1/10-11	1.060	1.034	0.933	0.978	0.962	1.000	1.000			
7/1/11-12	1.355	1.437	1.060	0.986	0.956	0.984				
7/1/12-13	1.100	0.798	1.172	0.900	0.962					
7/1/13-14	1.118	0.790	1.039	0.906						
7/1/14-15	1.260	1.317	1.132							
7/1/15-16	1.089	1.165								
7/1/16-17	1.449									
Average	1.167	1.065	1.062	0.953	0.982	1.090	0.995	0.993	1.000	
Wtd. Avg.	1.141	1.089	1.038	0.962	0.975	1.065	0.993	0.993	1.000	
5 year average	1.203	1.101	1.067	0.937	0.986	1.133	0.993	0.992	1.000	
Industry	1.936	1.387	1.194	1.109	1.067	1.043	1.030	1.021	1.015	1.070
OK Benchmark	2.035	1.212	0.938	0.951	0.956	1.000	1.000	1.000	1.000	1.000
Prior	1.132	1.083	1.029	1.017	1.010	1.006	1.000	1.000	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	1.203	1.101	1.038	1.017	1.010	1.006	1.000	1.000	1.000	1.000
Cumulative	21.2	2262	2108.	21044	21029	21009	21000	21000	21000	21000

**Analysis of Paid Loss Development**  
**Paid Losses and ALAE Net of Member Deductibles**

Paid Losses and ALAE as of (months):										
Year	12	24	36	48	60	72	84	96	108	120
7/1/04-05	\$135,749	\$315,927	\$386,597	\$490,920	\$536,764	\$525,685	\$525,685	\$525,685	\$525,685	\$525,685
7/1/05-06	\$231,455	\$584,973	\$771,010	\$1,092,719	\$1,312,650	\$1,313,442	\$1,330,178	\$1,330,178	\$1,330,178	\$1,330,178
7/1/06-07	\$322,617	\$678,216	\$787,689	\$943,320	\$1,208,914	\$1,271,236	\$1,344,837	\$1,351,835	\$1,351,835	\$1,351,835
7/1/07-08	\$170,163	\$665,391	\$1,286,746	\$1,455,173	\$1,501,494	\$1,501,995	\$1,501,995	\$1,501,995	\$1,501,995	\$1,501,995
7/1/08-09	\$158,208	\$609,160	\$939,799	\$984,969	\$1,127,969	\$1,163,044	\$2,170,476	\$2,172,804	\$2,172,804	\$2,172,804
7/1/09-10	\$297,737	\$767,474	\$1,041,914	\$1,347,942	\$1,505,891	\$1,496,609	\$1,503,479	\$1,502,945	\$1,503,515	
7/1/10-11	\$201,545	\$1,303,203	\$2,109,602	\$2,299,143	\$2,347,892	\$2,385,861	\$2,395,912	\$2,400,815		
7/1/11-12	\$128,159	\$704,902	\$1,700,471	\$2,356,202	\$3,580,758	\$3,685,134	\$3,688,203			
7/1/12-13	\$148,090	\$496,864	\$655,081	\$980,783	\$1,004,467	\$1,058,497				
7/1/13-14	\$70,272	\$359,375	\$563,792	\$811,678	\$838,630					
7/1/14-15	\$131,121	\$604,571	\$1,391,247	\$1,592,115						
7/1/15-16	\$275,027	\$824,838	\$1,304,248							
7/1/16-17	\$236,290	\$740,126								
7/1/17-18	\$56,435									

Age-to-Age Factors										
Year	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05	2.327	1.224	1.270	1.093	0.979	1.000	1.000	1.000	1.000	
7/1/05-06	2.527	1.318	1.417	1.201	1.001	1.013	1.000	1.000	1.000	
7/1/06-07	2.102	1.161	1.198	1.282	1.052	1.058	1.005	1.000	1.000	
7/1/07-08	3.910	1.934	1.131	1.032	1.000	1.000	1.000	1.000	1.000	
7/1/08-09	3.850	1.543	1.048	1.145	1.031	1.866	1.001	1.000	1.000	
7/1/09-10	2.578	1.358	1.294	1.117	0.994	1.005	1.000	1.000		
7/1/10-11	6.466	1.619	1.090	1.021	1.016	1.004	1.002			
7/1/11-12	5.500	2.412	1.386	1.520	1.029	1.001				
7/1/12-13	3.355	1.318	1.497	1.024	1.054					
7/1/13-14	5.114	1.569	1.440	1.033						
7/1/14-15	4.611	2.301	1.144							
7/1/15-16	2.999	1.581								
7/1/16-17	3.132									
Average	3.729	1.612	1.265	1.147	1.017	1.118	1.001	1.000	1.000	
Wtd. Avg.	3.453	1.635	1.234	1.173	1.019	1.084	1.001	1.000	1.000	
5 year average	3.842	1.836	1.311	1.143	1.025	1.175	1.002	1.000	1.000	
Industry	2.746	1.716	1.364	1.206	1.125	1.081	1.054	1.038	1.027	1.116
OK benchmark	2.616	1.920	1.315	1.085	1.038	1.016	1.008	1.003	1.000	1.000
Prior	4.674	1.712	1.241	1.151	1.038	1.016	1.008	1.003	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	3.842	1.836	1.311	1.143	1.038	1.016	1.008	1.003	1.000	1.000
Cumulative	221.86	1.543	2.156	21.25	2.099	21.8	2.022	2.004	2.000	2.000

**Analysis of Reported Occurrences**

Year	Reported Claims as of (months):									
	12	24	36	48	60	72	84	96	108	120
7/1/04-05		115	116	116	116	115	115	115	115	115
7/1/05-06	114	136	137	138	136	136	136	136	136	136
7/1/06-07	128	132	133	132	132	132	132	132	132	132
7/1/07-08	148	161	164	164	163	163	163	163	163	163
7/1/08-09	146	155	155	155	155	155	155	155	155	155
7/1/09-10	139	143	144	144	144	144	144	144	144	
7/1/10-11	108	109	109	110	110	110	110	110		
7/1/11-12	89	87	87	87	87	87	87			
7/1/12-13	110	109	109	109	109	109				
7/1/13-14	83	85	86	86	86					
7/1/14-15	103	116	116	116						
7/1/15-16	120	122	119							
7/1/16-17	125	135								
7/1/17-18	80									

Year	Age-to-Age Factors									
	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05		1.009	1.000	1.000	0.991	1.000	1.000	1.000	1.000	
7/1/05-06	1.193	1.007	1.007	0.986	1.000	1.000	1.000	1.000	1.000	
7/1/06-07	1.031	1.008	0.992	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/07-08	1.088	1.019	1.000	0.994	1.000	1.000	1.000	1.000	1.000	
7/1/08-09	1.062	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/09-10	1.029	1.007	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/10-11	1.009	1.000	1.009	1.000	1.000	1.000	1.000			
7/1/11-12	0.978	1.000	1.000	1.000	1.000	1.000				
7/1/12-13	0.991	1.000	1.000	1.000	1.000					
7/1/13-14	1.024	1.012	1.000	1.000						
7/1/14-15	1.126	1.000	1.000							
7/1/15-16	1.017	0.975								
7/1/16-17	1.080									
Average	1.052	1.003	1.001	0.998	0.999	1.000	1.000	1.000	1.000	
Wtd. Avg.	1.054	1.003	1.001	0.998	0.999	1.000	1.000	1.000	1.000	
OK benchmark	1.285	1.014	1.005	1.002	1.001	1.000	1.000	1.000	1.000	1.000
Prior	1.054	1.006	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	12	24	36	48	60	72	84	96	108	120
Cumulative	21090	21009	21002	21000	21000	21000	21000	21000	21000	21000



**Derivation of Lognomoral Parameters  
Based on Reported Loss Development**

Year	Natural Logarithm of Age to Age Factors									
	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05	0.392	0.101	0.199	-0.218	-0.021	0.000	0.000	0.000	0.000	
7/1/05-06	0.308	0.100	0.134	-0.005	-0.059	0.013	-0.004	0.000	0.000	
7/1/06-07	0.115	-0.048	0.056	0.181	0.017	0.043	0.000	-0.043	0.000	
7/1/07-08	0.081	0.082	-0.079	-0.063	-0.032	-0.017	0.000	0.000	0.000	
7/1/08-09	-0.194	0.121	-0.240	-0.092	0.073	0.545	-0.034	0.000	0.000	
7/1/09-10	-0.133	-0.147	0.194	-0.089	-0.025	-0.026	0.000	0.000		
7/1/10-11	0.058	0.033	-0.069	-0.022	-0.039	0.000	0.000			
7/1/11-12	0.304	0.362	0.058	-0.015	-0.045	-0.016				
7/1/12-13	0.095	-0.226	0.158	-0.105	-0.039					
7/1/13-14	0.111	-0.236	0.038	-0.099						
7/1/14-15	0.231	0.276	0.124							
7/1/15-16	0.085	0.153								
7/1/16-17	0.371									
	<u>12</u>	<u>24</u>	<u>36</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>84</u>	<u>96</u>	<u>108</u>	
Variance	0.032	0.034	0.018	0.010	0.002	0.038	0.000	0.000	0.000	
Cum. Variance	0.135	0.103	0.069	0.050	0.040	0.038	0.000	0.000	0.000	
SD	0.367	0.321	0.262	0.224	0.199	0.195	0.022	0.018	0.000	

## Property with Auto Physical Damage Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Large Claim Listing
Exhibit III	Loss Development Methods
Exhibit IV	Forecast for Current Year
Exhibit V	Bornhuetter-Ferguson Methods
Exhibit VI	Summary and Selection of Ultimate Losses
Exhibit VII	Average Claim Size
Exhibit VIII	Outstanding Losses as of 1/31/2019 and Projected as of 6/30/2019
Appendix A	Loss Development Factors and Triangles



**Summary of Loss Data as of January 31, 2019**  
**Total Experience Net of Deductibles**

(A)	(B)	(C)	(D)		(E)	(F)	(G)	(H)	(I)	(J)
Accident Period	Evaluation Date	Maturity (months)	Total Claims	Open Claims	Loss Payment	Loss Reserve	Expense and Legal Payment	Expense and Legal Reserve	Total Reported	Total Insured Value in \$100s
7/1/02-03	1/31/2019	199	24	0	\$282,938	\$0	\$29,106	\$0	\$312,045	
7/1/03-04	1/31/2019	187	104	0	\$2,447,356	\$0	\$66,143	\$0	\$2,513,499	
7/1/04-05	1/31/2019	175	122	0	\$1,235,815	\$0	\$69,782	\$0	\$1,305,598	\$37,566,889
7/1/05-06	1/31/2019	163	190	0	\$3,080,547	\$0	\$142,157	\$0	\$3,222,704	\$50,583,768
7/1/06-07	1/31/2019	151	232	0	\$7,508,252	\$0	\$164,672	\$0	\$7,672,924	\$63,964,027
7/1/07-08	1/31/2019	139	255	0	\$27,287,989	\$0	\$261,094	\$0	\$27,549,083	\$70,532,585
7/1/08-09	1/31/2019	127	211	0	\$14,558,473	\$0	\$226,138	\$0	\$14,784,611	\$74,780,448
7/1/09-10	1/31/2019	115	266	0	\$17,140,491	\$0	\$250,287	\$0	\$17,390,777	\$78,018,968
7/1/10-11	1/31/2019	103	225	0	\$26,419,286	\$0	\$52,656	\$0	\$26,471,942	\$82,140,365
7/1/11-12	1/31/2019	91	173	0	\$3,946,066	\$0	\$72,423	\$0	\$4,018,489	\$75,216,040
7/1/12-13	1/31/2019	79	163	0	\$6,097,006	\$0	\$39,448	\$0	\$6,136,455	\$67,433,533
7/1/13-14	1/31/2019	67	157	0	\$4,537,170	\$0	\$53,119	\$0	\$4,590,290	\$72,841,534
7/1/14-15	1/31/2019	55	208	1	\$4,310,794	\$2,990,910	\$261,961	\$49,636	\$7,613,301	\$82,912,577
7/1/15-16	1/31/2019	43	182	3	\$5,274,527	\$3,418,001	\$165,519	\$20,536	\$8,878,582	\$83,651,052
7/1/16-17	1/31/2019	31	228	11	\$8,533,425	\$1,806,276	\$207,957	\$18,285	\$10,565,943	\$95,166,463
7/1/17-18	1/31/2019	19	193	12	\$9,157,567	\$5,760,096	\$138,911	\$91,307	\$15,147,881	\$91,897,115
7/1/18-19	1/31/2019	7	110	43	\$746,428	\$419,395	\$24,410	\$14,949	\$1,205,182	\$119,791,728
7/1/19-20										\$119,791,728
			3043	70	\$142,564,130	\$14,394,678	\$2,225,783	\$194,714	\$159,379,306	\$1,146,497,092

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Claims are grouped by occurrence, and exclude claims with \$0 incurred
- Losses are net of member deductibles

Losses over SIR

CAT# or Occ#	Loss Date	Claim Status	Coverage	Paid Pure Losses	Reported Pure Losses	SIR	Deductibles	Excess Recoveries	Excess Paid	Excess Reported	Severity Factor	Net Ultimate
00120	9/26/2003	Closed	AOP	\$160,863	\$160,863	\$100,000	\$2,500	\$63,363	\$63,363	\$63,363	1.000	\$160,863
00280	4/23/2004	Closed	Wind	\$501,173	\$501,173	\$200,000	\$10,000	\$311,173	\$311,173	\$311,173	1.000	\$501,173
00312	5/29/2004	Closed	Wind	\$1,051,795	\$1,051,795	\$200,000	\$5,000	\$851,795	\$851,795	\$851,795	1.000	\$1,051,795
00622	4/19/2005	Closed	AOP	\$137,015	\$137,015	\$100,000	\$2,500	\$38,605	\$38,605	\$38,605	1.000	\$137,015
0003	7/3/2005	Closed	Wind	\$509,241	\$509,241	\$200,000	\$15,000	\$329,241	\$329,241	\$329,241	1.000	\$509,241
00974	2/4/2006	Closed	AOP	\$123,265	\$123,265	\$100,000	\$1,000	\$24,265	\$24,265	\$24,265	1.000	\$123,265
0006	3/12/2006	Closed	Wind	\$302,863	\$302,863	\$200,000	\$17,500	\$98,003	\$98,003	\$98,003	1.000	\$302,863
01070	4/1/2006	Closed	Wind	\$249,726	\$249,726	\$200,000	\$10,000	\$54,736	\$54,736	\$54,736	1.000	\$249,726
01069	4/9/2006	Closed	AOP	\$196,964	\$196,964	\$100,000	\$2,500	\$99,464	\$99,464	\$99,464	1.000	\$196,964
0010	1/13/2007	Closed	AOP	\$2,728,534	\$2,728,534	\$100,000	\$125,000	\$2,213,033	\$2,213,033	\$2,213,033	1.000	\$2,728,534
01446	1/14/2007	Closed	AOP	\$2,391,851	\$2,391,851	\$100,000	\$2,500	\$2,294,351	\$2,294,351	\$2,294,351	1.000	\$2,391,851
01603	4/1/2007	Closed	AOP	\$498,897	\$498,897	\$100,000	\$5,500	\$409,043	\$409,043	\$409,043	1.000	\$498,897
0014	5/26/2007	Closed	AOP	\$258,761	\$258,761	\$100,000	\$125,000	\$151,982	\$151,982	\$151,982	1.000	\$258,761
01932	10/20/2007	Closed	AOP	\$4,417,502	\$4,417,502	\$100,000	\$2,500	\$4,320,002	\$4,320,002	\$4,320,002	1.000	\$4,417,502
02010	12/10/2007	Closed	AOP	\$7,939,099	\$7,939,099	\$100,000	\$2,500	\$7,839,099	\$7,839,099	\$7,839,099	1.000	\$7,939,099
02077	1/27/2008	Closed	AOP	\$4,048,087	\$4,048,087	\$100,000	\$5,000	\$3,953,087	\$3,953,087	\$3,953,087	1.000	\$4,048,087
02095	2/12/2008	Closed	AOP	\$1,330,642	\$1,330,642	\$100,000	\$2,500	\$1,233,142	\$1,233,142	\$1,233,142	1.000	\$1,330,642
02123	2/24/2008	Closed	AOP	\$142,203	\$142,203	\$100,000	\$2,500	\$44,693	\$44,693	\$44,693	1.000	\$142,203
0017	4/9/2008	Closed	Wind	\$642,619	\$642,619	\$200,000	\$68,000	\$497,819	\$497,819	\$497,819	1.000	\$642,619
02205	4/10/2008	Closed	AOP	\$264,208	\$264,208	\$100,000	\$2,500	\$166,708	\$166,708	\$166,708	1.000	\$264,208
02283	5/10/2008	Closed	Wind	\$1,079,655	\$1,079,655	\$200,000	\$5,000	\$884,655	\$884,655	\$884,655	1.000	\$1,079,655
0020	5/22/2008	Closed	Wind	\$737,893	\$737,893	\$200,000	\$20,000	\$537,893	\$537,893	\$537,893	1.000	\$737,893
0022	6/1/2008	Closed	Wind	\$2,874,505	\$2,874,505	\$200,000	\$47,000	\$2,755,868	\$2,755,868	\$2,755,868	1.000	\$2,874,505
0019	6/5/2008	Closed	Wind	\$1,617,657	\$1,617,657	\$200,000	\$50,000	\$1,400,637	\$1,400,637	\$1,400,637	1.000	\$1,617,657
02412	7/15/2008	Closed	AOP	\$118,000	\$118,000	\$100,000	\$2,500	\$20,500	\$20,500	\$20,500	1.000	\$118,000
02442	8/5/2008	Closed	AOP	\$253,900	\$253,900	\$100,000	\$2,500	\$155,155	\$155,155	\$155,155	1.000	\$253,900
0024	11/5/2008	Closed	Wind	\$1,825,926	\$1,825,926	\$200,000	\$41,000	\$1,620,926	\$1,620,926	\$1,620,926	1.000	\$1,825,926
02724	1/21/2009	Closed	AOP	\$359,928	\$359,928	\$100,000	\$2,500	\$262,428	\$262,428	\$262,428	1.000	\$359,928
0026	1/26/2009	Closed	AOP	\$333,470	\$333,470	\$100,000	\$38,500	\$233,474	\$233,474	\$233,474	1.000	\$333,470
0027	2/10/2009	Closed	Wind	\$403,324	\$403,324	\$200,000	\$40,000	\$203,324	\$203,324	\$203,324	1.000	\$403,324
02786	2/27/2009	Closed	AOP	\$2,319,259	\$2,319,259	\$100,000	\$2,500	\$2,219,259	\$2,219,259	\$2,219,259	1.000	\$2,319,259
0030	3/27/2009	Closed	AOP	\$2,372,142	\$2,372,142	\$100,000	\$22,500	\$2,372,114	\$2,372,114	\$2,372,114	1.000	\$2,372,142
0031	4/9/2009	Closed	Wind	\$855,773	\$855,773	\$200,000	\$35,000	\$660,773	\$660,773	\$660,773	1.000	\$855,773
0033	4/25/2009	Closed	Wind	\$391,102	\$391,102	\$200,000	\$51,000	\$188,354	\$188,354	\$188,354	1.000	\$391,102
0037	4/29/2009	Closed	Wind	\$212,817	\$212,817	\$200,000	\$25,000	\$7,888	\$7,888	\$7,888	1.000	\$212,817
0032	5/1/2009	Closed	AOP	\$1,097,400	\$1,097,400	\$100,000	\$50,000	\$987,387	\$987,387	\$987,387	1.000	\$1,097,400
0034	5/13/2009	Closed	Wind	\$1,363,503	\$1,363,503	\$200,000	\$72,000	\$1,163,503	\$1,163,503	\$1,163,503	1.000	\$1,363,503
0036	6/12/2009	Closed	Wind	\$311,981	\$311,981	\$200,000	\$62,500	\$128,176	\$128,176	\$128,176	1.000	\$311,981
03078	7/21/2009	Closed	Wind	\$332,689	\$332,689	\$200,000	\$10,000	\$132,689	\$132,689	\$132,689	1.000	\$332,689
03081	7/27/2009	Closed	AOP	\$304,502	\$304,502	\$100,000	\$5,000	\$204,502	\$204,502	\$204,502	1.000	\$304,502
03122	8/21/2009	Closed	AOP	\$4,975,483	\$4,975,483	\$100,000	\$2,500	\$4,877,983	\$4,877,983	\$4,877,983	1.000	\$4,975,483
03138	8/29/2009	Closed	AOP	\$139,641	\$139,641	\$100,000	\$2,500	\$39,641	\$39,641	\$39,641	1.000	\$139,641
03179	9/20/2009	Closed	AOP	\$134,098	\$134,098	\$100,000	\$2,500	\$34,101	\$34,101	\$34,101	1.000	\$134,098
0038	12/27/2009	Closed	AOP	\$206,927	\$206,927	\$100,000	\$12,500	\$102,361	\$102,361	\$102,361	1.000	\$206,927
0039	1/9/2010	Closed	AOP	\$976,159	\$976,159	\$100,000	\$32,500	\$875,889	\$875,889	\$875,889	1.000	\$976,159
0040	1/30/2010	Closed	AOP	\$719,056	\$719,056	\$100,000	\$142,500	\$632,790	\$632,790	\$632,790	1.000	\$719,056
03548	4/4/2010	Closed	AOP	\$189,327	\$189,327	\$100,000	\$2,500	\$91,827	\$91,827	\$91,827	1.000	\$189,327
0041	5/10/2010	Closed	Wind	\$3,827,504	\$3,827,504	\$200,000	\$102,000	\$3,608,302	\$3,608,302	\$3,608,302	1.000	\$3,827,504
0042	5/13/2010	Closed	Wind	\$2,084,566	\$2,084,566	\$200,000	\$65,000	\$1,893,566	\$1,893,566	\$1,893,566	1.000	\$2,084,566
93604	6/12/2010	Closed	Wind	\$248,774	\$248,774	\$200,000	\$10,000	\$27,083	\$27,083	\$27,083	1.000	\$248,774
90050	8/4/2010	Closed	AOP	\$247,854	\$247,854	\$100,000	\$2,500	\$242,204	\$242,204	\$242,204	1.000	\$247,854
90125	8/6/2010	Closed	AOP	\$105,400	\$105,400	\$100,000	\$2,500	\$0	\$5,400	\$5,400	1.000	\$105,400
90229	10/23/2010	Closed	AOP	\$170,445	\$170,445	\$100,000	\$2,500	\$70,445	\$70,445	\$70,445	1.000	\$170,445
90336	12/30/2010	Closed	AOP	\$854,448	\$854,448	\$100,000	\$2,500	\$754,448	\$754,448	\$754,448	1.000	\$854,448
90334	12/31/2010	Closed	AOP	\$518,228	\$518,228	\$100,000	\$5,000	\$418,228	\$418,228	\$418,228	1.000	\$518,228
0043	2/2/2011	Closed	AOP	\$1,042,859	\$1,042,859	\$100,000	\$85,000	\$942,862	\$942,862	\$942,862	1.000	\$1,042,859
0044	2/3/2011	Closed	AOP	\$536,699	\$536,699	\$100,000	\$10,000	\$455,061	\$455,061	\$455,061	1.000	\$536,699
0045	2/10/2011	Closed	AOP	\$125,469	\$125,469	\$100,000	\$15,000	\$25,469	\$25,469	\$25,469	1.000	\$125,469
0046	2/10/2011	Closed	AOP	\$459,599	\$459,599	\$100,000	\$85,000	\$364,899	\$364,899	\$364,899	1.000	\$459,599
90532	4/8/2011	Closed	AOP	\$181,084	\$181,084	\$100,000	\$2,500	\$81,084	\$81,084	\$81,084	1.000	\$181,084
0048	4/14/2011	Closed	Wind	\$11,842,873	\$11,842,873	\$200,000	\$79,500	\$11,642,991	\$11,642,991	\$11,642,991	1.000	\$11,842,873
0050	5/22/2011	Closed	Wind	\$8,131,959	\$8,131,959	\$200,000	\$128,000	\$7,899,380	\$7,899,380	\$7,899,380	1.000	\$8,131,959
				\$84,779,185	\$84,779,185			\$76,213,724	\$76,219,124	\$76,219,124		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services

Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.

\$200,000 SIR = Wind/Hail  
\$100,000 SIR = other

Losses over SIR

CAT# or Occ#	Loss Date	Claim Status	Coverage	Paid Losses	Reported Losses	Paid Expenses	Reported Expenses	SIR	Retained Expenses	Excess Paid	Excess Reported	Severity Factor	Net Ultimate
91234	4/15/2012	Closed	Any	\$485,893	\$485,893	\$26,825	\$26,825	\$250,000	\$26,825	\$235,893	\$235,893	1.000	\$485,893
91287	5/4/2012	Closed	Any	\$483,077	\$483,077	\$1,149	\$1,149	\$250,000	\$1,149	\$233,077	\$233,077	1.000	\$483,077
90999	11/7/2011	Closed	Any	\$426,749	\$426,749	\$497	\$497	\$250,000	\$497	\$176,749	\$176,749	1.000	\$426,749
91351	5/29/2012	Closed	Any	\$340,228	\$340,228	\$2,049	\$2,049	\$250,000	\$2,049	\$90,228	\$90,228	1.000	\$340,228
Total Excess Losses for 11/12										\$735,946	\$735,946		
Applied to \$2,700,000 Corridor for 11/12										\$735,946	\$735,946		
0052	4/26/2013	Closed	Any	\$1,670,786	\$1,670,786	\$2,832	\$2,832	\$250,000	\$2,832	\$1,420,786	\$1,420,786	1.000	\$1,670,786
0054	5/30/2013	Closed	Any	\$1,003,799	\$1,003,799	\$2,291	\$2,291	\$250,000	\$2,291	\$753,799	\$753,799	1.000	\$1,003,799
91392	7/14/2012	Closed	Any	\$570,302	\$570,302	\$7,681	\$7,681	\$250,000	\$7,681	\$320,302	\$320,302	1.000	\$570,302
91814	4/18/2013	Closed	Any	\$454,242	\$454,242	\$290	\$290	\$250,000	\$290	\$204,242	\$204,242	1.000	\$454,242
91861	4/22/2013	Closed	Any	\$473,316	\$473,316	\$0	\$0	\$250,000	\$0	\$223,316	\$223,316	1.000	\$473,316
91393	7/16/2012	Closed	Any	\$431,334	\$431,334	\$1,627	\$1,627	\$250,000	\$1,627	\$181,334	\$181,334	1.000	\$431,334
Total Excess Losses for 12/13										\$3,103,780	\$3,103,780		
Applied to \$2,400,000 Corridor for 12/13										\$2,400,000	\$2,400,000		
Insured Excess of Corridor										\$703,780	\$703,780		
92546	6/28/2014	Closed	Any	\$2,284,671	\$2,284,671	\$13,223	\$13,223	\$250,000	\$13,223	\$2,034,671	\$2,034,671	1.000	\$2,284,671
92144	11/6/2013	Closed	Any	\$300,267	\$300,267	\$5,694	\$5,694	\$250,000	\$5,694	\$50,267	\$50,267	1.000	\$300,267
Total Excess Losses for 13/14										\$2,084,938	\$2,084,938		
Applied to \$1,400,000 Corridor for 13/14										\$1,400,000	\$1,400,000		
Insured excess of Corridor										\$684,938	\$684,938		
0055	3/25/2015	Open	Any	\$524,656	\$3,515,566	\$155,474	\$205,110	\$250,000	\$3,159	\$426,971	\$3,467,518	1.001	\$3,518,340
0061	5/19/2015	Closed	Any	\$620,862	\$620,862	\$30,861	\$30,861	\$250,000	\$5,786	\$395,937	\$395,937	1.001	\$621,352
0056	5/6/2015	Closed	Any	\$406,091	\$406,091	\$5,088	\$5,088	\$250,000	\$5,088	\$156,091	\$156,091	1.001	\$406,411
93164	4/11/2015	Closed	Any	\$331,500	\$331,500	\$22,090	\$22,090	\$250,000	\$1,600	\$101,990	\$101,990	1.001	\$331,762
92831	12/3/2014	Closed	Any	\$271,103	\$271,103	\$5,271	\$5,271	\$250,000	\$5,271	\$21,103	\$21,103	1.001	\$271,317
Total Excess Losses for 14/15										\$1,102,092	\$4,142,639		
Applied to \$1,400,000 Corridor for 14/15										\$1,102,092	\$1,400,000		
Insured excess of Corridor										\$0	\$2,742,639		
0059	5/9/2016	Closed	Any	\$1,182,853	\$1,182,853	\$26,978	\$26,978	\$250,000	\$495	\$959,336	\$959,336	1.003	\$1,186,943
0063	11/17/2015	Closed	Any	\$792,926	\$792,926	\$22,313	\$22,313	\$250,000	\$2,000	\$563,240	\$563,240	1.003	\$795,668
0058	4/29/2016	Closed	Any	\$681,598	\$681,598	\$9,674	\$9,674	\$250,000	\$1,494	\$439,778	\$439,778	1.003	\$683,955
94123	5/13/2016	Open	Any	\$263,000	\$280,000	\$37,940	\$44,478	\$250,000	\$322	\$50,618	\$74,156	1.003	\$280,968
95188	5/29/2016	Open	Any	\$0	\$3,400,000	\$10	\$9,990	\$250,000	\$10	\$0	\$3,159,980	1.003	\$3,411,757
Total Excess Losses for 15/16										\$2,012,972	\$5,196,490		
Applied to \$1,400,000 Corridor for 15/16										\$1,400,000	\$1,400,000		
Insured excess of Corridor										\$612,972	\$3,796,490		
0060	7/14/2016	Closed	Any	\$2,583,479	\$2,583,479	\$36,536	\$36,536	\$250,000	\$678	\$2,369,337	\$2,369,337	1.017	\$2,628,263
94256	11/16/2016	Open	Any	\$1,099,838	\$2,300,000	\$31,966	\$35,000	\$250,000	\$0	\$881,804	\$2,085,000	1.017	\$2,339,870
0064	5/27/2017	Open	Any	\$1,052,251	\$1,390,295	\$55,274	\$65,895	\$250,000	\$4,681	\$852,844	\$1,201,509	1.017	\$1,414,395
93959	8/23/2016	Closed	Any	\$458,500	\$458,500	\$2,639	\$2,639	\$250,000	\$2,639	\$208,500	\$208,500	1.017	\$466,448
94217	12/19/2016	Closed	Any	\$347,321	\$347,321	\$3,674	\$3,674	\$250,000	\$0	\$100,995	\$100,995	1.017	\$353,341
0065	6/17/2017	Closed	Any	\$302,722	\$302,722	\$103	\$103	\$250,000	\$103	\$52,722	\$52,722	1.017	\$307,970
Total Excess Losses for 16/17										\$4,466,203	\$6,018,064		
Applied to \$1,400,000 Corridor for 16/17										\$1,400,000	\$1,400,000		
Insured excess of Corridor										\$3,066,203	\$4,618,064		
95267	3/19/2018	Open	Any	\$0	\$4,000,000	\$1,088	\$2,000	\$250,000	\$88	\$1,000	\$3,751,912	1.102	\$4,408,515
94628	8/29/2017	Open	Any	\$4,377,125	\$5,344,000	\$33,912	\$115,000	\$250,000	\$2,912	\$4,158,125	\$5,206,088	1.102	\$5,889,776
0067	5/29/2018	Open	Any	\$856,076	\$1,153,620	\$36,309	\$45,120	\$250,000	\$188	\$642,197	\$948,552	1.102	\$1,271,438
95052	5/4/2018	Closed	Any	\$679,050	\$679,050	\$0	\$0	\$250,000	\$0	\$429,050	\$429,050	1.102	\$748,400
0068	6/12/2018	Open	Any	\$2,423	\$462,423	\$322	\$400	\$250,000	\$322	\$0	\$212,501	1.102	\$509,649
94879	1/11/2018	Closed	Any	\$357,185	\$357,185	\$12,318	\$12,318	\$250,000	\$5,591	\$113,912	\$113,912	1.102	\$393,664
Total Excess Losses for 17/18										\$5,344,284	\$10,662,014		
Applied to \$1,400,000 Corridor for 17/18										\$1,400,000	\$1,400,000		
Insured excess of Corridor										\$3,944,284	\$9,262,014		
Total Excess Losses for 18/19										\$0	\$0		
Applied to \$1,400,000 Corridor for 18/19										\$0	\$0		
Insured excess of Corridor										\$0	\$0		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services

**Calculation of Limited Losses**

<i>Policy Period</i>	<i>(A) Per Occurrence SIR</i>	<i>(B) Unlimited Paid Loss &amp; ALAE</i>	<i>(C) Unlimited Reported Loss &amp; ALAE</i>	<i>(D) Paid Excess of SIR</i>	<i>(E) Reported Excess of SIR</i>	<i>(F) Paid Limited to SIR</i>	<i>(G) Reported Limited to SIR</i>
7/1/02-03	\$100k/\$200k	\$312,045	\$312,045	\$0	\$0	\$312,045	\$312,045
7/1/03-04	\$100k/\$200k	\$2,513,499	\$2,513,499	\$1,226,330	\$1,226,330	\$1,287,169	\$1,287,169
7/1/04-05	\$100k/\$200k	\$1,305,598	\$1,305,598	\$38,605	\$38,605	\$1,266,993	\$1,266,993
7/1/05-06	\$100k/\$200k	\$3,222,704	\$3,222,704	\$605,708	\$605,708	\$2,616,997	\$2,616,997
7/1/06-07	\$100k/\$200k	\$7,672,924	\$7,672,924	\$5,068,410	\$5,068,410	\$2,604,514	\$2,604,514
7/1/07-08	\$100k/\$200k	\$27,549,083	\$27,549,083	\$23,633,602	\$23,633,602	\$3,915,481	\$3,915,481
7/1/08-09	\$100k/\$200k	\$14,784,611	\$14,784,611	\$10,223,263	\$10,223,263	\$4,561,347	\$4,561,347
7/1/09-10	\$100k/\$200k	\$17,390,777	\$17,390,777	\$12,520,736	\$12,520,736	\$4,870,042	\$4,870,042
7/1/10-11	\$100k/\$200k	\$26,471,942	\$26,471,942	\$22,902,470	\$22,902,470	\$3,569,472	\$3,569,472
7/1/11-12	\$250,000	\$4,018,489	\$4,018,489	\$735,946	\$735,946	\$3,282,543	\$3,282,543
7/1/12-13	\$250,000	\$6,136,455	\$6,136,455	\$3,103,780	\$3,103,780	\$3,032,675	\$3,032,675
7/1/13-14	\$250,000	\$4,590,290	\$4,590,290	\$2,084,938	\$2,084,938	\$2,505,352	\$2,505,352
7/1/14-15	\$250,000	\$4,572,755	\$7,613,301	\$1,102,092	\$4,142,639	\$3,470,662	\$3,470,662
7/1/15-16	\$250,000	\$5,440,045	\$8,878,582	\$2,012,972	\$5,196,490	\$3,427,073	\$3,682,092
7/1/16-17	\$250,000	\$8,741,382	\$10,565,943	\$4,466,203	\$6,018,064	\$4,275,179	\$4,547,880
7/1/17-18	\$250,000	\$9,296,478	\$15,147,881	\$5,344,284	\$10,662,014	\$3,952,194	\$4,485,867
7/1/18-19	\$250,000	\$770,838	\$1,205,182	\$0	\$0	\$770,838	\$1,205,182
<b>Total</b>		\$144,789,914	\$159,379,306	\$95,069,339	\$108,162,995	\$49,720,575	\$51,216,311

<i>Period</i>	<i>Corridor</i>	<i>Paid</i>	<i>Reported</i>
7/1/11-12	\$2,700,000	\$735,946	\$735,946
7/1/12-13	\$2,400,000	\$2,400,000	\$2,400,000
7/1/13-14	\$1,400,000	\$1,400,000	\$1,400,000
7/1/14-15	\$1,400,000	\$1,102,092	\$1,400,000
7/1/15-16	\$1,400,000	\$1,400,000	\$1,400,000
7/1/16-17	\$1,400,000	\$1,400,000	\$1,400,000
7/1/17-18	\$1,400,000	\$1,400,000	\$1,400,000
7/1/18-19	\$1,400,000	\$0	\$0

(B) and (C) - Exhibit I

(D) and (E) - Excess amount from claims in Exhibit II, page 1

(F) = (B) - (D)

(G) = (C) - (E)

**Estimated Ultimate Losses  
Using Loss Development Methods**

**Limited to \$250,000 SIR**

	(A)	(B)	(C)	(D)	(E)
<i>Accident Period</i>	<i>Net Reported Losses</i>	<i>Excess on Large Losses</i>	<i>Limited Reported Losses</i>	<i>Reported Develop. Factor</i>	<i>Limited Ultimate Losses</i>
7/1/11-12	\$4,018,489	\$735,946	\$3,282,543	1.000	\$3,283,000
7/1/12-13	\$6,136,455	\$3,103,780	\$3,032,675	1.000	\$3,033,000
7/1/13-14	\$4,590,290	\$2,084,938	\$2,505,352	1.000	\$2,505,000
7/1/14-15	\$7,613,301	\$4,142,639	\$3,470,662	1.000	\$3,471,000
7/1/15-16	\$8,878,582	\$5,196,490	\$3,682,092	1.003	\$3,695,000
7/1/16-17	\$10,565,943	\$6,018,064	\$4,547,880	1.012	\$4,603,000
7/1/17-18	\$15,147,881	\$10,662,014	\$4,485,867	1.043	\$4,680,000
7/1/18-19	\$1,205,182	\$0	\$1,205,182	1.920	\$2,313,000
<i>Total</i>	\$58,156,123	\$31,943,871	\$26,212,252		\$27,583,000

**Unlimited Losses**

	(F)	(G)	(H)
<i>Accident Period</i>	<i>Unlimited Reported Losses</i>	<i>Unlimited Reported Develop. Factor</i>	<i>Unlimited Ultimate Losses</i>
7/1/11-12	\$4,018,489	1.000	\$4,018,000
7/1/12-13	\$6,136,455	1.000	\$6,136,000
7/1/13-14	\$4,590,290	1.000	\$4,590,000
7/1/14-15	\$7,613,301	1.001	\$7,619,000
7/1/15-16	\$8,878,582	1.003	\$8,909,000
7/1/16-17	\$10,565,943	1.017	\$10,749,000
7/1/17-18	\$15,147,881	1.102	\$16,695,000
7/1/18-19	\$1,205,182	2.532	\$3,052,000
<i>Total</i>	\$58,156,123		\$61,768,000

(A) and (F) - Exhibit I  
(B) - Exhibit II  
(C) = (A) - (B)  
(D) and (G) = Appendix A  
(E) = (C) \* (D)  
(H) = (F) \* (G)



***Estimate of Ultimates based on Forecast***

<i>Accident Period</i>	<i>TIV in \$100s</i>	<i>APD Limited to \$250,000</i>	<i>Property Limited to \$250,000</i>	<i>Corridor</i>	<i>Total Retained</i>	<i>Insured Above Corridor</i>	<i>Total Cost Limited to \$10,000,000</i>
7/1/18-19	\$119,791,728	\$929,000	\$5,038,000	\$1,400,000	\$7,367,000	\$12,604,000	\$19,971,000
7/1/19-20	\$119,791,728	\$922,000	\$5,026,000	\$1,400,000	\$7,348,000	\$12,575,000	\$19,923,000
		\$0.008	\$0.042	\$0.012	\$0.061	\$0.105	\$0.167
	Rate per \$100	\$0.008	\$0.042	\$0.012	\$0.061	\$0.105	\$0.166

*From current forecast, detrended*

**Estimated Ultimate Losses  
Using Bornhuetter-Ferguson Method**

**Limited to \$250,000 SIR**

	(A)	(B)	(C)	(D)	(E)	(F)
<i>Accident Period</i>	<i>Prior Ultimate or Forecast</i>	<i>Reported Develop. Factor</i>	<i>Expected % Unreported</i>	<i>Expected Unreported Losses</i>	<i>Reported Losses</i>	<i>Estimated Ultimate Losses</i>
7/1/11-12	\$3,201,043	1.000	0%	\$0	\$3,282,543	\$3,283,000
7/1/12-13	\$2,629,175	1.000	0%	\$0	\$3,032,675	\$3,033,000
7/1/13-14	\$2,496,352	1.000	0%	\$0	\$2,505,352	\$2,505,000
7/1/14-15	\$3,490,913	1.000	0%	\$0	\$3,470,662	\$3,471,000
7/1/15-16	\$3,437,000	1.003	0%	\$12,000	\$3,682,092	\$3,694,000
7/1/16-17	\$4,520,000	1.012	1%	\$54,000	\$4,547,880	\$4,602,000
7/1/17-18	\$4,501,000	1.043	4%	\$187,000	\$4,485,867	\$4,673,000
7/1/18-19	\$5,967,000	1.920	48%	\$2,858,000	\$1,205,182	\$4,063,000
<b>Total</b>	<b>\$30,242,482</b>			<b>\$3,111,000</b>	<b>\$26,212,252</b>	<b>\$29,324,000</b>

**Unlimited Losses**

	(G)	(H)	(I)	(J)	(K)	(L)
<i>Accident Period</i>	<i>Prior Ultimate or Forecast</i>	<i>Reported Develop. Factor</i>	<i>Expected % Unreported</i>	<i>Expected Unreported Losses</i>	<i>Reported Losses</i>	<i>Estimated Ultimate Losses</i>
7/1/11-12	\$4,018,489	1.000	0%	\$0	\$4,018,489	\$4,018,000
7/1/12-13	\$6,136,455	1.000	0%	\$0	\$6,136,455	\$6,136,000
7/1/13-14	\$4,590,290	1.000	0%	\$0	\$4,590,290	\$4,590,000
7/1/14-15	\$4,678,000	1.001	0%	\$4,000	\$7,613,301	\$7,617,000
7/1/15-16	\$5,544,000	1.003	0%	\$19,000	\$8,878,582	\$8,898,000
7/1/16-17	\$10,425,000	1.017	2%	\$178,000	\$10,565,943	\$10,744,000
7/1/17-18	\$13,182,000	1.102	9%	\$1,222,000	\$15,147,881	\$16,370,000
7/1/18-19	\$19,971,000	2.532	61%	\$12,085,000	\$1,205,182	\$13,290,000
<b>Total</b>	<b>\$68,545,233</b>			<b>\$13,508,000</b>	<b>\$58,156,123</b>	<b>\$71,663,000</b>

(A) and (G) - Exhibit VI or IV for 18-19

(B) and (H) - Appendix A

(C) =  $1 - 1/(B)$

(D) = (A) \* (C)

(E) - Exhibit I, limited to \$250,000

(F) = (D) + (E)

(I) =  $1 - 1/(H)$

(J) = (G) \* (I)

(K) - Exhibit I

(L) = (J) + (K)

***Summary and Selection of Ultimate Limited Loss Estimates***

<i>Accident Period</i>	<i>SIR</i>	<i>(A) Prior Ultimate or Forecast</i>	<i>(D) Selected Ultimate Loss Estimate</i>
7/1/02-03	\$100k/\$200k	\$312,045	\$312,045
7/1/03-04	\$100k/\$200k	\$1,287,169	\$1,287,169
7/1/04-05	\$100k/\$200k	\$1,266,993	\$1,266,993
7/1/05-06	\$100k/\$200k	\$2,616,997	\$2,616,997
7/1/06-07	\$100k/\$200k	\$2,604,514	\$2,604,514
7/1/07-08	\$100k/\$200k	\$3,915,481	\$3,915,481
7/1/08-09	\$100k/\$200k	\$4,561,347	\$4,561,347
7/1/09-10	\$100k/\$200k	\$4,870,042	\$4,870,042
7/1/10-11	\$100k/\$200k	\$3,569,472	\$3,569,472
<i>Total</i>		\$25,004,059	\$25,004,059

(A) - From previous report dated 6/30/18

(D) - Selected as noted:

*Limited Reported Losses for all years*

**Summary and Selection of Ultimate Limited Loss Estimates**

Accident Period	SIR/ Corridor	(A) Prior Selection or Forecast	(B) Reported Loss Development Method	(C) Expected Unreported Method	(D) Selected Ultimate Loss Estimate
<b>Limited to SIR</b>					
7/1/11-12	\$250,000	\$3,201,043	\$3,283,000	\$3,283,000	\$3,282,543
7/1/12-13	\$250,000	\$2,629,175	\$3,033,000	\$3,033,000	\$3,032,675
7/1/13-14	\$250,000	\$2,496,352	\$2,505,000	\$2,505,000	\$2,505,352
7/1/14-15	\$250,000	\$3,490,913	\$3,471,000	\$3,471,000	\$3,470,662
7/1/15-16	\$250,000	\$3,437,000	\$3,695,000	\$3,694,000	\$3,695,000
7/1/16-17	\$250,000	\$4,520,000	\$4,603,000	\$4,602,000	\$4,603,000
7/1/17-18	\$250,000	\$4,501,000	\$4,680,000	\$4,673,000	\$4,680,000
7/1/18-19	\$250,000	\$5,967,000	\$2,313,000	\$4,063,000	\$4,063,000
<b>Unlimited Losses</b>					
7/1/11-12		\$4,018,489	\$4,018,000	\$4,018,000	\$4,018,489
7/1/12-13		\$6,136,455	\$6,136,000	\$6,136,000	\$6,136,455
7/1/13-14		\$4,590,290	\$4,590,000	\$4,590,000	\$4,590,290
7/1/14-15		\$4,678,000	\$7,619,000	\$7,617,000	\$7,617,000
7/1/15-16		\$5,544,000	\$8,909,000	\$8,898,000	\$8,898,000
7/1/16-17		\$10,425,000	\$10,749,000	\$10,744,000	\$10,744,000
7/1/17-18		\$13,182,000	\$16,695,000	\$16,370,000	\$16,370,000
7/1/18-19		\$19,971,000	\$3,052,000	\$13,290,000	\$13,290,000
<b>Difference in Unlimited and Limited, Capped at Corridor</b>					
7/1/11-12	\$2,700,000	\$817,446	\$735,000	\$735,000	\$735,946
7/1/12-13	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000
7/1/13-14	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000
7/1/14-15	\$1,400,000	\$1,200,000	\$1,400,000	\$1,400,000	\$1,400,000
7/1/15-16	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000
7/1/16-17	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000
7/1/17-18	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000
7/1/18-19	\$1,400,000	\$1,400,000	\$739,000	\$1,400,000	\$1,400,000
<b>Total Retained Losses (SIR Losses Plus Corridor)</b>					
7/1/11-12		\$4,018,489			\$4,018,489
7/1/12-13		\$5,029,175			\$5,432,675
7/1/13-14		\$3,895,352			\$3,905,352
7/1/14-15		\$4,678,000			\$4,870,662
7/1/15-16		\$4,837,000			\$5,095,000
7/1/16-17		\$5,920,000			\$6,003,000
7/1/17-18		\$6,351,000			\$6,080,000
7/1/18-19		\$7,367,000			\$5,463,000

(A) - From previous report as of 6/30/18, as of 1/31/18 for unlimited, Forecast from IV

(B) - Exhibit III

(C) - Exhibit V

(D) - Selected as noted:

Limited to \$250,000:

Limited reported losses from 11-12 through 14-15

Column (B) for 15-16 through 17-18

Column (C) for 15-16 through 18-19

Unlimited Losses:

Limited reported losses from 11-12 through 13-14

Column (C) for 14-15 through 18-19

**Average Ultimate Claim Sizes**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)
<i>Accident Period</i>	<i>Reported Occurrences</i>	<i>Reported Claim Development</i>	<i>Estimated Ultimate Occurrences</i>	<i>Estimated Ultimate Limited Losses</i>	<i>Average Ultimate Limited Occurrence</i>	<i>Exposure Total Value in \$100s</i>	<i>Loss Rate</i>
7/1/02-03	24	1.000	24.0	\$312,045	\$13,000		
7/1/03-04	104	1.000	104.0	\$1,287,169	\$12,400		
7/1/04-05	122	1.000	122.0	\$1,266,993	\$10,400	\$37,566,889	\$0.034
7/1/05-06	190	1.000	190.0	\$2,616,997	\$13,800	\$50,583,768	\$0.052
7/1/06-07	232	1.000	232.0	\$2,604,514	\$11,200	\$63,964,027	\$0.041
7/1/07-08	255	1.000	255.0	\$3,915,481	\$15,400	\$70,532,585	\$0.056
7/1/08-09	211	1.000	211.0	\$4,561,347	\$21,600	\$74,780,448	\$0.061
7/1/09-10	266	1.000	266.0	\$4,870,042	\$18,300	\$78,018,968	\$0.062
7/1/10-11	225	1.000	225.0	\$3,569,472	\$15,900	\$82,140,365	\$0.043
7/1/11-12	173	1.000	173.0	\$4,018,489	\$23,200	\$75,216,040	\$0.053
7/1/12-13	163	1.000	163.0	\$5,432,675	\$33,300	\$67,433,533	\$0.081
7/1/13-14	157	1.000	157.0	\$3,905,352	\$24,900	\$72,841,534	\$0.054
7/1/14-15	208	1.000	208.0	\$4,870,662	\$23,400	\$82,912,577	\$0.059
7/1/15-16	182	1.000	182.0	\$5,095,000	\$28,000	\$83,651,052	\$0.061
7/1/16-17	228	1.000	228.0	\$6,003,000	\$26,300	\$95,166,463	\$0.063
7/1/17-18	193	1.000	193.0	\$6,080,000	\$31,500	\$91,897,115	\$0.066
7/1/18-19	110	1.857	204.3	\$5,463,000	\$26,700	\$119,791,728	\$0.046
7/1/19-20			245.1	\$7,348,000	\$30,000	\$119,791,728	\$0.061
<i>Total</i>	3043		3,382.4	\$73,220,236	\$21,600	\$1,266,288,820	\$5.782

- Results for 7/1/19-20 from Forecast

(A) - Exhibit I

(B) - Appendix A

(C) = (A) x (B)

(D) = Exhibit VI

(E) = (D) / (C)

(F) - Exhibit I, provided by OSIG

(G) = (D) / (F) \* 100

**Estimated Outstanding Losses**

Accident Period	SIR	(A) Limited Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b>As of January 31, 2019</b>							
7/1/02-03	\$100k/\$200k	\$312,045	\$312,045	\$312,045	\$0	\$0	\$0
7/1/03-04	\$100k/\$200k	\$1,287,169	\$1,287,169	\$1,287,169	\$0	\$0	\$0
7/1/04-05	\$100k/\$200k	\$1,266,993	\$1,266,993	\$1,266,993	\$0	\$0	\$0
7/1/05-06	\$100k/\$200k	\$2,616,997	\$2,616,997	\$2,616,997	\$0	\$0	\$0
7/1/06-07	\$100k/\$200k	\$2,604,514	\$2,604,514	\$2,604,514	\$0	\$0	\$0
7/1/07-08	\$100k/\$200k	\$3,915,481	\$3,915,481	\$3,915,481	\$0	\$0	\$0
7/1/08-09	\$100k/\$200k	\$4,561,347	\$4,561,347	\$4,561,347	\$0	\$0	\$0
7/1/09-10	\$100k/\$200k	\$4,870,042	\$4,870,042	\$4,870,042	\$0	\$0	\$0
7/1/10-11	\$100k/\$200k	\$3,569,472	\$3,569,472	\$3,569,472	\$0	\$0	\$0
7/1/11-12	\$250,000 /\$2.7M corridor	\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
7/1/12-13	\$250,000 /\$2.4M corridor	\$5,432,675	\$5,432,675	\$5,432,675	\$0	\$0	\$0
7/1/13-14	\$250,000 /\$1.4M corridor	\$3,905,352	\$3,905,352	\$3,905,352	\$0	\$0	\$0
7/1/14-15	\$250,000 /\$1.4M corridor	\$4,870,662	\$4,572,755	\$4,870,662	\$297,908	\$0	\$298,000
7/1/15-16	\$250,000 /\$1.4M corridor	\$5,095,000	\$4,827,073	\$5,082,092	\$255,019	\$13,000	\$268,000
7/1/16-17	\$250,000 /\$1.4M corridor	\$6,003,000	\$5,675,179	\$5,947,880	\$272,700	\$55,000	\$328,000
7/1/17-18	\$250,000 /\$1.4M corridor	\$6,080,000	\$5,352,194	\$5,885,867	\$533,673	\$194,000	\$728,000
7/1/18-1/31/19	\$250,000 /\$1.4M corridor	\$2,370,000	\$770,838	\$1,205,182	\$434,344	\$1,165,000	\$1,599,000
<b>Total</b>		<b>\$62,779,236</b>	<b>\$59,558,613</b>	<b>\$61,352,257</b>	<b>\$1,793,644</b>	<b>\$1,427,000</b>	<b>\$3,221,000</b>
2/28-6/30/19		\$3,093,000					
<b>Projected as of June 30, 2019</b>							
All Prior Years	\$100k/\$200k	\$25,004,059	\$25,004,059	\$25,004,059	\$0	\$0	\$0
7/1/11-12	\$250,000 /\$2.7M corridor	\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
7/1/12-13	\$250,000 /\$2.4M corridor	\$5,432,675	\$5,432,675	\$5,432,675	\$0	\$0	\$0
7/1/13-14	\$250,000 /\$1.4M corridor	\$3,905,352	\$3,905,352	\$3,905,352	\$0	\$0	\$0
7/1/14-15	\$250,000 /\$1.4M corridor	\$4,870,662	\$4,870,662	\$4,870,662	\$0	\$0	\$0
7/1/15-16	\$250,000 /\$1.4M corridor	\$5,095,000	\$4,853,741	\$5,087,293	\$234,000	\$8,000	\$241,000
7/1/16-17	\$250,000 /\$1.4M corridor	\$6,003,000	\$5,720,455	\$5,970,189	\$250,000	\$33,000	\$283,000
7/1/17-18	\$250,000 /\$1.4M corridor	\$6,080,000	\$5,516,941	\$5,963,803	\$447,000	\$116,000	\$563,000
7/1/18-19	\$250,000 /\$1.4M corridor	\$5,463,000	\$3,560,107	\$4,962,634	\$1,403,000	\$500,000	\$1,903,000
<b>Total</b>		<b>\$65,872,000</b>	<b>\$62,882,479</b>	<b>\$65,215,155</b>	<b>\$2,334,000</b>	<b>\$657,000</b>	<b>\$2,990,000</b>

**Total Estimated IBNR as of June 30, 2019 \$657,000**

(A) - Exhibit VI

(B) and (C) - Exhibit V for 01/31/19

Projected as of 06/30/19 using LDFs

(D) = (C) - (B)

(E) = (A) - (C)

(F) = (A) - (B)

**Estimated Outstanding Losses for SIR and Corridor**

Accident Period		(A) Limited Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b>As of January 31, 2019</b>							
<b><u>SIR Losses</u></b>							
7/1/11-12	\$250,000	\$3,282,543	\$3,282,543	\$3,282,543	\$0	\$0	\$0
7/1/12-13	\$250,000	\$3,032,675	\$3,032,675	\$3,032,675	\$0	\$0	\$0
7/1/13-14	\$250,000	\$2,505,352	\$2,505,352	\$2,505,352	\$0	\$0	\$0
7/1/14-15	\$250,000	\$3,470,662	\$3,470,662	\$3,470,662	\$0	\$0	\$0
7/1/15-16	\$250,000	\$3,695,000	\$3,427,073	\$3,682,092	\$255,000	\$13,000	\$268,000
7/1/16-17	\$250,000	\$4,603,000	\$4,275,179	\$4,547,880	\$273,000	\$55,000	\$328,000
7/1/17-18	\$250,000	\$4,680,000	\$3,952,194	\$4,485,867	\$534,000	\$194,000	\$728,000
7/1/18-1/31/19	\$250,000	\$2,370,000	\$770,838	\$1,205,182	\$434,000	\$1,165,000	\$1,599,000
<b><u>Unlimited</u></b>							
7/1/11-12		\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
7/1/12-13		\$6,136,455	\$6,136,455	\$6,136,455	\$0	\$0	\$0
7/1/13-14		\$4,590,290	\$4,590,290	\$4,590,290	\$0	\$0	\$0
7/1/14-15		\$7,617,000	\$4,572,755	\$7,613,301	\$3,041,000	\$4,000	\$3,044,000
7/1/15-16		\$8,898,000	\$5,440,045	\$8,878,582	\$3,439,000	\$19,000	\$3,458,000
7/1/16-17		\$10,744,000	\$8,741,382	\$10,565,943	\$1,825,000	\$178,000	\$2,003,000
7/1/17-18		\$16,370,000	\$9,296,478	\$15,147,881	\$5,851,000	\$1,222,000	\$7,074,000
7/1/18-1/31/19		\$7,753,000	\$770,838	\$1,205,182	\$434,000	\$6,548,000	\$6,982,000
<b>Total</b>		<b>\$93,766,000</b>	<b>\$68,283,000</b>	<b>\$84,368,000</b>	<b>\$16,086,000</b>	<b>\$9,398,000</b>	<b>\$25,484,000</b>
<b>Projected as of June 30, 2019</b>							
<b><u>SIR Losses</u></b>							
7/1/11-12	\$250,000	\$3,282,543	\$3,282,543	\$3,282,543	\$0	\$0	\$0
7/1/12-13	\$250,000	\$3,032,675	\$3,032,675	\$3,032,675	\$0	\$0	\$0
7/1/13-14	\$250,000	\$2,505,352	\$2,505,352	\$2,505,352	\$0	\$0	\$0
7/1/14-15	\$250,000	\$3,470,662	\$3,470,662	\$3,470,662	\$0	\$0	\$0
7/1/15-16	\$250,000	\$3,695,000	\$3,453,741	\$3,687,293	\$234,000	\$8,000	\$241,000
7/1/16-17	\$250,000	\$4,603,000	\$4,320,455	\$4,570,189	\$250,000	\$33,000	\$283,000
7/1/17-18	\$250,000	\$4,680,000	\$4,116,941	\$4,563,803	\$447,000	\$116,000	\$563,000
7/1/18-19	\$250,000	\$4,063,000	\$2,995,921	\$3,562,634	\$567,000	\$500,000	\$1,067,000
<b><u>Unlimited</u></b>							
7/1/11-12		\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
7/1/12-13		\$6,136,455	\$6,136,455	\$6,136,455	\$0	\$0	\$0
7/1/13-14		\$4,590,290	\$4,590,290	\$4,590,290	\$0	\$0	\$0
7/1/14-15		\$7,617,000	\$5,102,710	\$7,614,930	\$2,512,000	\$2,000	\$2,514,000
7/1/15-16		\$8,898,000	\$6,168,947	\$8,887,649	\$2,719,000	\$10,000	\$2,729,000
7/1/16-17		\$10,744,000	\$9,264,648	\$10,653,890	\$1,389,000	\$90,000	\$1,479,000
7/1/17-18		\$16,370,000	\$11,525,171	\$15,769,175	\$4,244,000	\$601,000	\$4,845,000
7/1/18-19		\$13,290,000	\$3,560,107	\$8,518,529	\$4,958,000	\$4,771,000	\$9,730,000
<b><u>Corridor</u></b>							
7/1/11-12	\$2,700,000	\$735,946	\$735,946	\$735,946	\$0	\$0	\$0
7/1/12-13	\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$0	\$0	\$0
7/1/13-14	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/14-15	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/15-16	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/16-17	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/17-18	\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/18-19	\$1,400,000	\$1,400,000	\$564,185	\$1,400,000	\$836,000	\$0	\$836,000
<b><u>SIR + Corridor</u></b>							
7/1/11-12	\$2,700,000	\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
7/1/12-13	\$2,400,000	\$5,432,675	\$5,432,675	\$5,432,675	\$0	\$0	\$0
7/1/13-14	\$1,400,000	\$3,905,352	\$3,905,352	\$3,905,352	\$0	\$0	\$0
7/1/14-15	\$1,400,000	\$4,870,662	\$4,870,662	\$4,870,662	\$0	\$0	\$0
7/1/15-16	\$1,400,000	\$5,095,000	\$4,853,741	\$5,087,293	\$234,000	\$8,000	\$241,000
7/1/16-17	\$1,400,000	\$6,003,000	\$5,720,455	\$5,970,189	\$250,000	\$33,000	\$283,000
7/1/17-18	\$1,400,000	\$6,080,000	\$5,516,941	\$5,963,803	\$447,000	\$116,000	\$563,000
7/1/18-19	\$1,400,000	\$5,463,000	\$3,560,107	\$4,962,634	\$1,403,000	\$500,000	\$1,903,000
<b>Total</b>		<b>\$40,868,177</b>	<b>\$37,878,421</b>	<b>\$40,211,096</b>	<b>\$2,334,000</b>	<b>\$657,000</b>	<b>\$2,990,000</b>

**Comparison of Results with Previous Estimates as of 6/30/18**

	(A) <i>Actual Reported Losses 6/30/2018</i>	(B) <i>Projected Reported Losses 1/31/2019</i>	(C) <i>Actual Reported Losses 1/31/2019</i>	(D) <i>Percent Difference</i>	(E) <i>Expected Ultimate Losses 6/30/2018</i>	(F) <i>Actual Ultimate Losses 1/31/2019</i>	(G) <i>Percent Difference</i>
<b>Accident Period</b>							
<b><u>Limited to SIR</u></b>							
7/1/11-12	\$3,201,043	\$3,201,043	\$3,282,543	2.5%	\$3,201,043	\$3,282,543	2.5%
7/1/12-13	\$2,629,175	\$2,629,175	\$3,032,675	15.3%	\$2,629,175	\$3,032,675	15.3%
7/1/13-14	\$2,496,177	\$2,496,177	\$2,505,352	0.4%	\$2,496,352	\$2,505,352	0.4%
7/1/14-15	\$3,488,282	\$3,488,282	\$3,470,662	-0.5%	\$3,490,913	\$3,470,662	-0.6%
7/1/15-16	\$3,419,370	\$3,428,153	\$3,682,092	7.4%	\$3,437,000	\$3,695,000	7.5%
7/1/16-17	\$4,366,030	\$4,442,771	\$4,547,880	2.4%	\$4,520,000	\$4,603,000	1.8%
7/1/17-18	\$4,064,314	\$4,277,923	\$4,485,867	4.9%	\$4,501,000	\$4,680,000	4.0%
7/1/18-19		\$3,238,077	\$1,205,182	-62.8%	\$6,143,000	\$4,063,000	-33.9%
<b>Total</b>	<b>\$23,664,391</b>	<b>\$27,201,601</b>	<b>\$26,212,252</b>	<b>-3.6%</b>	<b>\$30,418,482</b>	<b>\$29,332,232</b>	<b>-3.6%</b>
<b><u>Unlimited</u></b>							
7/1/11-12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	0.0%
7/1/12-13	\$6,136,455	\$6,136,455	\$6,136,455	0.0%	\$6,136,455	\$6,136,455	0.0%
7/1/13-14	\$4,590,290	\$4,590,290	\$4,590,290	0.0%	\$4,590,290	\$4,590,290	0.0%
7/1/14-15	\$5,663,301	\$5,663,301	\$7,613,301	34.4%	\$5,673,757	\$7,617,000	34.2%
7/1/15-16	\$5,459,248	\$5,487,670	\$8,878,582	61.8%	\$5,506,672	\$8,898,000	61.6%
7/1/16-17	\$11,383,917	\$11,721,394	\$10,565,943	-9.9%	\$11,923,911	\$10,744,000	-9.9%
7/1/17-18	\$10,242,898	\$12,186,966	\$15,147,881	24.3%	\$13,421,166	\$16,370,000	22.0%
7/1/18-19		\$6,747,758	\$1,205,182	-82.1%	\$17,018,000	\$13,290,000	-21.9%
<b>Total</b>	<b>\$47,494,597</b>	<b>\$56,552,322</b>	<b>\$58,156,123</b>	<b>2.8%</b>	<b>\$68,288,739</b>	<b>\$71,664,233</b>	<b>4.9%</b>
<b><u>SIR + Corridor</u></b>							
7/1/11-12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	0.0%
7/1/12-13	\$5,029,175	\$5,029,175	\$5,432,675	8.0%	\$5,029,175	\$5,432,675	8.0%
7/1/13-14	\$3,896,177	\$3,896,177	\$3,905,352	0.2%	\$3,896,352	\$3,905,352	0.2%
7/1/14-15	\$4,888,282	\$4,888,282	\$4,870,662	-0.4%	\$4,890,913	\$4,870,662	-0.4%
7/1/15-16	\$4,819,370	\$4,828,153	\$5,082,092	5.3%	\$4,837,000	\$5,095,000	5.3%
7/1/16-17	\$5,766,030	\$5,842,771	\$5,947,880	1.8%	\$5,920,000	\$6,003,000	1.4%
7/1/17-18	\$5,464,314	\$5,677,923	\$5,885,867	3.7%	\$5,901,000	\$6,080,000	3.0%
7/1/18-19		\$4,638,077	\$1,205,182	-74.0%	\$7,543,000	\$5,463,000	-27.6%
<b>Total</b>	<b>\$33,881,837</b>	<b>\$38,819,047</b>	<b>\$36,348,198</b>	<b>-6.4%</b>	<b>\$42,035,928</b>	<b>\$40,868,177</b>	<b>-2.8%</b>

(A) and (E) - From Previous actuarial report as of 6/30/2018

Estimated for Unlimited losses 11-12 through 17-18

(B) - Derived from (A) and (E) using loss development patterns

(C) - Exhibit I, limited to retention

(D) = [(C) / (B)] - 1

(F) - Exhibit VI

(G) = [(F) / (E)] - 1



**Estimation of Cumulative Reported Loss Development Factors**  
**Losses Limited to \$250,000 per Occurrence**  
**Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.089	-6.8156	-2.4217	46.453	5.8647	16.5056	199	1.000
24	1.027	-6.8287	-3.6067	46.631	13.0086	24.6294	187	1.000
36	1.007	-6.8416	-4.9618	46.808	24.6199	33.9470	175	1.000
							163	1.000
							151	1.000
							139	1.000
							127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
Sum		-20.4860	-10.9903	139.8920	43.4933	75.0821	67	1.000
Average		-6.8287	-3.6634	46.6307	14.4978	25.0274	55	1.000
							43	1.003
							31	1.012
							19	1.043
							7	1.920

N =	3
A =	2.350E+288
B =	97.774
C =	900
R^2 =	0.99820

\* - Appendix A4, Page 1

**Estimation of Cumulative Reported Loss Development Factors  
Unlimited Reported Losses  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.298	-4.6728	-1.2098	21.835	1.4636	5.6531	199	1.000
24	1.057	-4.7791	-2.8584	22.840	8.1704	13.6606	187	1.000
36	1.007	-4.8752	-4.9604	23.768	24.6057	24.1830	175	1.000
48	1.002	-4.9628	-6.2146	24.630	38.6214	30.8421	163	1.000
							151	1.000
							139	1.000
							127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
Sum		-19.2900	-15.2432	93.0727	72.8611	74.3389	67	1.000
Average		-4.8225	-3.8108	23.2682	18.2153	18.5847	55	1.001
							43	1.003
							31	1.017
							19	1.102
							7	2.532

N =	4
A =	2.874E+35
B =	17.721
C =	95
R^2 =	0.99392

\* - Appendix A4, page 2

***Implied Payment Pattern for Limited Losses  
Using "The Method of Least Squares"***

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
							91	1.000
							79	1.000
							67	1.000
							55	1.053
43	1.078	-3.5918	-2.5487	12.901	6.4961	9.1546	43	1.067
31	1.077	-3.1905	-2.5681	10.179	6.5952	8.1935	31	1.095
19	1.184	-2.5096	-1.6920	6.298	2.8628	4.2462	19	1.172
7	5.271	1.2040	1.4518	1.450	2.1078	1.7480	7	5.259
Sum		-8.0879	-5.3570	30.8279	18.0619	23.3423		
Average		-2.0220	-1.3393	7.7070	4.5155	5.8356		

N =	4		
A =	1.504E+00		
B =	0.864	R^2 =	0.993170
C =	-6.7		

\* - Limited Ultimate Losses / Limited Paid Losses

***Implied Payment Pattern for Unlimited Losses  
Using "The Method of Least Squares"***

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
							91	1.000
							79	1.000
							67	1.000
							55	1.058
							43	1.104
31	1.229	-3.3322	-1.4736	11.104	2.1715	4.9104	31	1.227
19	1.761	-2.7726	-0.2733	7.687	0.0747	0.7577	19	1.773
7	17.241	-1.3863	2.7875	1.922	7.7704	-3.8643	7	17.167
Sum		-7.4911	1.0406	20.7126	10.0166	1.8037		
Average		-2.4970	0.3469	6.9042	3.3389	0.6012		

N =	3		
A =	3.381E+02		
B =	2.193	R^2 =	0.999959
C =	-3		

\* - Based on Ratio of Ultimate Unlimited Losses to Unlimited Paid Losses

**Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.000						199	1.000
24	1.000						187	1.000
							175	1.000
							163	1.000
							151	1.000
							139	1.000
							127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
Sum		0.0000	0.0000	0.0000	0.0000	0.0000	67	1.000
Average		0.0000	0.0000	0.0000	0.0000	0.0000	55	1.000
							43	1.000
							31	1.000
							19	1.000
							7	1.857

N =	2
A =	
B =	R^2 =
C =	

\* - Appendix A6

**Analysis of Reported Loss Development**  
**Pure Loss Limited to \$250,000 ALAE unlimited**

Limited Reported Losses and ALAE as of (months):										
Year	12	24	36	48	60	72	84	96	108	120
7/1/04-05							\$1,305,598	\$1,305,598	\$1,305,598	\$1,305,598
7/1/05-06						\$2,912,297	\$2,912,297	\$2,912,297	\$2,912,297	\$2,912,297
7/1/06-07					\$2,801,109	\$2,794,881	\$2,794,881	\$2,794,881	\$2,794,881	\$2,794,881
7/1/07-08				\$5,083,453	\$5,097,217	\$5,097,217	\$5,097,217	\$5,097,217	\$5,097,217	\$5,097,217
7/1/08-09			\$5,799,194	\$5,831,587	\$5,900,011	\$5,897,574	\$5,897,276	\$5,897,026	\$5,897,026	\$5,897,026
7/1/09-10		\$5,643,910	\$5,633,310	\$5,639,110	\$5,639,110	\$5,639,110	\$5,909,210	\$5,909,210	\$5,909,210	
7/1/10-11	\$5,333,937	\$4,814,020	\$4,639,787	\$4,830,071	\$4,835,277	\$4,835,277	\$4,835,277	\$4,835,277		
7/1/11-12	\$3,532,085	\$3,363,887	\$3,271,113	\$3,282,543	\$3,282,543	\$3,201,043	\$3,201,043			
7/1/12-13	\$3,149,150	\$2,937,773	\$3,011,624	\$3,042,344	\$2,629,175	\$2,629,175				
7/1/13-14	\$2,524,519	\$2,329,236	\$2,545,000	\$2,496,177	\$2,496,177					
7/1/14-15	\$3,537,706	\$3,700,538	\$3,491,903	\$3,488,282						
7/1/15-16	\$3,246,383	\$3,430,061	\$3,419,370							
7/1/16-17	\$3,957,883	\$4,366,030								
7/1/17-18	\$4,064,314									

Age-to-Age Factors										
Year	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05							1.000	1.000	1.000	
7/1/05-06						1.000	1.000	1.000	1.000	
7/1/06-07					0.998	1.000	1.000	1.000	1.000	
7/1/07-08				1.003	1.000	1.000	1.000	1.000	1.000	
7/1/08-09			1.006	1.012	1.000	1.000	1.000	1.000	1.000	
7/1/09-10		0.998	1.001	1.000	1.000	1.048	1.000	1.000		
7/1/10-11	0.903	0.964	1.041	1.001	1.000	1.000	1.000			
7/1/11-12	0.952	0.972	1.003	1.000	0.975	1.000				
7/1/12-13	0.933	1.025	1.010	0.864	1.000					
7/1/13-14	0.923	1.093	0.981	1.000						
7/1/14-15	1.046	0.944	0.999							
7/1/15-16	1.057	0.997								
7/1/16-17	1.103									

Average	0.988	0.999	1.006	0.983	0.996	1.007	1.000	1.000	1.000	
Wtd. Average	0.987	0.992	1.008	0.989	0.997	1.009	1.000	1.000	1.000	
OK Benchmark	1.083	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.050	1.020	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	1.060	1.020	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cumulative	1.089	1.027	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000

**Analysis of Unlimited Reported Loss Development  
Total Experience Net of Member Deductibles**

Unlimited Reported Losses and ALAE as of (months):										
Year	12	24	36	48	60	72	84	96	108	120
7/1/04-05	\$1,368,113	\$1,280,634	\$1,304,691	\$1,304,691	\$1,304,691	\$1,304,691	\$1,305,598	\$1,305,598	\$1,305,598	\$1,305,598
7/1/05-06	\$3,110,731	\$3,128,836	\$3,224,284	\$3,224,400	\$3,224,400	\$3,224,400	\$3,224,400	\$3,224,400	\$3,224,400	\$3,224,400
7/1/06-07	\$6,628,583	\$8,027,416	\$7,594,525	\$7,688,597	\$7,676,617	\$7,672,924	\$7,672,924	\$7,672,924	\$7,672,924	\$7,672,924
7/1/07-08	\$29,183,950	\$32,191,764	\$27,838,808	\$27,549,083	\$27,549,083	\$27,549,083	\$27,549,083	\$27,549,083	\$27,549,083	\$27,549,083
7/1/08-09	\$14,390,753	\$15,321,794	\$14,550,076	\$14,727,379	\$14,787,721	\$14,785,284	\$14,784,986	\$14,784,736	\$14,784,661	\$14,784,611
7/1/09-10	\$13,583,620	\$18,081,798	\$17,074,377	\$17,109,070	\$17,109,070	\$17,109,070	\$17,429,170	\$17,390,777	\$17,390,777	
7/1/10-11	\$18,938,242	\$29,188,873	\$27,961,920	\$26,296,810	\$26,471,942	\$26,471,942	\$26,471,942	\$26,471,942		
7/1/11-12	\$4,269,177	\$4,298,833	\$4,007,059	\$4,018,489	\$4,018,489	\$4,018,489	\$4,018,489			
7/1/12-13	\$5,180,489	\$6,310,374	\$6,225,528	\$6,146,124	\$6,136,455	\$6,136,455				
7/1/13-14	\$2,684,519	\$3,549,504	\$4,629,938	\$4,590,290	\$4,590,290					
7/1/14-15	\$4,080,491	\$4,423,676	\$4,662,017	\$5,663,301						
7/1/15-16	\$3,782,538	\$5,700,632	\$5,459,248							
7/1/16-17	\$8,750,280	\$11,383,917								
7/1/17-18	\$10,242,898									

Age-to-Age Factors										
Year	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:
7/1/04-05	0.936	1.019	1.000	1.000	1.000	1.001	1.000	1.000	1.000	
7/1/05-06	1.006	1.031	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/06-07	1.211	0.946	1.012	0.998	1.000	1.000	1.000	1.000	1.000	
7/1/07-08	1.103	0.865	0.990	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/08-09	1.065	0.950	1.012	1.004	1.000	1.000	1.000	1.000	1.000	
7/1/09-10	1.331	0.944	1.002	1.000	1.000	1.019	0.998	1.000		
7/1/10-11	1.541	0.958	0.940	1.007	1.000	1.000	1.000			
7/1/11-12	1.007	0.932	1.003	1.000	1.000	1.000				
7/1/12-13	1.218	0.987	0.987	0.998	1.000					
7/1/13-14	1.322	1.304	0.991	1.000						
7/1/14-15	1.084	1.054	1.215							
7/1/15-16	1.507	0.958								
7/1/16-17	1.301									
Average	1.203	0.996	1.014	1.001	1.000	1.002	1.000	1.000	1.000	
Wtd. Average	1.232	0.947	0.994	1.002	1.000	1.003	1.000	1.000	1.000	
OK Benchmark	1.300	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.223	1.050	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	1.228	1.050	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000
Cumulative	1.298	1.057	1.007	1.002	1.000	1.000	1.000	1.000	1.000	1.000

**Analysis of Report Occurrences**

Year	Reported Occurrences as of (months):									
	12	24	36	48	60	72	84	96	108	120
7/1/04-05			124	124	124	124	124	124	122	122
7/1/05-06		194	182	191	191	191	191	190	190	190
7/1/06-07	260	237	241	237	236	236	232	232	232	232
7/1/07-08	232	260	260	263	264	255	255	255	255	255
7/1/08-09	231	213	216	218	211	211	211	211	211	211
7/1/09-10	256	269	271	265	265	265	266	266	266	
7/1/10-11	232	230	223	224	225	225	225	225		
7/1/11-12	172	173	173	173	173	173	173			
7/1/12-13	167	161	161	162	162	163				
7/1/13-14	150	157	158	157	157					
7/1/14-15	218	207	205	206						
7/1/15-16	179	180	180							
7/1/16-17	231	230								
7/1/17-18	185									

Year	Age-to-Age Factors									
	12:24	24:36	36:48	48:60	60:72	72:84	84:96	96:108	108:120	120:ult
7/1/04-05			1.000	1.000	1.000	1.000	1.000	0.984	1.000	
7/1/05-06		0.938	1.049	1.000	1.000	1.000	0.995	1.000	1.000	
7/1/06-07	0.912	1.017	0.983	0.996	1.000	0.983	1.000	1.000	1.000	
7/1/07-08	1.121	1.000	1.012	1.004	0.966	1.000	1.000	1.000	1.000	
7/1/08-09	0.922	1.014	1.009	0.968	1.000	1.000	1.000	1.000	1.000	
7/1/09-10	1.051	1.007	0.978	1.000	1.000	1.004	1.000	1.000		
7/1/10-11	0.991	0.970	1.004	1.004	1.000	1.000	1.000			
7/1/11-12	1.006	1.000	1.000	1.000	1.000	1.000				
7/1/12-13	0.964	1.000	1.006	1.000	1.006					
7/1/13-14	1.047	1.006	0.994	1.000						
7/1/14-15	0.950	0.990	1.005							
7/1/15-16	1.006	1.000								
7/1/16-17	0.996									
Average	0.997	0.995	1.004	0.997	0.997	0.998	0.999	0.997	1.000	
Wtd. Average	0.995	0.995	1.003	0.997	0.996	0.998	0.999	0.998	1.000	
OK benchmark	1.200	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	12	24	36	48	60	72	84	96	108	120
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cumulative	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000



# Loss Forecast for 7/1/19-20

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Oklahoma Schools Insurance Group

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April 10, 2019

Based on loss data evaluated as of January 31, 2019

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# Loss Forecast for 7/1/19-20

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Oklahoma Schools Insurance Group

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April 10, 2019

Based on data Evaluated as of January 31, 2019

*Prepared by*

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## Executive Summary

Select Actuarial Services has prepared this report for the Oklahoma Schools Insurance Group (OSIG) at the request of Ms. Jennifer McKenzie, Arthur J. Gallagher Risk Management Services, Inc. The purpose of this report is to evaluate the projected costs associated with OSIG's projected property and liability exposures for the period July 1, 2019, through June 30, 2020, based on data valued as of January 31, 2019.

The forecast for OSIG's retained losses for the 7/1/19-20 program year are shown in the Table below for Liability and for Property. Results for alternate SIR levels are shown in the Tables following this Executive Summary.

For purposes of our analysis, losses for automobile liability were projected separate from the general liability and E&O. Likewise, auto physical damage losses were projected separately from the other property claims. Results for these individual pieces are contained in the Exhibit VII for each line's Exhibit Section of the report. The results presented in the Executive summary are on a combined basis for Liability and Property.

Throughout this report the term losses will refer to loss and allocated loss adjustment expenses.

<b>OSIG 7/1/19-20 Forecast Retained Losses</b>		
	<b><i>Liability</i></b>	<b><i>Property</i></b>
<i>SIR</i>	\$100,000	\$250,000 plus \$1.4M Corridor
<i>Estimated Exposures</i>	448,748 <i>students</i>	\$119,791,728 <i>in \$100 TIV</i>
<i>Loss Rate</i>	\$8.25 <i>per student</i>	\$0.061 <i>per \$100 TIV</i>
<b><i>Forecast Losses</i></b>	<b>\$3,703,000</b>	<b>\$7,348,000</b>
<b><i>75%-ile Losses</i></b>	<b>\$4,101,000</b>	<b>\$7,994,000</b>

## Key Assumptions

Unless otherwise stated, the figures in this report represent expected values. Key assumptions included:

- 1) Loss and exposure data for the OSIG's members as of 1/31/19 is predictive of experience for the 7/1/19-20 period. Former OSIG members' data has been excluded.
- 2) Reasonable measures of the exposure to loss are:
  - Number of vehicles for automobile liability and auto physical damage;
  - Total Insured Value (TIV) for property; and
  - Student counts for all other liability.
- 3) Loss development factors based on OSIG's experience, supplemented by the experience of public entities in the state of Oklahoma are used to develop reported and paid losses to ultimate;
- 4) Cost trends based on country wide insurance data are appropriate for trending losses to current cost levels.
- 5) Various statistical distributions can be used to model the underlying loss generating process.



## Results of this Analysis

### **Automobile Liability Limited to \$100,000**

We project ultimate losses of \$1,403,000 for 7/1/19-20. With an estimated exposure base of 11,515 vehicles, the cost per vehicle is \$122. This rate is 4% more than last year's forecast loss rate of \$117.

### **General Liability including E&O Limited to \$100,000**

Forecast losses for general liability including E&O are \$2,300,000. This forecast is based on projected counts of 448,748 students at a cost of \$5.13 per student. This is a 3.8% decrease over last year's selected rate of \$5.33. The reduction is due to a slight decrease in expected large claim activity.

### **Combined Liability Results**

The combined AL and GL/E&O claims for OSIG's members are expected to total \$4,579,000. Of this amount, OSIG retains the first \$100,000 per occurrence, or about \$3,703,000. The insured amounts excess of \$100,000 are expected to total \$876,000. While it is possible that OSIG's members could experience losses in excess of \$1,000,000 the likelihood is only about 5% based on its experience to date.

The greater risk to OSIG is the volatility in its retained layer. There is a 75% probability that the retained losses will be less than the 75<sup>th</sup> percentile \$4,101,000. There is a 10% probability that losses could exceed the 90<sup>th</sup> percentile estimate of \$4,588,000.

### **Auto Physical Damage limited to \$250,000**

The forecast losses for auto physical damage claims are \$922,000. This forecast reflects a \$250,000 deductible for most members, but \$100,000 SIR for about 20% of the members (based on exposure counts). The cost per vehicle at the \$100,000 SIR is \$81.30, while the cost per vehicle at the \$250,000 SIR is \$82.53. These rates are increased over the previous rates due to increased loss activity for the latest three years.

### **Property Losses limited to \$250,000 All Perils**

The total forecast for retained property losses (excluding APD) is \$5,026,000. The cost per \$100 TIV is \$0.042. This rate is 7% less than the rate from last year's report due to an increase in large loss experience. We expect that OSIG will have about 8.7 claims that will reach the \$250,000 SIR. These losses are expected to exhaust the corridor deductible of \$1,400,000

## **Combined Property Forecast**

Combining the small property and APD losses (less than \$250,000) and the large claims, we estimate the total cost of claims for OSIG members to be \$20,859,000. Of this amount, OSIG retains \$5,948,000 for losses with in the SIR. The losses in excess of the SIR are expected to total \$14,911,000, with OSIG retaining a corridor deductible of \$1,400,000. Thus the total retained losses for OSIG are \$7,348,000, with the insured losses expected to total \$13,511,000.

The 75<sup>th</sup> percentile estimate of OSIG's retained SIR and corridor losses is \$7,994,000. There is a 10% probability that these retained losses could exceed \$8,697,000. The volatility in the experience is largely due to occurrence of extreme seasonal weather events. OSIG's SIR and Corridor provide stability, the unlimited losses at the 90<sup>th</sup> percentile are \$46,200,000.

## **Property Forecast with alternate SIRs**

We have prepared forecast estimates for the Property and APD losses using assumptions of a \$250,000 SIR for All Other Peril loss types and Wind/Hail SIRs ranging from \$500,000 to \$1,000,000. These scenarios all have a \$1,400,000 corridor deductible for losses in excess of the SIR.

**Distribution of Losses for 7/1/19-20  
With a \$100,000 SIR**

<i>Percentile</i>	<i>SIR Layer \$100,000</i>	<i>Layer \$900,000 xs \$100,000</i>	<i>Losses Limited to \$1,000,000</i>	<i>Losses Excess of \$1,000,000</i>	<i>Total Incurred Losses</i>
25.0%	\$3,237,000	\$454,000	\$3,874,000	\$0	\$3,878,000
30.0%	\$3,324,000	\$511,000	\$3,994,000	\$0	\$4,001,000
35.0%	\$3,403,000	\$565,000	\$4,111,000	\$0	\$4,115,000
40.0%	\$3,487,000	\$617,000	\$4,227,000	\$0	\$4,233,000
45.0%	\$3,564,000	\$673,000	\$4,337,000	\$0	\$4,342,000
50.0%	\$3,644,000	\$728,000	\$4,455,000	\$0	\$4,463,000
55.0%	\$3,723,000	\$787,000	\$4,568,000	\$0	\$4,580,000
60.0%	\$3,808,000	\$849,000	\$4,689,000	\$0	\$4,709,000
65.0%	\$3,895,000	\$917,000	\$4,817,000	\$0	\$4,843,000
70.0%	\$3,992,000	\$998,000	\$4,958,000	\$0	\$4,982,000
75.0%	\$4,101,000	\$1,097,000	\$5,108,000	\$0	\$5,149,000
80.0%	\$4,232,000	\$1,209,000	\$5,278,000	\$0	\$5,333,000
85.0%	\$4,389,000	\$1,332,000	\$5,479,000	\$0	\$5,548,000
90.0%	\$4,588,000	\$1,478,000	\$5,729,000	\$0	\$5,826,000
95.0%	\$4,925,000	\$1,760,000	\$6,121,000	\$144,000	\$6,294,000
<b>Expected</b>	<b>\$3,703,000</b>	<b>\$826,000</b>	<b>\$4,529,000</b>	<b>\$50,000</b>	<b>\$4,579,000</b>
<i>Students</i>	448,748				
<b>Cost Per Student</b>	<b>\$8.25</b>	<b>\$1.84</b>	<b>\$10.09</b>	<b>\$0.11</b>	<b>\$10.20</b>

<i>GL Forecast</i>	\$2,300,000	\$693,000	\$2,993,000	\$50,000	\$3,043,000
<i>AL Forecast</i>	\$1,403,000	\$133,000	\$1,536,000	\$0	\$1,536,000
<i>GL Cost per Student</i>	\$5.13	\$1.54	\$6.67	\$0.11	\$6.78
<i>AL Cost per Student</i>	\$3.13	\$0.30	\$3.42	\$0.00	\$3.42
<i>AL Cost Per Vehicle</i>	\$121.84	\$11.55	\$133.39	\$0.00	\$133.39
<i>Vehicle Count</i>	11,515				

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention \$250,000**  
**Wind/Hail Retention \$250,000**  
**Corridor Deductible \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$250,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$5,228,000	\$1,400,000	\$6,625,000	\$5,111,000	\$12,240,000
30.0%	\$5,374,000	\$1,400,000	\$6,773,000	\$5,952,000	\$13,120,000
35.0%	\$5,502,000	\$1,400,000	\$6,901,000	\$6,781,000	\$14,020,000
40.0%	\$5,627,000	\$1,400,000	\$7,026,000	\$7,666,000	\$14,980,000
45.0%	\$5,753,000	\$1,400,000	\$7,153,000	\$8,624,000	\$16,070,000
50.0%	\$5,885,000	\$1,400,000	\$7,284,000	\$9,684,000	\$17,150,000
55.0%	\$6,022,000	\$1,400,000	\$7,420,000	\$10,828,000	\$18,380,000
60.0%	\$6,151,000	\$1,400,000	\$7,551,000	\$12,245,000	\$19,830,000
65.0%	\$6,291,000	\$1,400,000	\$7,691,000	\$13,809,000	\$21,460,000
70.0%	\$6,436,000	\$1,400,000	\$7,837,000	\$15,659,000	\$23,320,000
75.0%	\$6,594,000	\$1,400,000	\$7,994,000	\$18,042,000	\$25,780,000
80.0%	\$6,780,000	\$1,400,000	\$8,180,000	\$21,271,000	\$29,080,000
85.0%	\$7,006,000	\$1,400,000	\$8,406,000	\$25,856,000	\$33,530,000
90.0%	\$7,296,000	\$1,400,000	\$8,697,000	\$31,315,000	\$38,760,000
95.0%	\$7,741,000	\$1,400,000	\$9,142,000	\$38,491,000	\$46,200,000
<b>Expected</b>	<b>\$5,948,000</b>	<b>\$1,400,000</b>	<b>\$7,348,000</b>	<b>\$13,511,000</b>	<b>\$20,859,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.050</b>	<b>\$0.012</b>	<b>\$0.061</b>	<b>\$0.113</b>	<b>\$0.174</b>

APD	\$922,000	\$0	\$0	\$0	\$922,000
Other Property	\$5,026,000	\$1,400,000	\$6,426,000	\$13,497,000	\$19,923,000
Vehicles	11,341				
TIV	\$119,791,728				
APD Cost per Vehicle	\$81.30				
Property Cost per TIV	\$0.042	\$0.012	\$0.054	\$0.113	\$0.166

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention       \$500,000**  
**Corridor Deductible       \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$500,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$6,065,000	\$1,400,000	\$7,458,000	\$4,161,000	\$12,240,000
30.0%	\$6,260,000	\$1,400,000	\$7,654,000	\$4,995,000	\$13,120,000
35.0%	\$6,429,000	\$1,400,000	\$7,823,000	\$5,780,000	\$14,020,000
40.0%	\$6,602,000	\$1,400,000	\$7,999,000	\$6,647,000	\$14,980,000
45.0%	\$6,764,000	\$1,400,000	\$8,161,000	\$7,567,000	\$16,070,000
50.0%	\$6,919,000	\$1,400,000	\$8,315,000	\$8,591,000	\$17,150,000
55.0%	\$7,101,000	\$1,400,000	\$8,500,000	\$9,699,000	\$18,380,000
60.0%	\$7,280,000	\$1,400,000	\$8,680,000	\$11,096,000	\$19,830,000
65.0%	\$7,473,000	\$1,400,000	\$8,872,000	\$12,620,000	\$21,460,000
70.0%	\$7,675,000	\$1,400,000	\$9,075,000	\$14,450,000	\$23,320,000
75.0%	\$7,880,000	\$1,400,000	\$9,279,000	\$16,742,000	\$25,780,000
80.0%	\$8,112,000	\$1,400,000	\$9,512,000	\$20,057,000	\$29,080,000
85.0%	\$8,398,000	\$1,400,000	\$9,798,000	\$24,613,000	\$33,530,000
90.0%	\$8,757,000	\$1,400,000	\$10,157,000	\$29,985,000	\$38,760,000
95.0%	\$9,361,000	\$1,400,000	\$10,761,000	\$36,957,000	\$46,200,000
<b>Expected</b>	<b>\$7,008,000</b>	<b>\$1,400,000</b>	<b>\$8,408,000</b>	<b>\$12,451,000</b>	<b>\$20,859,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.059</b>	<b>\$0.012</b>	<b>\$0.070</b>	<b>\$0.104</b>	<b>\$0.174</b>

APD	\$936,000	\$0	\$0	\$0	\$936,000
Other Property	\$6,072,000	\$1,400,000	\$7,472,000	\$12,451,000	\$19,923,000

*Vehicles*           11,341  
*TIV*               \$119,791,728

<i>APD Cost per Vehicle</i>	\$82.53				
<i>Property Cost per TIV</i>	\$0.051	\$0.012	\$0.062	\$0.104	\$0.166

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention         \$750,000**  
**Corridor Deductible         \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$750,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$6,634,000	\$1,400,000	\$8,017,000	\$3,480,000	\$12,240,000
30.0%	\$6,860,000	\$1,400,000	\$8,248,000	\$4,250,000	\$13,120,000
35.0%	\$7,078,000	\$1,400,000	\$8,470,000	\$5,035,000	\$14,020,000
40.0%	\$7,291,000	\$1,400,000	\$8,681,000	\$5,884,000	\$14,980,000
45.0%	\$7,502,000	\$1,400,000	\$8,893,000	\$6,774,000	\$16,070,000
50.0%	\$7,704,000	\$1,400,000	\$9,102,000	\$7,758,000	\$17,150,000
55.0%	\$7,916,000	\$1,400,000	\$9,312,000	\$8,890,000	\$18,380,000
60.0%	\$8,137,000	\$1,400,000	\$9,535,000	\$10,223,000	\$19,830,000
65.0%	\$8,365,000	\$1,400,000	\$9,765,000	\$11,706,000	\$21,460,000
70.0%	\$8,614,000	\$1,400,000	\$10,014,000	\$13,494,000	\$23,320,000
75.0%	\$8,876,000	\$1,400,000	\$10,275,000	\$15,795,000	\$25,780,000
80.0%	\$9,166,000	\$1,400,000	\$10,565,000	\$19,065,000	\$29,080,000
85.0%	\$9,541,000	\$1,400,000	\$10,940,000	\$23,746,000	\$33,530,000
90.0%	\$9,983,000	\$1,400,000	\$11,383,000	\$29,000,000	\$38,760,000
95.0%	\$10,719,000	\$1,400,000	\$12,117,000	\$35,910,000	\$46,200,000
<b>Expected</b>	<b>\$7,808,000</b>	<b>\$1,400,000</b>	<b>\$9,208,000</b>	<b>\$11,651,000</b>	<b>\$20,859,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.065</b>	<b>\$0.012</b>	<b>\$0.077</b>	<b>\$0.097</b>	<b>\$0.174</b>

APD	\$936,000	\$0	\$0	\$0	\$936,000
Other Property	\$6,872,000	\$1,400,000	\$8,272,000	\$11,651,000	\$19,923,000

*Vehicles*           11,341  
*TIV*               \$119,791,728

<i>APD Cost per Vehicle</i>	\$82.53				
<i>Property Cost per TIV</i>	\$0.057	\$0.012	\$0.069	\$0.097	\$0.166

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention       \$1,000,000**  
**Corridor Deductible       \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$1,000,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$7,026,000	\$1,400,000	\$8,396,000	\$2,999,000	\$12,240,000
30.0%	\$7,288,000	\$1,400,000	\$8,670,000	\$3,729,000	\$13,120,000
35.0%	\$7,555,000	\$1,400,000	\$8,937,000	\$4,458,000	\$14,020,000
40.0%	\$7,808,000	\$1,400,000	\$9,192,000	\$5,274,000	\$14,980,000
45.0%	\$8,056,000	\$1,400,000	\$9,444,000	\$6,174,000	\$16,070,000
50.0%	\$8,297,000	\$1,400,000	\$9,693,000	\$7,142,000	\$17,150,000
55.0%	\$8,537,000	\$1,400,000	\$9,933,000	\$8,242,000	\$18,380,000
60.0%	\$8,795,000	\$1,400,000	\$10,192,000	\$9,503,000	\$19,830,000
65.0%	\$9,064,000	\$1,400,000	\$10,460,000	\$11,039,000	\$21,460,000
70.0%	\$9,360,000	\$1,400,000	\$10,758,000	\$12,714,000	\$23,320,000
75.0%	\$9,663,000	\$1,400,000	\$11,060,000	\$15,066,000	\$25,780,000
80.0%	\$10,021,000	\$1,400,000	\$11,416,000	\$18,244,000	\$29,080,000
85.0%	\$10,449,000	\$1,400,000	\$11,843,000	\$22,875,000	\$33,530,000
90.0%	\$11,009,000	\$1,400,000	\$12,405,000	\$28,263,000	\$38,760,000
95.0%	\$11,870,000	\$1,400,000	\$13,270,000	\$34,931,000	\$46,200,000
<b>Expected</b>	<b>\$8,427,000</b>	<b>\$1,400,000</b>	<b>\$9,827,000</b>	<b>\$11,032,000</b>	<b>\$20,859,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.070</b>	<b>\$0.012</b>	<b>\$0.082</b>	<b>\$0.092</b>	<b>\$0.174</b>

APD	\$936,000	\$0	\$0	\$0	\$936,000
Other Property	\$7,491,000	\$1,400,000	\$8,891,000	\$11,032,000	\$19,923,000

*Vehicles*           11,341  
*TIV*               \$119,791,728

<i>APD Cost per Vehicle</i>	\$82.53				
<i>Property Cost per TIV</i>	\$0.063	\$0.012	\$0.074	\$0.092	\$0.166

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*





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## Introduction

Select Actuarial Services has prepared this report for the Oklahoma Schools Insurance Group at the request of Ms. Jennifer McKenzie, Arthur J. Gallagher Risk Management Services, Inc. Select Actuarial Services is an independent firm, offering professional actuarial consulting services to a variety of insurance and non-insurance industry clients. The purpose of this report is to evaluate the projected liabilities associated with OSIG's property and liability program for the year July 1, 2019, through June 30, 2020.

This report is an actuarial analysis of data, conditions, and practices communicated as of March 28, 2019, to Select Actuarial Services as described in the section entitled "Considerations." While Select Actuarial Services believes these communications to be reliable, it has not attempted to audit the information and cannot guarantee the accuracy of any information supplied. However, the data have been reviewed for reasonableness and consistency. The actuarial estimates in this report are based upon appropriate actuarial assumptions and procedures described in the section of this report entitled "Analysis." Select Actuarial Services assumes no responsibility for any loss or damage that might arise from the use of or reliance upon this report other than for the purposes set forth herein.

This report was prepared for the use of and is only to be relied upon by the management of Oklahoma Schools Insurance Group. This report also may be provided to Oklahoma Schools Insurance Group's auditors and insurance brokers. No portion of the report may be provided to any other party without Select Actuarial Services' prior written consent. In the event such consent is provided, the report must be provided in its entirety. We recommend that any such party have its own actuary review this report to ensure that the party understands the assumptions and uncertainties inherent in our estimates.

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## Considerations

The specific objective of this report is to project the expected losses arising from OSIG's property and liability exposures for the period 7/1/19-20. Appropriate actuarial methods for performing a loss forecast can only be identified in light of the coverage involved, claims information available, and other considerations. Key considerations motivating the selection of techniques employed in this analysis are set forth below.

### Coverage

This forecast for 7/1/19-20 projects losses reflecting OSIG's current insurance program and includes an alternate scenario at higher retentions. OSIG retains \$100,000 *above* the member deductibles for each liability occurrence. We have estimated costs limited to \$100,000, as well as for the layer from \$100,000 to \$1,000,000, and excess of \$1,000,000. We have calculated alternate scenarios using a \$125,000 and \$200,000 SIR.

Beginning with the 7/1/11-12 policy year the property coverage has been restructured to include a corridor deductible for in excess of \$250,000 per claim. Some expenses for these corridor claims have also been reimbursed. OSIG retains \$250,000 above the member deductibles for all types of perils. The treatment of losses below the \$250,000 SIR is essentially unchanged from the old program, and the loss runs still report data net of member deductibles.

We have provided additional forecast loss scenarios with higher SIRs for Wind/Hail related claims. The AOP SIR is expected to remain at \$250,000, but we have modeled Wind/Hail claims with SIRs ranging from \$250,000 to \$1,000,000.

### Available Data

Available loss and loss expense information consisted of historical loss and exposure data for current OSIG members. Data for former OSIG members was excluded from our analysis. Newer members provided some historical data for years prior to joining OSIG. Claims data were evaluated as of January 31, 2019. OSIG's historical exposure information was also provided in the form of vehicle count, number of students, and total insured values for property. As with the loss data, we have excluded the exposures of former OSIG members, using only the current members' data.

Since January 31, 2019, two large claims that were previously reserved at \$10,000,000 each were reduced by about \$6,000,000 each. We have

adjusted the values of these two claims accordingly. These changes are not material to the calculation of OSIG's retained liabilities.

## Development, Reporting and Settlement Patterns and Trends

Since annual evaluations of OSIG data are available, we have used this historical experience to build loss development triangles to observe OSIG's own development experience. This experience is still somewhat sparse, and displays volatility from year to year. Thus, we have weighted OSIG experience with a benchmark pattern based on Oklahoma public entity experience.

## Trends and External Influences

Trends are defined as changes over time in underlying costs. Trend factors are used to adjust losses and exposures from past years to the level at which they would have been, had they occurred during a future period. This is vital since historical losses may have occurred in a different environment in terms of both monetary inflation and benefit levels.

In this analysis, trends have been measured by examining changes in the Consumer Price Index from the U.S. Department of Labor, Bureau of Labor Statistics and in the U.S. Claims Cost Indices or "Masterson Index" as compiled by Willis Towers Watson.

## Subrogation and Recoveries

Subrogation and recoveries are assumed to be reflected in the primary loss reports.

## Loss Models

Statistical distributions are often used by the insurance industry to model the loss generating process. The variation in the aggregate losses for auto physical damage, and aggregate small losses for the other lines was modeled using a lognormal distribution for each policy year. Large claims were modeled using a frequency/severity approach. The Poisson distribution has been used the model the projected number of large claims. The set of large claims for each line was fit to various distributions to find the best fit. In most cases, the Inverse Weibull curve was selected for the severity distribution. The variation estimated in this modeling technique is the variation inherent in the historical experience; it does not include potential variation due to unanticipated changes in the environment or to misestimation of parameters.



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## Analysis

Actuarial procedures employed to forecast losses consist of a number of steps. Exhibits representing the various steps in the process are explained in this section of the report.

### Synopsis of Procedures

**Monte Carlo simulation** was used to estimate of the distribution of overall costs for each line and for all lines combined by layer. This simulation technique starts by constructing a single potential outcome. The aggregate losses for APD, or aggregate small losses for other lines, are simulated using a lognormal distribution. The large losses are modeled separately by randomly selecting the number and size of the large claims according to the Poisson distribution for claim frequency and an Inverse Weibull curve for the claim severities.

Next, a list of claims is generated, according to the number of large claims determined by the Poisson distribution. The size of each claim is determined by the statistical distribution fit to the observed claims. Random numbers between 0 and 1 are generated for each claim. These numbers determine the outcome of the claim size distribution, producing a size for each claim. Because the various possible claim sizes are assigned probabilities, the random-number selection process selects the more likely claim sizes more often than the unexpected costs. Each simulated large claim is then divided into SIR and excess portions according to the particular programs insurance structure. The sum of these costs for all the claims in a coverage is a single outcome. This is combined with a randomly generated estimate of the aggregate small losses, based on the lognormal distribution assigned to these losses. The results by coverage are also summed for each outcome to produce aggregate results for each layer.

We then repeat the process 10,000 times, generating 10,000 different possible outcomes. The outcomes are averaged to determine the expected cost, and sorted to estimate the distribution of potential outcomes. The expected costs and are divided by the projected exposures to produce estimated costs per exposure.

Detailed descriptions of the exhibits and statistical analysis follow.

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## Exhibit I

Exhibit I summarizes OSIG's loss data as of the valuation date as of January 31, 2019. Claims are grouped by occurrence, and those occurrences with \$0 in incurred losses are excluded. The term "losses" refers to losses and allocated loss adjustment expenses net of the underlying member deductibles. Exposure data is also shown in the form of vehicle counts for automobile liability and auto physical damage, student count for general liability and E&O and total insured values or TIV for property.

## Exhibit II

This exhibit displays the list of claims expected to exceed the SIR for each line of business. The losses are developed to ultimate and trended to the 7/1/19-20 level. Wind/Hail related claims and All Other Peril claims are fitted to separate severity distributions for modeling future potential large claims.

## Exhibit III

The small losses (losses less than \$250,000) are developed to ultimate and trended to the cost level of the 7/1/19-20 year. The reported amounts for large claims from Exhibit II are subtracted out and the remaining claims are multiplied by the development and trend factors. This method is repeated for paid losses.

## Exhibit IV

The ultimate small losses developed in Exhibit III are compared to the underlying exposures to obtain loss rates for the small losses. Experience is compared from year to year and a single loss rate for small losses is selected for the 7/1/19-20 year.

The selected small loss rate times the projected exposure for 7/1/19-20 results in the ultimate small losses for the forecast period. The variance in the historical loss rates will provide the basis for the potential variation in the forecast small loss experience.

## Exhibit V

The number of claims exceeding the \$100,000 SIR for liability and \$250,000 for property claims for each year is compared to the underlying exposures for each year. The large claim frequencies are compared and a single frequency rate is selected for the 7/1/18-19 forecast period. The frequency times the exposure estimates the number of large claims expected.

For property we are estimating the frequency of Wind/Hail claims separately from AOP claims.

A similar procedure is used to project the total claim frequency for the forecast period.

## Exhibit VI

This exhibit calculates the total forecast as the sum of the aggregate small losses with the large loss estimates. The projected number of large claims is multiplied by the expected claim size at various limits. These claim sizes are from the severity distribution fit to the claims in Exhibit II.

## Exhibit VII

This exhibit contains the output of the Monte Carlo simulation. The small and large claim experience is separately modeled and summed to provide an overall expected cost. The model simulates 10,000 outcomes and the 10,000 outcomes for each layer are averaged and sorted to produce the expected value and percentiles. The expected costs are divided by the expected number of claims to calculate the average cost per claim. Note that, although the average results by layer can be summed to the total, the percentile outcomes for the layers do not necessarily add to the same percentile outcome for the total losses. This is because a given scenario may produce a high volume of losses in one layer but little or no loss in another layer. The outcomes for each layer are sorted to calculate the percentiles for the individual layer.

The percentile of the distribution shows the amount that losses will be less than with that probability. For example, the 75<sup>th</sup> percentile for total losses is the value that losses will be less than 75% of the time. Similarly, the 90<sup>th</sup> percentile losses represent a level that actual losses might exceed with 10% probably, or about once in ten years.

## Appendix A

This exhibit shows the loss development factors used to develop claims to an ultimate basis. The factors are based on OSIG experience. Due to the sparseness of the data, OSIG's experience is supplemented with public entity experience in the state of Oklahoma.

## Appendix B

The trend factors are calculated based on external economic indices.





## Automobile Liability Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Claims that Develop and Trend over \$100,000
Exhibit III	Ultimate Small Losses
Exhibit IV	Forecast Losses Less than \$100,000
Exhibit V	Large Claim Frequency Total Claim Frequency
Exhibit VI	Forecast Ultimate Losses
Exhibit VII	Results of Monte Carlo Simulation Forecast Losses for Various Layers
Appendix A	Loss Development Factors
Appendix B	Trend Factors



**Summary of Loss and Exposure Data**  
**Total Experience Net of Member Deductibles**

(A) Accident Period	(B) Evaluation Date	(C) Maturity (months)	(D) Reported NonZero Claims	(E) Loss and Expense Payments	(F) Loss and Expense Reserves	(G) Loss and Expense Incurred	(H) Vehicles
7/1/08-09	1/31/2019	127	168	\$1,058,745	\$0	\$1,058,745	5,667
7/1/09-10	1/31/2019	115	149	\$565,875	\$0	\$565,875	6,383
7/1/10-11	1/31/2019	103	158	\$781,644	\$0	\$781,644	7,049
7/1/11-12	1/31/2019	91	157	\$839,931	\$25,312	\$865,244	6,006
7/1/12-13	1/31/2019	79	152	\$639,822	\$0	\$639,822	6,308
7/1/13-14	1/31/2019	67	179	\$694,197	\$0	\$694,197	7,024
7/1/14-15	1/31/2019	55	220	\$1,093,657	\$297,700	\$1,391,356	8,663
7/1/15-16	1/31/2019	43	219	\$997,030	\$195,518	\$1,192,548	9,120
7/1/16-17	1/31/2019	31	199	\$932,745	\$289,530	\$1,222,275	9,742
7/1/17-18	1/31/2019	19	171	\$452,599	\$289,786	\$742,385	9,956
7/1/18-19	1/31/2019	7	144	\$274,924	\$430,541	\$705,465	11,511
7/1/19-20							11,515

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Loss and Exposure data contains only current OSIG members as of 1/31/2019

**Large Claim Listing**  
**Claims Exceeding Threshold after Development and Trend**

(A)	(B)	(C)	(D)	(E)	(F)	(G)
Occurrence #	Loss Date	Net Paid	Net Incurred	Severity Factor	Trend Factor	Loss After Development & Trend
P625-08-02546	10/6/2008	\$78,627	\$78,627	1.000	1.411	\$110,911
02638	11/14/2008	\$104,466	\$104,466	1.000	1.411	\$147,359
P625-09-02824	3/26/2009	\$99,346	\$99,346	1.000	1.411	\$140,138
02940	5/7/2009	\$106,504	\$106,504	1.000	1.411	\$150,235
90075	8/18/2010	\$134,999	\$134,999	1.000	1.305	\$176,217
P625-10-90105	8/27/2010	\$76,778	\$76,778	1.000	1.305	\$100,220
90305	12/8/2010	\$103,684	\$103,684	1.000	1.305	\$135,341
P625-11-90851	9/9/2011	\$96,221	\$96,221	1.000	1.261	\$121,325
91477	9/19/2012	\$135,786	\$135,786	1.000	1.227	\$166,620
92239	1/7/2014	\$130,707	\$130,707	1.001	1.194	\$156,151
93008	3/23/2015	\$206,102	\$206,102	1.003	1.158	\$239,385
P625-15-93064	4/9/2015	\$13,145	\$90,000	1.003	1.158	\$104,534
93063	4/20/2015	\$219,224	\$219,224	1.003	1.158	\$254,625
93186	6/3/2015	\$15,969	\$107,276	1.003	1.158	\$124,600
93477	11/19/2015	\$174,557	\$174,557	1.008	1.117	\$196,528
94052	9/29/2016	\$126,307	\$126,307	1.026	1.078	\$139,686
94363	3/23/2017	\$22,004	\$128,040	1.026	1.078	\$141,602
P625-18-95386	11/5/2018	\$10,096	\$92,000	1.215	1.029	\$115,098
		\$1,854,525	\$2,210,626			\$2,720,575

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services

**Estimation of Ultimate Small Losses  
At the Forecast Loss Level**

<i>Accident Period</i>	<i>(A) Reported Losses</i>	<i>(B) Reported on Large Losses</i>	<i>(C) Trend Factor to 7/1/19-20</i>	<i>(D) Reported Develop. Factor</i>	<i>(E) Ultimate on Small Claims</i>
7/1/08-09	\$1,058,745	\$388,943	1.411	1.000	\$944,824
7/1/09-10	\$565,875	\$0	1.353	1.000	\$765,881
7/1/10-11	\$781,644	\$315,462	1.305	1.000	\$608,517
7/1/11-12	\$865,244	\$96,221	1.261	1.000	\$969,653
7/1/12-13	\$639,822	\$135,786	1.227	1.000	\$618,492
7/1/13-14	\$694,197	\$130,707	1.194	1.001	\$673,178
7/1/14-15	\$1,391,356	\$622,603	1.158	1.003	\$892,896
7/1/15-16	\$1,192,548	\$174,557	1.117	1.008	\$1,146,124
7/1/16-17	\$1,222,275	\$254,347	1.078	1.026	\$1,070,453
7/1/17-18	\$742,385	\$0	1.054	1.085	\$848,628
7/1/18-19	\$705,465	\$92,000	1.029	2.088	\$1,318,150
<b>Total</b>	<b>\$9,859,557</b>	<b>\$2,210,626</b>			<b>\$9,856,794</b>

<i>Accident Period</i>	<i>(A) Paid Losses</i>	<i>(B) Paid on Large Losses</i>	<i>(C) Trend Factor to 7/1/19-20</i>	<i>(D) Paid Develop. Factor</i>	<i>(E) Ultimate on Small Claims</i>
7/1/08-09	\$1,058,745	\$388,943	1.411	1.000	\$944,896
7/1/09-10	\$565,875	\$0	1.353	1.000	\$766,028
7/1/10-11	\$781,644	\$315,462	1.305	1.001	\$608,818
7/1/11-12	\$839,931	\$96,221	1.261	1.001	\$938,941
7/1/12-13	\$639,822	\$135,786	1.227	1.004	\$620,570
7/1/13-14	\$694,197	\$130,707	1.194	1.010	\$679,149
7/1/14-15	\$1,093,657	\$454,441	1.158	1.026	\$759,973
7/1/15-16	\$997,030	\$174,557	1.117	1.072	\$984,534
7/1/16-17	\$932,745	\$148,312	1.078	1.199	\$1,013,878
7/1/17-18	\$452,599	\$0	1.054	1.559	\$743,568
7/1/18-19	\$274,924	\$10,096	1.029	3.904	\$1,064,053
<b>Total</b>	<b>\$8,331,169</b>	<b>\$1,854,525</b>			<b>\$9,124,408</b>

(A) - Exhibit I

(B) - Exhibit II

(C) - Appendix B

(D) - Appendix A

(E) = (C)\*(D)\*[(A) - (B)]

**Calculation of Forecast Ultimate Losses for 7/1/19-20  
Less than \$100,000 per Occurrence**

(A) Accident Period	(B) Trended Ultimate Losses	(C) Exposures (Vehicles)	(D) Exposure Trend Factors	(E) Trended Exposures	(F) Loss Rate
7/1/08-09	\$945,000	5,667	1.000	5,667	\$167
7/1/09-10	\$766,000	6,383	1.000	6,383	\$120
7/1/10-11	\$609,000	7,049	1.000	7,049	\$86
7/1/11-12	\$954,000	6,006	1.000	6,006	\$159
7/1/12-13	\$620,000	6,308	1.000	6,308	\$98
7/1/13-14	\$676,000	7,024	1.000	7,024	\$96
7/1/14-15	\$826,000	8,663	1.000	8,663	\$95
7/1/15-16	\$1,065,000	9,120	1.000	9,120	\$117
7/1/16-17	\$1,042,000	9,742	1.000	9,742	\$107
7/1/17-18	\$796,000	9,956	1.000	9,956	\$80
7/1/18-19	\$1,191,000	11,511	1.000	11,511	\$103
<b>Total</b>	<b>\$9,490,000</b>	<b>87,429</b>		<b>87,429</b>	<b>\$109</b>

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
(1) Selected Loss Rate { Weighted Average - last five years }	\$98	\$100
(2) Forecast Exposure { Exhibit I }	11,511	11,515
<b>(3) Forecast Small Losses</b> { Line (1) x Line (2) }	<b>\$1,123,000</b>	<b>\$1,156,000</b>

Column (B) - Average of Columns (E) from Exhibit III;  
Column (C) - Exhibit I  
Column (D) - N/A  
Column (E) = (C) \* (D)  
Column (F) = (B) / (E)

**Projected Large Claim Frequency**  
**Claims Exceeding \$100,000 per Occurrence**

(A) Accident Period	(B) Number of Claims > \$100,000	(C) CCDF	(D) Ultimate Claims	(E) Exposures (Vehicles)	(F) Frequency per 1,000 Vehicles
7/1/08-09	4	1.000	4.0	5,667	0.71
7/1/09-10	0	1.000	0.0	6,383	0.00
7/1/10-11	3	1.000	3.0	7,049	0.43
7/1/11-12	1	1.000	1.0	6,006	0.17
7/1/12-13	1	1.000	1.0	6,308	0.16
7/1/13-14	1	1.000	1.0	7,024	0.14
7/1/14-15	4	1.000	4.0	8,663	0.46
7/1/15-16	1	1.000	1.0	9,120	0.11
7/1/16-17	2	1.000	2.0	9,742	0.21
7/1/17-18	0	1.002	0.0	9,956	0.00
7/1/18-19	1	1.717	1.7	11,511	0.15
<b>Total</b>	<b>18</b>		<b>18.7</b>	<b>87,429</b>	<b>0.21</b>

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
<i>Selected Frequency</i> <i>{ All Years Average }</i>	0.21	0.21
<i>Forecast Exposure</i>	11,511	11,515
<b>Forecast Number of Large Claims</b>	<b>2.5</b>	<b>2.5</b>

(B) - Exhibit II

(C) - Appendix A

(D) - (B) \* (C)

(E) = Exhibit I

(F) = (D) / (E) \* 1,000

**Projected Total Claim Frequency**

(A) Accident Period	(B) Number of Nonzero Claims	(C) CCDF	(D) Ultimate Claims	(E) Exposures (Vehicles)	(F) Frequency per 1,000 Vehicles
7/1/08-09	168	1.000	168.0	5,667	29.6
7/1/09-10	149	1.000	149.0	6,383	23.3
7/1/10-11	158	1.000	158.0	7,049	22.4
7/1/11-12	157	1.000	157.0	6,006	26.1
7/1/12-13	152	1.000	152.0	6,308	24.1
7/1/13-14	179	1.000	179.0	7,024	25.5
7/1/14-15	220	1.000	220.0	8,663	25.4
7/1/15-16	219	1.000	219.0	9,120	24.0
7/1/16-17	199	1.000	199.0	9,742	20.4
7/1/17-18	171	1.002	171.3	9,956	17.2
7/1/18-19	144	1.717	247.3	11,511	21.5
<b>Total</b>	<b>1,916</b>		<b>2,019.6</b>	<b>87,429</b>	<b>23.1</b>

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
<i>Selected Frequency Four year average</i>	20.8	20.8
<i>Forecast Exposure</i>	11,511	11,515
<b>Forecast Total Claims</b>	<b>239.2</b>	<b>239.3</b>

(B) - Exhibit I

(C) - Appendix A

(D) - (B) \* (C)

(E) = Exhibit I

(F) = (D) / (E) \* 1,000



**Forecast Ultimate Losses for 7/1/19-20**  
**Total Experience Net of Member Deductibles**

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
(1) Forecast Small Losses {Exhibit IV}	\$1,123,000	\$1,156,000
(2) Forecast Number of Claims over \$100,000 {Exhibit V}	2.5	2.5
(3) Expected Severity of Losses over \$100,000: { Derived from Claims in Exhibit II }		
Limited to \$100,000	\$100,000	\$100,000
Limited to \$125,000	\$119,000	\$122,000
Limited to \$200,000	\$143,000	\$147,000
Limited to \$1,000,000	\$150,000	\$154,000
Unlimited	\$150,000	\$154,000
(4) Projected Total Losses { Line(1) + [Line(2) * Line (3)] }		
Limited to \$100,000	\$1,369,000	\$1,403,000
Limited to \$125,000	\$1,416,000	\$1,457,000
Limited to \$200,000	\$1,475,000	\$1,518,000
Limited to \$1,000,000	\$1,493,000	\$1,536,000
Unlimited	\$1,493,000	\$1,536,000
(5) Forecast Vehicle Counts	11,511	11,515
(6) Projected Cost per Vehicle { Line (4) / Line (5) }		
Limited to \$100,000	\$119	\$122
Limited to \$125,000	\$123	\$127
Limited to \$200,000	\$128	\$132
Limited to \$1,000,000	\$130	\$133
Unlimited	\$130	\$133
(7) Projected total Claims	239.2	239.3
(8) Average Severity		
Limited to \$100,000	\$5,700	\$5,900
Limited to \$125,000	\$5,900	\$6,100
Limited to \$125,000	\$6,200	\$6,300
Limited to \$125,000	\$6,200	\$6,400
Limited to \$125,000	\$6,200	\$6,400

***Distribution of Forecast Losses for 7/1/19-20  
Assuming a \$100,000 SIR***

<i>Percentile</i>	<i>SIR Layer \$100,000</i>	<i>Layer \$900,000 xs \$100,000</i>	<i>Losses Limited to \$1,000,000</i>	<i>Losses Excess of \$1,000,000</i>	<i>Total Incurred Losses</i>
20.0%	\$1,144,000	\$38,000	\$1,223,000	\$0	\$1,223,000
30.0%	\$1,223,000	\$61,000	\$1,322,000	\$0	\$1,322,000
40.0%	\$1,305,000	\$84,000	\$1,413,000	\$0	\$1,413,000
50.0%	\$1,379,000	\$107,000	\$1,504,000	\$0	\$1,504,000
60.0%	\$1,454,000	\$135,000	\$1,593,000	\$0	\$1,593,000
70.0%	\$1,540,000	\$169,000	\$1,699,000	\$0	\$1,699,000
75.0%	\$1,588,000	\$187,000	\$1,762,000	\$0	\$1,762,000
80.0%	\$1,646,000	\$208,000	\$1,832,000	\$0	\$1,832,000
85.0%	\$1,717,000	\$242,000	\$1,916,000	\$0	\$1,916,000
90.0%	\$1,813,000	\$283,000	\$2,033,000	\$0	\$2,033,000
95.0%	\$1,965,000	\$351,000	\$2,209,000	\$0	\$2,209,000
99.0%	\$2,274,000	\$511,000	\$2,538,000	\$0	\$2,538,000
<b><i>Expected</i></b>	<b>\$1,403,000</b>	<b>\$133,000</b>	<b>\$1,536,000</b>	<b>\$0</b>	<b>\$1,536,000</b>
<i>Vehicles</i>	11,515				
<i>Students</i>	448,748				
<b><i>Cost Per Vehicle</i></b>	<b>\$122</b>	<b>\$12</b>	<b>\$133</b>	<b>\$0</b>	<b>\$133</b>
<b><i>Cost Per Student</i></b>	<b>\$3.13</b>	<b>\$0.30</b>	<b>\$3.42</b>	<b>\$0.00</b>	<b>\$3.42</b>

*Percentiles based on combined distributions for small and large losses  
Aggregate small losses modeled using a lognormal distribution  
Large claim size modeled using an inverse Weibull distribution  
Large claim counts modeled using a Poisson Distribution*

Lognormal  
Mu = 13.93403  
Sigma= 0.23000  
Inverse Weibull  
Tau = 4.870635769  
Theta = 129798.5494  
Poisson  
Lambda = 2.47

**Estimation of Cumulative Reported Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	<b>1.156</b>	-6.8690	-1.8567	47.183	3.4472	12.7535	<b>127</b>	<b>1.000</b>
24	<b>1.061</b>	-6.8814	-2.8014	47.354	7.8476	19.2773	<b>115</b>	<b>1.000</b>
36	<b>1.015</b>	-6.8937	-4.1964	47.522	17.6096	28.9284	<b>103</b>	<b>1.000</b>
48	<b>1.005</b>	-6.9058	-5.2983	47.689	28.0722	36.5889	<b>91</b>	<b>1.000</b>
							<b>79</b>	<b>1.000</b>
							<b>67</b>	<b>1.001</b>
							<b>55</b>	<b>1.003</b>
							<b>43</b>	<b>1.008</b>
							<b>31</b>	<b>1.026</b>
							<b>19</b>	<b>1.085</b>
							<b>7</b>	<b>2.088</b>
Sum		-27.5498	-14.1527	189.7491	56.9766	97.5480		
Average		-6.8875	-3.5382	47.4373	14.2441	24.3870		

N =	4		
A =	4.716E+284		
B =	95.685	R^2 =	0.99474
C =	950		

\* - Appendix A4 from IBNR Study

**Estimation of Cumulative Paid Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	<b>2.018</b>	-6.8690	0.0179	47.183	0.0003	-0.1227	<b>127</b>	<b>1.000</b>
24	<b>1.368</b>	-6.8814	-1.0006	47.354	1.0012	6.8857	<b>115</b>	<b>1.000</b>
36	<b>1.126</b>	-6.8937	-2.0686	47.522	4.2790	14.2601	<b>103</b>	<b>1.001</b>
48	<b>1.050</b>	-6.9058	-2.9972	47.689	8.9830	20.6977	<b>91</b>	<b>1.001</b>
60	<b>1.017</b>	-6.9177	-4.0866	47.855	16.7006	28.2702	<b>79</b>	<b>1.004</b>
							<b>67</b>	<b>1.010</b>
							<b>55</b>	<b>1.026</b>
							<b>43</b>	<b>1.072</b>
							<b>31</b>	<b>1.199</b>
							<b>19</b>	<b>1.559</b>
							<b>7</b>	<b>3.904</b>
Sum		-34.4675	-10.1352	237.6038	30.9643	69.9910		
Average		-6.8935	-2.0270	47.5208	6.1929	13.9982		

N =	5		
A =	1.296E+250		
B =	83.837	R^2 =	0.99950
C =	950		

\* - Appendix A5 from IBNR Study

**Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.002	-2.4849	-6.2836	6.175	39.4833	15.6141	127	1.000
24	1.002	-3.1781	-6.2719	10.100	39.3371	19.9325	115	1.000
							103	1.000
							91	1.000
							79	1.000
							67	1.000
							55	1.000
							43	1.000
							31	1.000
							19	1.002
							7	1.717
Sum		-5.6630	-12.5555	16.2748	78.8204	35.5466		
Average		-2.8315	-6.2778	8.1374	39.4102	17.7733		

N =	2		
A =	1.790E-03		
B =	-0.017	R^2 =	1.00000
C =	0		

\* - Appendix A6 from IBNR study

**U.S. Claims Cost Index  
Automobile Liability**

(A)	(B)	(C)	(D)	(E)	(F)
Year	Index	Annual Percent Increase	Accident Period	Interpolated Index	Trend Factor to 7/1/19-20
2000	80.9				
2001	84.0	3.9%			
2002	88.1	4.8%			
2003	91.5	3.9%			
2004	95.6	4.5%			
2005	100.0	4.6%			
2006	104.3	4.3%			
2007	109.2	4.7%			
2008	113.7	4.0%			
2009	119.4	5.0%	7/1/08-09	116.5	1.411
2010	123.5	3.5%	7/1/09-10	121.4	1.353
2011	128.3	3.9%	7/1/10-11	125.9	1.305
2012	132.4	3.2%	7/1/11-12	130.4	1.261
2013	135.6	2.4%	7/1/12-13	134.0	1.227
2014	139.8	3.1%	7/1/13-14	137.7	1.194
2015	143.9	2.9%	7/1/14-15	141.9	1.158
2016	150.4	4.5%	7/1/15-16	147.2	1.117
2017	154.6	2.8%	7/1/16-17	152.5	1.078
2018*	157.4	1.8%	7/1/17-18	156.0	1.054
2019**	162.0	2.9%	7/1/18-19	159.7	1.029
2020**	166.7	2.9%	7/1/19-20	164.4	1.000

(B) and (C) - Towers Watson Claim Cost Index compiled by Jeremy Pecora, FCAS, MAAA

\* - Numbers are preliminary

\*\* - future trend estimated based on 2013-2018

(E) - Linear interpolation of column (B)

(F) -  $[(E), \text{forecast period}] / [(E), \text{current period}]$

## General Liability Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Claims that Develop and Trend over \$100,000
Exhibit III	Ultimate Small Losses
Exhibit IV	Forecast Losses Less than \$100,000
Exhibit V	Large Claim Frequency Total Claim Frequency
Exhibit VI	Forecast Ultimate Losses
Exhibit VII	Results of Monte Carlo Simulation Forecast Losses for Various Layers
Appendix A	Loss Development Factors
Appendix B	Trend Factors





**Summary of Loss and Exposure Data**  
**Total Experience Net of Member Deductibles**

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Accident Period	Evaluation Date	Maturity (months)	Reported Claims	Net Loss and Expense Payments	Net Loss and Expense Reserves	Net Loss and Expense Incurred	Students
7/1/08-09	1/31/2019	127	126	\$1,966,868	\$0	\$1,966,868	249,521
7/1/09-10	1/31/2019	115	121	\$1,391,506	\$0	\$1,391,506	252,131
7/1/10-11	1/31/2019	103	97	\$2,060,306	\$28,859	\$2,089,165	292,489
7/1/11-12	1/31/2019	91	77	\$3,230,788	\$0	\$3,230,788	266,283
7/1/12-13	1/31/2019	79	105	\$1,022,426	\$61,678	\$1,084,104	261,228
7/1/13-14	1/31/2019	67	81	\$820,748	\$48,240	\$868,988	311,529
7/1/14-15	1/31/2019	55	113	\$1,885,258	\$214,149	\$2,099,407	368,684
7/1/15-16	1/31/2019	43	115	\$1,543,999	\$478,500	\$2,022,499	369,577
7/1/16-17	1/31/2019	31	124	\$1,259,775	\$2,075,183	\$3,334,958	374,713
7/1/17-18	1/31/2019	19	80	\$151,082	\$949,848	\$1,100,930	391,130
7/1/18-19	1/31/2019	7	66	\$14,067	\$869,692	\$883,759	448,676
7/1/19-20							448,748
			1105	\$15,346,823	\$4,726,150	\$20,072,973	

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Loss and Exposure data contains only current OSIG members as of 1/31/2019
- Claims are grouped by occurrence, claims with \$0 incurred are excluded
- Losses are net of member deductibles

**Large Claim Listing**  
**Claims Exceeding Threshold after Development and Trend**

(A)	(C)	(E)	(F)	(G)	(H)	(I)
Occurrence #	Loss Date	Net Paid	Net Incurred	Severity Factor	Trend Factor	Loss After Development & Trend
02595	10/20/2008	\$1,075,745	\$1,075,745	1.000	1.353	\$1,455,539
P625-08-02785	12/8/2008	\$96,997	\$96,997	1.000	1.353	\$131,242
02711	1/13/2009	\$124,447	\$124,447	1.000	1.353	\$168,384
P625-09-02991	5/1/2009	\$74,004	\$74,004	1.000	1.353	\$100,131
03267	11/4/2009	\$107,144	\$107,144	1.000	1.323	\$141,752
03567	2/18/2010	\$117,345	\$117,345	1.000	1.323	\$155,248
P625-10-03568	3/11/2010	\$86,866	\$86,866	1.000	1.323	\$114,924
90906	5/10/2010	\$304,711	\$304,711	1.000	1.323	\$403,133
P625-10-03653	5/19/2010	\$89,348	\$89,348	1.000	1.323	\$118,207
P625-10-03728	6/17/2010	\$85,569	\$85,569	1.000	1.323	\$113,208
P625-10-90080	8/19/2010	\$94,545	\$94,545	1.001	1.284	\$121,485
90084	8/22/2010	\$115,615	\$115,615	1.001	1.284	\$148,559
90118	9/1/2010	\$136,645	\$136,645	1.001	1.284	\$175,581
90205	10/14/2010	\$123,444	\$123,444	1.001	1.284	\$158,618
90236	10/25/2010	\$290,942	\$290,942	1.001	1.284	\$373,843
90297	12/6/2010	\$157,221	\$157,221	1.001	1.284	\$202,019
90313	12/14/2010	\$104,163	\$104,163	1.001	1.284	\$133,844
90708	3/22/2011	\$141,522	\$141,522	1.001	1.284	\$181,848
90838	6/30/2011	\$280,047	\$280,047	1.001	1.284	\$359,845
P625-11-91010	8/25/2011	\$84,730	\$84,730	1.002	1.241	\$105,367
91394	9/1/2011	\$149,418	\$149,418	1.002	1.241	\$185,810
91388	10/25/2011	\$443,010	\$443,010	1.002	1.241	\$550,910
P625-11-90962	10/26/2011	\$95,962	\$95,962	1.002	1.241	\$119,335
P625-11-90991	10/28/2011	\$97,912	\$97,912	1.002	1.241	\$121,759
91040	11/11/2011	\$1,708,795	\$1,708,795	1.002	1.241	\$2,124,988
91564	5/28/2012	\$210,533	\$210,533	1.002	1.241	\$261,811
91445	8/29/2012	\$420,468	\$420,468	1.004	1.207	\$509,508
92222	12/23/2013	\$145,266	\$145,266	1.009	1.176	\$172,311
92382	1/29/2014	\$100,352	\$100,352	1.009	1.176	\$119,034
92867	4/4/2014	\$176,221	\$176,221	1.009	1.176	\$209,028
92999	3/2/2015	\$240,862	\$240,862	1.020	1.144	\$281,094
93289	3/22/2015	\$211,827	\$211,827	1.020	1.144	\$247,208
94241	4/16/2015	\$360,763	\$411,112	1.020	1.144	\$479,780
93143	5/15/2015	\$141,576	\$141,576	1.020	1.144	\$165,224
93680	3/7/2016	\$175,028	\$175,028	1.046	1.109	\$203,080
94063	3/24/2016	\$153,730	\$154,400	1.046	1.109	\$179,146
94446	5/5/2016	\$167,801	\$226,400	1.046	1.109	\$262,686
P625-16-93885	7/8/2016	\$91,628	\$91,628	1.107	1.074	\$108,847
P625-16-94009	9/13/2016	\$90,461	\$90,461	1.107	1.074	\$107,460
94291	12/16/2016	\$84,432	\$131,000	1.107	1.074	\$155,618
94229	1/2/2017	\$8,904	\$112,147	1.107	1.074	\$133,222
94280	1/27/2017	\$267,160	\$1,408,000	1.107	1.074	\$1,672,592
P625-17-94491	5/17/2017	\$86,941	\$93,000	1.107	1.074	\$110,477
P625-17-95484	6/26/2017	\$2,063	\$95,000	1.107	1.074	\$112,852
95055	5/3/2018	\$2,791	\$107,500	1.235	1.049	\$139,326
95430	11/26/2018	\$0	\$130,000	1.378	1.027	\$183,933
		\$9,324,955	\$11,058,929			

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services

Select Actuarial Services

**Estimation of Ultimate Losses for 7/1/19-20  
Less than \$100,000 per Occurrence**

<i>Accident Period</i>	<i>(A) Reported Losses</i>	<i>(B) Reported on Large Losses</i>	<i>(C) Trend Factor to 7/1/19-20</i>	<i>(D) Reported Develop. Factor</i>	<i>(E) Ultimate on Small Claims</i>
7/1/08-09	\$1,966,868	\$1,371,193	1.353	1.000	\$806,000
7/1/09-10	\$1,391,506	\$790,982	1.323	1.000	\$794,000
7/1/10-11	\$2,089,165	\$1,444,144	1.284	1.001	\$829,000
7/1/11-12	\$3,230,788	\$2,790,361	1.241	1.002	\$548,000
7/1/12-13	\$1,084,104	\$420,468	1.207	1.004	\$804,000
7/1/13-14	\$868,988	\$421,838	1.176	1.009	\$530,000
7/1/14-15	\$2,099,407	\$1,005,377	1.144	1.020	\$1,277,000
7/1/15-16	\$2,022,499	\$555,828	1.109	1.047	\$1,702,000
7/1/16-17	\$3,334,958	\$2,021,236	1.074	1.108	\$1,563,000
7/1/17-18	\$1,100,930	\$107,500	1.049	1.254	\$1,308,000
7/1/18-19	\$883,759	\$130,000	1.027	2.575	\$1,993,000
<b>Total</b>	<b>\$20,072,973</b>	<b>\$11,058,929</b>			<b>\$12,154,000</b>

<i>Accident Period</i>	<i>(A) Paid Losses</i>	<i>(B) Paid on Large Losses</i>	<i>(C) Trend Factor to 7/1/19-20</i>	<i>(D) Paid Develop. Factor</i>	<i>(E) Ultimate on Small Claims</i>
7/1/08-09	\$1,966,868	\$1,371,193	1.353	1.001	\$807,000
7/1/09-10	\$1,391,506	\$790,982	1.323	1.002	\$795,000
7/1/10-11	\$2,060,306	\$1,444,144	1.284	1.003	\$794,000
7/1/11-12	\$3,230,788	\$2,790,361	1.241	1.007	\$551,000
7/1/12-13	\$1,022,426	\$420,468	1.207	1.016	\$738,000
7/1/13-14	\$820,748	\$421,838	1.176	1.039	\$487,000
7/1/14-15	\$1,885,258	\$955,029	1.144	1.104	\$1,175,000
7/1/15-16	\$1,543,999	\$496,559	1.109	1.306	\$1,516,000
7/1/16-17	\$1,259,775	\$631,589	1.074	2.020	\$1,362,000
7/1/17-18	\$151,082	\$2,791	1.049	4.982	\$775,000
7/1/18-19	\$14,067	\$0	1.027	24.853	\$359,000
<b>Total</b>	<b>\$15,346,823</b>	<b>\$9,324,955</b>			<b>\$9,359,000</b>

(A) - Exhibit I

(B) - Exhibit II

(C) - Appendix A

(D) - Appendix B

(E) = (C)\*(D)\*[(A) - (B)]

**Calculation of Forecast Ultimate Losses for 7/1/19-20  
Less than \$100,000 per Occurrence**

(A) Accident Period	(B) Trended Ultimate Losses	(C) Exposures (Students)	(D) Exposure Trend Factors	(E) Trended Exposures	(F) Loss Rate
7/1/08-09	\$806,000	249,521	1.000	249,521	\$3.23
7/1/09-10	\$794,000	252,131	1.000	252,131	\$3.15
7/1/10-11	\$829,000	292,489	1.000	292,489	\$2.83
7/1/11-12	\$548,000	266,283	1.000	266,283	\$2.06
7/1/12-13	\$804,000	261,228	1.000	261,228	\$3.08
7/1/13-14	\$530,000	311,529	1.000	311,529	\$1.70
7/1/14-15	\$1,277,000	368,684	1.000	368,684	\$3.46
7/1/15-16	\$1,702,000	369,577	1.000	369,577	\$4.61
7/1/16-17	\$1,563,000	374,713	1.000	374,713	\$4.17
7/1/17-18	\$1,308,000	391,130	1.000	391,130	\$3.34
7/1/18-19	\$1,993,000	448,676	1.000	448,676	\$4.44
<b>Total</b>	<b>\$12,154,000</b>	<b>3,585,961</b>		<b>3,585,961</b>	<b>\$3.39</b>

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
Selected Loss Rate { Five year weighted average }	\$3.91	\$4.02
Forecast Exposure { Exhibit I }	448,676	448,748
<b>Forecast Small Losses</b> { Line (1) x Line (2) }	<b>\$1,754,000</b>	<b>\$1,802,000</b>

Column (B) - Exhibit III  
Column (C) - Exhibit I  
Column (D) - N/A  
Column (E) = (C) \* (D)  
Column (F) = (B) / (E)

**Projected Large Claim Frequency  
Claims Exceeding \$100,000 per Occurrence**

(A) Accident Period	(B) Number of Claims > \$100,000	(C) CCDF	(D) Ultimate Claims	(E) Exposures (Students)	(F) Frequency per 1,000 Students
7/1/08-09	4	1.000	4.0	249,521	0.016
7/1/09-10	6	1.000	6.0	252,131	0.024
7/1/10-11	9	1.000	9.0	292,489	0.031
7/1/11-12	7	1.000	7.0	266,283	0.026
7/1/12-13	1	1.000	1.0	261,228	0.004
7/1/13-14	3	1.000	3.0	311,529	0.010
7/1/14-15	4	1.000	4.0	368,684	0.011
7/1/15-16	3	1.000	3.0	369,577	0.008
7/1/16-17	7	1.002	7.0	374,713	0.019
7/1/17-18	1	1.016	1.0	391,130	0.003
7/1/18-19	1	1.869	1.9	448,676	0.004
<b>Total</b>	<b>46</b>		<b>46.9</b>	<b>3,585,961</b>	<b>0.013</b>

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
<i>Selected Frequency</i> <i>{ Weighted Average 11-12 through 17-18 }</i>	0.011	0.011
<i>Forecast Exposure</i>	448,676	448,748
<b>Forecast Number of Claims over \$100,000</b>	<b>5.0</b>	<b>5.0</b>

(B) - Exhibit II  
(C) - Appendix A  
(D) - (B) \* (C)  
(E) = Exhibit I  
(F) = (D) / (E) \* 1,000

**Projected Total Claim Frequency  
Total Claims**

(A) <i>Accident Period</i>	(B) <i>Number of Claims</i>	(C) <i>CCDF</i>	(D) <i>Ultimate Claims</i>	(E) <i>Exposures (Students)</i>	(F) <i>Frequency per 1,000 Students</i>
7/1/08-09	126	1.000	126.0	249,521	0.50
7/1/09-10	121	1.000	121.0	252,131	0.48
7/1/10-11	97	1.000	97.0	292,489	0.33
7/1/11-12	77	1.000	77.0	266,283	0.29
7/1/12-13	105	1.000	105.0	261,228	0.40
7/1/13-14	81	1.000	81.0	311,529	0.26
7/1/14-15	113	1.000	113.0	368,684	0.31
7/1/15-16	115	1.000	115.0	369,577	0.31
7/1/16-17	124	1.002	124.2	374,713	0.33
7/1/17-18	80	1.016	81.2	391,130	0.21
7/1/18-19	66	1.869	123.4	448,676	0.27
<b>Total</b>	<b>1,105</b>		<b>1,163.9</b>	<b>3,585,961</b>	<b>0.32</b>

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
<i>Selected Frequency { Average of last four years }</i>	0.28	0.28
<i>Forecast Exposure</i>	448,676	448,748
<b>Forecast Number of Claims</b>	<b>126.2</b>	<b>126.3</b>

(B) - Exhibit I  
(C) - Appendix A  
(D) - (B) \* (C)  
(E) = Exhibit I  
(F) = (D) / (E) \* 1,000

**Forecast Ultimate Losses for 7/1/19-20**  
**Total Experience Net of Member Deductibles**

	<u>7/1/18-19</u>	<u>7/1/19-20</u>
(1) Forecast Losses Less than \$100,000 {Exhibit IV}	\$1,754,000	\$1,802,000
(2) Forecast Number of Claims over \$100,000 {Exhibit V}	5.0	5.0
(3) Expected Excess Severity { Derived from Claims in Exhibit II }		
Limited to \$100,000	\$100,000	\$100,000
Limited to \$125,000	\$120,000	\$123,000
Limited to \$200,000	\$166,000	\$170,000
Limited to \$1,000,000	\$233,000	\$239,000
Unlimited	\$242,000	\$249,000
(4) Projected Total Losses { Line(1) + [Line(2) * Line (3)] }		
Limited to \$100,000	\$2,252,000	\$2,300,000
Limited to \$125,000	\$2,352,000	\$2,415,000
Limited to \$200,000	\$2,581,000	\$2,649,000
Limited to \$1,000,000	\$2,915,000	\$2,993,000
Unlimited	\$2,960,000	\$3,043,000
(5) Forecast Exposure (Students)	448,676	448,748
(6) Projected Cost per Student { Line (4) / Line (5) }		
Limited to \$100,000	\$5.02	\$5.13
Limited to \$125,000	\$5.24	\$5.38
Limited to \$200,000	\$5.75	\$5.90
Limited to \$1,000,000	\$6.50	\$6.67
Unlimited	\$6.60	\$6.78
(7) Projected total Claims	126.2	126.3
(8) Average Severity		
Limited to \$100,000	\$17,800	\$18,200
Limited to \$125,000	\$18,600	\$19,100
Limited to \$200,000	\$20,400	\$21,000
Limited to \$1,000,000	\$23,100	\$23,700
Unlimited	\$23,400	\$24,100

***Distribution of Forecast Losses for 7/1/19-20  
Assuming a \$100,000 SIR***

<i>Percentile</i>	<i>SIR Layer \$100,000</i>	<i>Layer \$900,000 xs \$100,000</i>	<i>Losses Limited to \$1,000,000</i>	<i>Losses Excess of \$1,000,000</i>	<i>Total Incurred Losses</i>
20.0%	\$1,798,000	\$281,000	\$2,258,000	\$0	\$2,258,000
30.0%	\$1,953,000	\$384,000	\$2,496,000	\$0	\$2,496,000
40.0%	\$2,095,000	\$482,000	\$2,705,000	\$0	\$2,710,000
50.0%	\$2,233,000	\$592,000	\$2,919,000	\$0	\$2,926,000
60.0%	\$2,382,000	\$704,000	\$3,130,000	\$0	\$3,141,000
70.0%	\$2,546,000	\$859,000	\$3,372,000	\$0	\$3,400,000
75.0%	\$2,638,000	\$951,000	\$3,512,000	\$0	\$3,542,000
80.0%	\$2,758,000	\$1,068,000	\$3,668,000	\$0	\$3,714,000
85.0%	\$2,898,000	\$1,183,000	\$3,865,000	\$0	\$3,932,000
90.0%	\$3,087,000	\$1,347,000	\$4,109,000	\$0	\$4,219,000
95.0%	\$3,424,000	\$1,599,000	\$4,530,000	\$144,000	\$4,693,000
99.0%	\$4,033,000	\$2,107,000	\$5,301,000	\$1,167,000	\$5,731,000
<b><i>Expected</i></b>	<b><i>\$2,300,000</i></b>	<b><i>\$693,000</i></b>	<b><i>\$2,993,000</i></b>	<b><i>\$50,000</i></b>	<b><i>\$3,043,000</i></b>
<i>Students</i>	448,748				
<b><i>Cost Per Student</i></b>	<b><i>\$5.13</i></b>	<b><i>\$1.54</i></b>	<b><i>\$6.67</i></b>	<b><i>\$0.11</i></b>	<b><i>\$6.78</i></b>

*Percentiles based on combined distributions for small and large losses  
Aggregate small losses modeled using a lognormal distribution  
Large claim size modeled using an inverse Weibull distribution  
Large claim counts modeled using a Poisson Distribution*

Lognormal  
Mu = 14.35941  
Sigma= 0.30  
Inverse Weibull  
Tau = 2.3072  
Theta = 151430.4  
Poisson  
Lambda = 4.98



**Estimation of Cumulative Reported Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	<b>1.421</b>	-7.2167	-0.8655	52.081	0.7491	6.2462	<b>127</b>	<b>1.000</b>
24	<b>1.181</b>	-7.2255	-1.7098	52.208	2.9233	12.3538	<b>115</b>	<b>1.000</b>
36	<b>1.072</b>	-7.2342	-2.6286	52.333	6.9093	19.0154	<b>103</b>	<b>1.001</b>
48	<b>1.033</b>	-7.2428	-3.4183	52.458	11.6844	24.7577	<b>91</b>	<b>1.002</b>
60	<b>1.016</b>	-7.2513	-4.1559	52.582	17.2715	30.1358	<b>79</b>	<b>1.004</b>
72	<b>1.006</b>	-7.2598	-5.1317	52.705	26.3346	37.2554	<b>67</b>	<b>1.009</b>
							<b>55</b>	<b>1.020</b>
							<b>43</b>	<b>1.047</b>
							<b>31</b>	<b>1.108</b>
							<b>19</b>	<b>1.254</b>
							<b>7</b>	<b>2.575</b>
Sum		-43.4303	-17.9097	314.3669	65.8722	129.7644		
Average		-7.2384	-2.9850	52.3945	10.9787	21.6274		

N =	6		
A =	3.844E+305		
B =	97.621	R^2 =	0.9987882
C =	1350		

\* - Appendix A4 in IBNR study

**Estimation of Cumulative Paid Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	11.278	-4.3694	2.3300	19.092	5.4291	-10.1810	127	1.001
24	2.935	-4.5109	0.6603	20.348	0.4360	-2.9784	115	1.002
36	1.598	-4.6347	-0.5135	21.481	0.2637	2.3799	103	1.003
48	1.219	-4.7449	-1.5191	22.514	2.3077	7.2081	91	1.007
60	1.066	-4.8442	-2.7132	23.466	7.3615	13.1433	79	1.016
72	1.027	-4.9345	-3.6126	24.349	13.0506	17.8261	67	1.039
84	1.011	-5.0173	-4.5203	25.173	20.4327	22.6794	55	1.104
							43	1.306
							31	2.020
							19	4.982
							7	24.853
Sum		-33.0559	-9.8884	156.4233	49.2813	50.0775		
Average		-4.7223	-1.4126	22.3462	7.0402	7.1539		

N =	7	
A =	5.965E+20	
B =	10.429	R^2 = 0.9988557
C =	67	

\* - Appendix A5 from IBNR study

***Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"***

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.060	-6.2383	-2.8126	38.917	7.9106	17.5458	127	1.000
24	1.006	-6.2615	-5.1880	39.206	26.9155	32.4847	115	1.000
36	1.001	-6.2841	-7.1670	39.490	51.3659	45.0384	103	1.000
							91	1.000
							79	1.000
							67	1.000
							55	1.000
							43	1.000
							31	1.002
							19	1.016
							7	1.869
Sum		-18.7840	-15.1676	117.6133	86.1920	95.0689		
Average		-6.2613	-5.0559	39.2044	28.7307	31.6896		

N =	3		
A =	2.298E+256		
B =	95.084	R^2 =	0.997894
C =	500		

\* - Appendix A6 from IBNR study

**U.S. Claims Cost Index  
General Liability**

(A)	(B)	(C)	(D)	(E)	(F)
Year	Index	Annual Percent Increase	Accident Period	Interpolated Index	Trend Factor to 7/1/19-20
2005	100.0				
2006	104.4	4.4%			
2007	109.0	4.5%			
2008	113.2	3.8%			
2009	115.7	2.3%	7/1/08-09	114.4	1.353
2010	118.4	2.3%	7/1/09-10	117.1	1.323
2011	122.8	3.7%	7/1/10-11	120.6	1.284
2012	126.7	3.2%	7/1/11-12	124.7	1.241
2013	129.9	2.5%	7/1/12-13	128.3	1.207
2014	133.5	2.8%	7/1/13-14	131.7	1.176
2015	137.2	2.8%	7/1/14-15	135.3	1.144
2016	142.1	3.6%	7/1/15-16	139.6	1.109
2017	146.4	3.0%	7/1/16-17	144.2	1.074
2018*	148.7	1.6%	7/1/17-18	147.5	1.049
2019**	152.8	2.7%	7/1/18-19	150.7	1.027
2020**	156.9	2.7%	7/1/19-20	154.8	1.000

(B) and (C) - Towers Watson Claim Cost Index compiled by Jeremy Pecora, FCAS, MAAA

\* - numbers are preliminary

\*\* - future trend estimated based on 2013-2018

(E) - Linear interpolation of column (B)

(F) - [(E), forecast period] / [(E), current period]

## Automobile Physical Damage Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Claims that Develop and Trend over \$100,000
Exhibit III	Forecast Ultimate Losses Limited to \$100,000 Forecast Ultimate Losses Limited to \$250,000 All Perils Forecast Ultimate Losses Limited to \$250,000 AOP
Exhibit IV	NA
Exhibit V	Total Claim Frequency
Exhibit VI	Forecast Ultimate Losses
Exhibit VII	Results of Monte Carlo Simulation Forecast Losses for Various Layers
Appendix A	Loss Development Factors
Appendix B	Trend Factors



**Summary of Loss and Exposure Data**  
**Total Experience Net of Member Deductibles**

<i>Accident Period</i>	<i>Evaluation Date</i>	<i>Maturity (months)</i>	<i>Total Claims</i>	<i>Loss Payment</i>	<i>Loss Reserve</i>	<i>Expense and Legal Payment</i>	<i>Expense and Legal Reserve</i>	<i>Total Reported</i>	<i>Vehicles</i>
7/1/08-09	1/31/2019	127	68	\$346,820	\$0	\$27,135	\$0	\$373,954	5,676
7/1/09-10	1/31/2019	115	78	\$461,255	\$0	\$11,167	\$0	\$472,422	6,394
7/1/10-11	1/31/2019	103	80	\$370,751	\$0	\$12,142	\$0	\$382,892	7,060
7/1/11-12	1/31/2019	91	73	\$388,855	\$0	\$17,023	\$0	\$405,877	6,241
7/1/12-13	1/31/2019	79	78	\$495,899	\$0	\$24,822	\$0	\$520,721	6,062
7/1/13-14	1/31/2019	67	63	\$445,205	\$0	\$19,805	\$0	\$465,010	6,750
7/1/14-15	1/31/2019	55	112	\$682,507	\$0	\$38,378	\$0	\$720,885	8,569
7/1/15-16	1/31/2019	43	94	\$582,361	\$1,001	\$36,057	\$4,018	\$623,437	8,883
7/1/16-17	1/31/2019	31	111	\$644,381	\$10,005	\$41,175	\$4,375	\$699,936	9,478
7/1/17-18	1/31/2019	19	110	\$923,677	\$13,718	\$50,073	\$419	\$987,886	9,947
7/1/18-19	1/31/2019	7	63	\$216,555	\$89,081	\$21,820	\$9,542	\$336,998	11,337
7/1/19-20									11,341
			930	\$5,558,264	\$113,805	\$299,596	\$18,353	\$5,990,018	97,738

- Losses and Exposures for Current Members provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Data for Current OSIG members only
- Claims combined into occurrences; Excludes closed claims with no payments

**Large Claim Listing**  
**Claims Exceeding Threshold after Development and Trend**

CAT# or Occ#	Loss Date	Paid Pure Loss	Incurred Pure Loss	Severity Factor	Trend Factor	Ultimate Trended Loss	AOP or Wind/Hail	Policy Yr Eff
<b>ADP only claims over \$250,000</b>								
92831	12/3/2014	\$125,772	\$125,772	1.000	1.081	\$135,974	AOP	7/1/14-15
P625-16-93824	5/23/2016	\$157,500	\$157,500	1.003	1.062	\$167,921	AOP	7/1/15-16
94879	1/11/2018	\$317,285	\$317,285	1.043	1.047	\$346,565	AOP	7/1/17-18
<b>Loss amounts for APD portion of Property Claims over \$250,000</b>								
0024	11/5/2008	\$58,867	\$58,867	1.000	1.223	\$72,022	Wind/Hail	7/1/08-09
0026	1/27/2009	\$2,844	\$2,844	1.000	1.223	\$3,480	AOP	7/1/08-09
0034	5/13/2009	\$4,150	\$4,150	1.000	1.223	\$5,077	Wind/Hail	7/1/08-09
0036	6/11/2009	\$17,313	\$17,313	1.000	1.223	\$21,182	Wind/Hail	7/1/08-09
0041	5/10/2010	\$134,159	\$134,159	1.000	1.160	\$155,607	Wind/Hail	7/1/09-10
0050	5/22/2011	\$76,227	\$76,227	1.000	1.139	\$86,828	Wind/Hail	7/1/10-11
90999	11/7/2011	\$7,881	\$7,881	1.000	1.126	\$8,875	Wind/Hail	7/1/11-12
91351	5/29/2012	\$31,323	\$31,323	1.000	1.126	\$35,274	Wind/Hail	7/1/11-12
91392	7/14/2012	\$86,817	\$86,817	1.000	1.117	\$97,016	Wind/Hail	7/1/12-13
91393	7/16/2012	\$29,117	\$29,117	1.000	1.117	\$32,538	AOP	7/1/12-13
0052	4/26/2013	\$17,247	\$17,247	1.000	1.117	\$19,273	Wind/Hail	7/1/12-13
0054	5/30/2013	\$23,160	\$23,160	1.000	1.117	\$25,881	Wind/Hail	7/1/12-13
0055	3/25/2015	\$22,262	\$22,262	1.000	1.081	\$24,068	Wind/Hail	7/1/14-15
0060	7/14/2016	\$5,607	\$5,607	1.012	1.047	\$5,942	Wind/Hail	7/1/16-17
0064	5/27/2017	\$40,779	\$40,779	1.012	1.047	\$43,212	Wind/Hail	7/1/16-17
		\$557,753	\$557,753			\$636,274		

- Claims information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services



**Estimation of Ultimate Losses Limited to \$100,000  
At the Forecast Loss Level**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
<i>Accident Period</i>	<i>Reported Losses</i>	<i>Excess Reported Losses</i>	<i>Limited Reported Losses</i>	<i>Trend Factor to 7/1/19-20</i>	<i>Reported Develop. Factor</i>	<i>Ultimate Loss</i>	<i>Vehicles</i>	<i>Loss Rate</i>
7/1/08-09	\$373,954	\$83,174	\$290,781	1.223	1.000	\$356,000	5,676	\$62.72
7/1/09-10	\$472,422	\$134,159	\$338,263	1.160	1.000	\$392,000	6,394	\$61.31
7/1/10-11	\$382,892	\$76,227	\$306,666	1.139	1.000	\$349,000	7,060	\$49.43
7/1/11-12	\$405,877	\$39,204	\$366,674	1.126	1.000	\$413,000	6,241	\$66.17
7/1/12-13	\$520,721	\$156,341	\$364,380	1.117	1.000	\$407,000	6,062	\$67.14
7/1/13-14	\$465,010	\$0	\$465,010	1.100	1.000	\$512,000	6,750	\$75.85
7/1/14-15	\$720,885	\$48,034	\$672,851	1.081	1.000	\$727,000	8,569	\$84.84
7/1/15-16	\$623,437	\$57,500	\$565,937	1.062	1.003	\$603,000	8,883	\$67.89
7/1/16-17	\$699,936	\$46,386	\$653,549	1.047	1.012	\$693,000	9,478	\$73.12
7/1/17-18	\$987,886	\$217,285	\$770,601	1.032	1.043	\$830,000	9,947	\$83.44
<i>Total</i>	\$5,653,021	\$858,309	\$4,794,711			\$5,282,000	75,060	\$70.37

*Selected Rate* \$77.03  
{ Average of 13-14 through 17-18 }

(A) - Exhibit I

(B) - Exhibit II

(C) = (A) - (B)

(D) - Appendix B

(E) - Appendix A

(F) = (C) \* (D) \* (E)

(G) = Exhibit I

(H) = (F) / (G)

*Forecast Vehicle Counts* 2,245

*Forecast Ultimate Losses* \$173,000

**Estimation of Ultimate Losses Limited to \$250,000  
At the Forecast Loss Level**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
<i>Accident Period</i>	<i>Reported Losses</i>	<i>Excess Reported Losses</i>	<i>Limited Reported Losses</i>	<i>Trend Factor to 7/1/19-20</i>	<i>Reported Develop. Factor</i>	<i>Ultimate Loss</i>	<i>Vehicles</i>	<i>Loss Rate</i>
7/1/08-09	\$373,954	\$83,174	\$290,781	1.223	1.000	\$356,000	5,676	\$62.72
7/1/09-10	\$472,422	\$134,159	\$338,263	1.160	1.000	\$392,000	6,394	\$61.31
7/1/10-11	\$382,892	\$76,227	\$306,666	1.139	1.000	\$349,000	7,060	\$49.43
7/1/11-12	\$405,877	\$39,204	\$366,674	1.126	1.000	\$413,000	6,241	\$66.17
7/1/12-13	\$520,721	\$156,341	\$364,380	1.117	1.000	\$407,000	6,062	\$67.14
7/1/13-14	\$465,010	\$0	\$465,010	1.100	1.000	\$512,000	6,750	\$75.85
7/1/14-15	\$720,885	\$22,262	\$698,623	1.081	1.000	\$755,000	8,569	\$88.10
7/1/15-16	\$623,437	\$0	\$623,437	1.062	1.003	\$665,000	8,883	\$74.87
7/1/16-17	\$699,936	\$46,386	\$653,549	1.047	1.012	\$693,000	9,478	\$73.12
7/1/17-18	\$987,886	\$67,285	\$920,601	1.032	1.043	\$992,000	9,947	\$99.73
<i>Total</i>	\$5,653,021	\$625,038	\$5,027,983			\$5,534,000	75,060	\$73.73

*Selected Rate* \$82.33  
{ Average of 13-14 through 17-18 }

(A) - Exhibit I

(B) - Exhibit II

(C) = (A) - (B)

(D) - Appendix B

(E) - Appendix A

(F) = (C) \* (D) \* (E)

(G) = Exhibit I

(H) = (F) / (G)

*Forecast Vehicle Counts* 9,096

*Forecast Ultimate Losses* \$749,000

**Estimation of Ultimate Losses Limited to \$250,000 - AOP only  
At the Forecast Loss Level**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
<i>Accident Period</i>	<i>Reported Losses</i>	<i>Excess Reported Losses</i>	<i>Limited Reported Losses</i>	<i>Trend Factor to 7/1/19-20</i>	<i>Reported Develop. Factor</i>	<i>Ultimate Loss</i>	<i>Vehicles</i>	<i>Loss Rate</i>
7/1/08-09	\$373,954	\$2,844	\$371,110	1.223	1.000	\$454,000	5,676	\$79.99
7/1/09-10	\$472,422	\$0	\$472,422	1.160	1.000	\$548,000	6,394	\$85.70
7/1/10-11	\$382,892	\$0	\$382,892	1.139	1.000	\$436,000	7,060	\$61.75
7/1/11-12	\$405,877	\$0	\$405,877	1.126	1.000	\$457,000	6,241	\$73.22
7/1/12-13	\$520,721	\$29,117	\$491,604	1.117	1.000	\$549,000	6,062	\$90.57
7/1/13-14	\$465,010	\$0	\$465,010	1.100	1.000	\$512,000	6,750	\$75.85
7/1/14-15	\$720,885	\$0	\$720,885	1.081	1.000	\$779,000	8,569	\$90.91
7/1/15-16	\$623,437	\$0	\$623,437	1.062	1.003	\$665,000	8,883	\$74.87
7/1/16-17	\$699,936	\$0	\$699,936	1.047	1.012	\$742,000	9,478	\$78.29
7/1/17-18	\$987,886	\$67,285	\$920,601	1.032	1.043	\$992,000	9,947	\$99.73
<i>Total</i>	\$5,653,021	\$99,246	\$5,553,774			\$6,134,000	75,060	\$81.72

*Selected Rate* \$83.93  
{ Average of 13-14 through 17-18 }

(A) - Exhibit I

(B) - Exhibit II

(C) = (A) - (B)

(D) - Appendix B

(E) - Appendix A

(F) = (C) \* (D) \* (E)

(G) = Exhibit I

(H) = (F) / (G)

*Forecast Vehicle Counts* 9,096

*Forecast Ultimate Losses* \$763,000

**Projected Claim Frequency for 7/1/19-20**

(A) <i>Accident Period</i>	(B) <i>Number of Occurrences</i>	(C) <i>CCDF</i>	(D) <i>Ultimate Occurrences</i>	(E) <i>Exposures Vehicles</i>	(F) <i>Frequency per 1,000 Vehicles</i>
7/1/08-09	64	1.000	64.0	5,676	11.3
7/1/09-10	77	1.000	77.0	6,394	12.0
7/1/10-11	79	1.000	79.0	7,060	11.2
7/1/11-12	72	1.000	72.0	6,241	11.5
7/1/12-13	78	1.000	78.0	6,062	12.9
7/1/13-14	63	1.000	63.0	6,750	9.3
7/1/14-15	112	1.000	112.0	8,569	13.1
7/1/15-16	94	1.000	94.0	8,883	10.6
7/1/16-17	111	1.000	111.0	9,478	11.7
7/1/17-18	110	1.000	110.0	9,947	11.1
<i>Total</i>	860		860.0	75,060	11.5

7/1/19-20

*Selected Frequency* 11.1  
*{ Five year average }*

*Forecast Exposure* 11,341

***Forecast Number of Occurrences* 126.1**

(B) - Exhibit I

(C) - Appendix A

(D) - (B) \* (C)

(E) = Exhibit I

(F) = (D) / (E) \* 1,000

**Forecast Ultimate Losses for 7/1/19-20**  
**Total Experience Net of Member Deductibles**

	<i>Vehicles</i>	<i>Loss Rate</i>	<i>Forecast Losses</i>
<i>Limited to \$100,000</i>	2,245	\$77.03	\$173,000
<i>Limited to \$250,000 AOP/ \$250,000 W/H</i>	9,096	\$82.33	\$749,000
<i>Total</i>	11,341	\$81.30	\$922,000
<i>Limited to \$100,000</i>	2,245	\$77.03	\$173,000
<i>Limited to \$250,000 AOP/ higher limit W/H</i>	9,096	\$83.93	\$763,000
<i>Total</i>	11,341	\$82.53	\$936,000

- From Exhibit III, page 1 for limited to \$100,000
- From Exhibit III, page 2 for limited to \$250,000 all perils
- From Exhibit III, page 3 for limited to \$250,000 AOP / higher limits for W/H

***Distribution of Forecast Losses for 7/1/19-20***

<i>Percentile</i>	<i>All Perils \$250,000</i>	<i>Wind/Hail &gt; \$250,000</i>
25.0%	\$790,000	\$840,000
30.0%	\$820,000	\$860,000
35.0%	\$840,000	\$880,000
40.0%	\$860,000	\$890,000
45.0%	\$880,000	\$910,000
50.0%	\$900,000	\$920,000
55.0%	\$920,000	\$940,000
60.0%	\$950,000	\$960,000
65.0%	\$970,000	\$980,000
70.0%	\$1,000,000	\$1,000,000
75.0%	\$1,030,000	\$1,020,000
80.0%	\$1,060,000	\$1,040,000
85.0%	\$1,100,000	\$1,070,000
90.0%	\$1,160,000	\$1,110,000
95.0%	\$1,240,000	\$1,170,000
<i>Expected</i>	\$922,000	\$936,000

- Lognormal distribution based on variance in historical loss rates

**Estimation of Cumulative Reported Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.089	-6.8156	-2.4217	46.453	5.8647	16.5056	127.0	1.000
24	1.027	-6.8287	-3.6067	46.631	13.0086	24.6294	115.0	1.000
36	1.007	-6.8416	-4.9618	46.808	24.6199	33.9470	103.0	1.000
							91.0	1.000
							79.0	1.000
							67.0	1.000
							55.0	1.000
							43.0	1.003
							31.0	1.012
							19.0	1.043
							7.0	1.920
Sum		-20.4860	-10.9903	139.8920	43.4933	75.0821		
Average		-6.8287	-3.6634	46.6307	14.4978	25.0274		

N =	3		
A =	2.350E+288		
B =	97.774	R^2 =	0.99820
C =	900		

- Based on Property and APD development limited to \$250,000

**Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
		$LN(1/(X+C))$	$LN(Y-1)$				127.0	1.000
							115.0	1.000
							103.0	1.000
							91.0	1.000
							79.0	1.000
							67.0	1.000
							55.0	1.000
							43.0	1.000
							31.0	1.000
							19.0	1.000
							7.0	1.857
Sum Average								

N =	0	
A =		
B =		R^2 =
C =	0	

\* - judgmentally selected



**U.S. Claims Cost Index  
Auto Physical Damage**

(A) Year	(B) Auto Physical Damage Index	(C) Annual Percent Increase	(D) Accident Period	(E) Interpolated Index	(F) Trend Factor to 7/1/19-20
2008	107.9				
2009	118.2	9.6%	7/1/08-09	113.1	1.223
2010	120.3	1.7%	7/1/09-10	119.3	1.160
2011	122.6	1.9%	7/1/10-11	121.4	1.139
2012	123.1	0.4%	7/1/11-12	122.8	1.126
2013	124.5	1.2%	7/1/12-13	123.8	1.117
2014	126.9	1.9%	7/1/13-14	125.7	1.100
2015	129.0	1.6%	7/1/14-15	127.9	1.081
2016	131.4	1.9%	7/1/15-16	130.2	1.062
2017	132.8	1.1%	7/1/16-17	132.1	1.047
2018*	135.1	1.7%	7/1/17-18	134.0	1.032
2019**	137.2	1.6%	7/1/18-19	136.2	1.016
2020**	139.4	1.6%	7/1/19-20	138.3	1.000

(B) and (C) - Towers Watson Claim Cost Index compiled by Jeremy Pecora, FCAS, MAAA

\* - numbers are preliminary

\*\* - Future years estimated based on 2013-2018

(C) =  $[(B) / (B, \text{prior})] - 1$

(E) - Linear interpolation of column (B)

(F) -  $[(E), \text{forecast period}] / [(E), \text{current period}]$



## Property Exhibits

The “Analysis” section of this report presents a discussion of the following exhibits:

Exhibit I	Summary of Experience
Exhibit II	Claims that Develop and Trend over \$250,000
Exhibit III	Ultimate Small Losses
Exhibit IV	Forecast Losses Less than \$250,000
Exhibit V	Large Claim Frequency – AOP Large Claim Frequency – Wind/Hail Total Claim Frequency Total Claim Frequency
Exhibit VI	Forecast Ultimate Losses
Exhibit VII	Results of Monte Carlo Simulation Forecast Losses for Various Layers
Appendix A	Loss Development Factors
Appendix B	Trend Factors



**Summary of Loss Data as of January 31, 2019**  
**Total Experience Net of Deductibles**

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
Accident Period	Evaluation Date	Maturity (months)	Reported Total Claims	Deductibles Paid	Loss Payment	Loss Reserve	Expense and Legal Payment	Expense and Legal Reserve	Total Reported Excl. Ded.	Total Insured Value \$00s
7/1/05-06	1/31/2019	163	99	\$412,500	\$2,054,614	\$0	\$99,984	\$0	\$2,154,597	\$38,317,449
7/1/06-07	1/31/2019	151	125	\$825,000	\$4,617,605	\$0	\$118,903	\$0	\$4,736,508	\$49,202,163
7/1/07-08	1/31/2019	139	129	\$887,500	\$20,475,144	\$0	\$146,038	\$0	\$20,621,182	\$54,283,147
7/1/08-09	1/31/2019	127	95	\$900,000	\$12,918,675	\$0	\$151,629	\$0	\$13,070,304	\$57,240,864
7/1/09-10	1/31/2019	115	125	\$926,000	\$15,618,663	\$0	\$187,495	\$0	\$15,806,158	\$60,705,733
7/1/10-11	1/31/2019	103	110	\$751,000	\$23,562,957	\$0	\$33,247	\$0	\$23,596,204	\$64,305,724
7/1/11-12	1/31/2019	91	77	\$337,500	\$2,728,637	\$0	\$43,709	\$0	\$2,772,346	\$62,853,084
7/1/12-13	1/31/2019	79	76	\$605,000	\$5,063,566	\$0	\$11,912	\$0	\$5,075,478	\$60,055,808
7/1/13-14	1/31/2019	67	84	\$247,500	\$4,035,476	\$0	\$32,448	\$0	\$4,067,924	\$68,049,154
7/1/14-15	1/31/2019	55	88	\$785,000	\$3,247,141	\$2,990,910	\$217,539	\$49,636	\$6,505,226	\$78,756,532
7/1/15-16	1/31/2019	43	76	\$707,500	\$4,567,167	\$3,417,000	\$125,147	\$16,518	\$8,125,831	\$79,574,555
7/1/16-17	1/31/2019	31	105	\$815,000	\$7,748,103	\$1,796,271	\$164,669	\$13,910	\$9,722,952	\$87,993,658
7/1/17-18	1/31/2019	19	80	\$575,000	\$8,029,065	\$5,746,378	\$86,303	\$90,889	\$13,952,635	\$90,450,395
7/1/18-19	1/31/2019	7	48	\$370,000	\$529,873	\$330,313	\$2,591	\$5,408	\$868,185	\$119,791,728
7/1/19-20										\$119,791,728
			1,317	\$9,144,500	\$115,196,685	\$14,280,873	\$1,421,614	\$176,361	\$131,075,532	\$1,091,371,722

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services
- Claims data for Current OSIG members only
- Claims are grouped by occurrence

**Claims that Exceed \$250,000 After Development and Trend  
As of January 31, 2019**

Occ # Or date	Loss Date	Paid Pure Loss	Reported Pure Loss	Severity Factor	Trend Factor	& trended Gross Loss	AOP or Wind/Hail	Policy Yr Eff
0003	7/4/2005	\$498,691	\$498,691	1.000	1.419	\$707,725	Wind/Hail	7/1/05-06
01070	4/1/2006	\$249,726	\$249,726	1.000	1.419	\$354,402	Wind/Hail	7/1/05-06
01069	4/9/2006	\$196,964	\$196,964	1.000	1.419	\$279,524	AOP	7/1/05-06
0010	1/13/2007	\$568,748	\$568,748	1.000	1.363	\$775,321	AOP	7/1/06-07
01446	1/14/2007	\$2,391,851	\$2,391,851	1.000	1.363	\$3,260,585	AOP	7/1/06-07
01603	4/1/2007	\$450,156	\$450,156	1.000	1.363	\$613,655	AOP	7/1/06-07
01932	10/20/2007	\$4,417,502	\$4,417,502	1.000	1.315	\$5,807,395	AOP	7/1/07-08
02010	12/10/2007	\$7,939,099	\$7,939,099	1.000	1.315	\$10,437,004	AOP	7/1/07-08
0017	4/9/2008	\$611,415	\$611,415	1.000	1.315	\$803,786	Wind/Hail	7/1/07-08
02205	4/10/2008	\$264,208	\$264,208	1.000	1.315	\$347,336	AOP	7/1/07-08
02283	5/10/2008	\$1,079,655	\$1,079,655	1.000	1.315	\$1,419,350	Wind/Hail	7/1/07-08
0020	5/22/2008	\$737,893	\$737,893	1.000	1.315	\$970,059	Wind/Hail	7/1/07-08
0022	6/1/2008	\$2,626,315	\$2,626,315	1.000	1.315	\$3,452,642	Wind/Hail	7/1/07-08
0019	6/5/2008	\$1,617,657	\$1,617,657	1.000	1.315	\$2,126,625	Wind/Hail	7/1/07-08
02442	8/5/2008	\$253,900	\$253,900	1.000	1.261	\$320,255	AOP	7/1/08-09
0024	11/5/2008	\$1,757,745	\$1,757,745	1.000	1.261	\$2,217,118	Wind/Hail	7/1/08-09
02724	1/21/2009	\$359,928	\$359,928	1.000	1.261	\$453,993	AOP	7/1/08-09
0026	1/26/2009	\$324,184	\$324,184	1.000	1.261	\$408,907	AOP	7/1/08-09
0027	2/10/2009	\$403,324	\$403,324	1.000	1.261	\$508,730	Wind/Hail	7/1/08-09
02786	2/27/2009	\$2,319,259	\$2,319,259	1.000	1.261	\$2,925,379	AOP	7/1/08-09
0030	3/27/2009	\$2,162,396	\$2,162,396	1.000	1.261	\$2,727,522	AOP	7/1/08-09
0031	4/9/2009	\$855,773	\$855,773	1.000	1.261	\$1,079,423	Wind/Hail	7/1/08-09
0037	4/29/2009	\$212,817	\$212,817	1.000	1.261	\$268,434	Wind/Hail	7/1/08-09
0032	5/1/2009	\$1,097,400	\$1,097,400	1.000	1.261	\$1,384,197	AOP	7/1/08-09
0034	5/13/2009	\$1,021,535	\$1,021,535	1.000	1.261	\$1,288,505	Wind/Hail	7/1/08-09
0036	6/11/2009	\$276,220	\$276,220	1.000	1.261	\$348,407	Wind/Hail	7/1/08-09
03081	7/27/2009	\$304,502	\$304,502	1.000	1.191	\$362,636	AOP	7/1/09-10
03122	8/21/2009	\$4,975,483	\$4,975,483	1.000	1.191	\$5,925,381	AOP	7/1/09-10
0039	1/9/2010	\$976,159	\$976,159	1.000	1.191	\$1,162,524	AOP	7/1/09-10
0040	1/30/2010	\$689,490	\$689,490	1.000	1.191	\$821,124	AOP	7/1/09-10
0041	5/10/2010	\$3,693,345	\$3,693,345	1.000	1.191	\$4,398,463	Wind/Hail	7/1/09-10
0042	5/14/2010	\$2,009,353	\$2,009,353	1.000	1.191	\$2,392,970	Wind/Hail	7/1/09-10
93604	6/12/2010	\$248,774	\$248,774	1.000	1.191	\$296,269	Wind/Hail	7/1/09-10
90050	8/4/2010	\$247,854	\$247,854	1.000	1.153	\$285,690	AOP	7/1/10-11
90336	12/30/2010	\$854,448	\$854,448	1.000	1.153	\$984,883	AOP	7/1/10-11
0043	2/2/2011	\$798,317	\$798,317	1.000	1.153	\$920,183	AOP	7/1/10-11
0044	2/3/2011	\$536,699	\$536,699	1.000	1.153	\$618,628	AOP	7/1/10-11
0046	2/11/2011	\$389,121	\$389,121	1.000	1.153	\$448,522	AOP	7/1/10-11
0048	4/14/2011	\$11,366,776	\$11,366,776	1.000	1.153	\$13,101,960	Wind/Hail	7/1/10-11
0050	5/23/2011	\$7,312,367	\$7,312,367	1.000	1.153	\$8,428,629	Wind/Hail	7/1/10-11
90999	11/7/2011	\$418,868	\$418,868	1.000	1.159	\$485,429	Wind/Hail	7/1/11-12
91234	4/15/2012	\$485,893	\$485,893	1.000	1.159	\$563,105	AOP	7/1/11-12
91351	5/29/2012	\$308,905	\$308,905	1.000	1.159	\$357,993	Wind/Hail	7/1/11-12
91392	7/14/2012	\$483,485	\$483,485	1.000	1.153	\$557,419	Wind/Hail	7/1/12-13
91393	7/16/2012	\$402,217	\$402,217	1.000	1.153	\$463,724	AOP	7/1/12-13
91814	4/18/2013	\$454,242	\$454,242	1.000	1.153	\$523,705	Wind/Hail	7/1/12-13
0052	4/26/2013	\$1,653,539	\$1,653,539	1.000	1.153	\$1,906,397	Wind/Hail	7/1/12-13
0054	5/31/2013	\$964,042	\$964,042	1.000	1.153	\$1,111,462	Wind/Hail	7/1/12-13
92144	11/6/2013	\$299,442	\$299,442	1.000	1.118	\$334,815	AOP	7/1/13-14
92546	6/28/2014	\$2,284,671	\$2,284,671	1.000	1.118	\$2,554,558	AOP	7/1/13-14
0055	3/25/2015	\$502,395	\$3,493,305	1.001	1.089	\$3,806,803	Wind/Hail	7/1/14-15
93164	4/11/2015	\$331,500	\$331,500	1.001	1.089	\$361,250	Wind/Hail	7/1/14-15
0056	5/6/2015	\$239,457	\$239,457	1.001	1.089	\$260,947	Wind/Hail	7/1/14-15
0061	5/19/2015	\$620,862	\$620,862	1.001	1.089	\$676,580	Wind/Hail	7/1/14-15
0063	11/17/2015	\$792,926	\$792,926	1.003	1.058	\$842,098	AOP	7/1/15-16
0058	4/29/2016	\$681,598	\$681,598	1.003	1.058	\$723,866	Wind/Hail	7/1/15-16
0059	5/9/2016	\$1,182,853	\$1,182,853	1.003	1.058	\$1,256,205	Wind/Hail	7/1/15-16
94123	5/13/2016	\$263,000	\$280,000	1.003	1.058	\$297,363	Wind/Hail	7/1/15-16
95188	5/29/2016	\$0	\$3,400,000	1.003	1.058	\$3,610,842	Wind/Hail	7/1/15-16
0060	7/14/2016	\$2,575,182	\$2,575,182	1.017	1.030	\$2,697,531	Wind/Hail	7/1/16-17
93959	8/23/2016	\$458,500	\$458,500	1.017	1.030	\$480,284	AOP	7/1/16-17
94256	11/16/2016	\$1,099,838	\$2,300,000	1.017	1.030	\$2,409,275	AOP	7/1/16-17
94217	12/19/2016	\$347,321	\$347,321	1.017	1.030	\$363,822	AOP	7/1/16-17
0064	5/27/2017	\$1,009,602	\$1,347,646	1.017	1.030	\$1,411,674	Wind/Hail	7/1/16-17
0065	6/17/2017	\$302,722	\$302,722	1.017	1.030	\$317,105	Wind/Hail	7/1/16-17
94628	8/29/2017	\$4,377,125	\$5,344,000	1.102	1.028	\$6,053,230	AOP	7/1/17-18
P625-17-94679	9/21/2017	\$227,239	\$227,239	1.102	1.028	\$257,397	AOP	7/1/17-18
95267	3/19/2018	\$0	\$4,000,000	1.102	1.028	\$4,530,861	Wind/Hail	7/1/17-18
95052	5/4/2018	\$679,050	\$679,050	1.102	1.028	\$769,170	AOP	7/1/17-18
0067	5/29/2018	\$856,076	\$1,153,620	1.102	1.028	\$1,306,723	Wind/Hail	7/1/17-18
0068	6/12/2018	\$2,423	\$462,423	1.102	1.028	\$523,793	Wind/Hail	7/1/17-18
		\$93,402,020	\$107,072,555			\$127,249,567		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher Risk Management Services

**Claim Severity Distribution by Peril**  
**Claims over \$250,000**  
**Developed and Trended to 7/1/19-20**

**All Other Perils (AOP)**  
*Inverse Weibull Curve*

Tau = 1.3139  
Theta = 579,664.2

**Wind/Hail**  
*Inverse Weibull Curve*

Tau = 1.2157  
Theta = 657,549.4

<i>Percentile</i>	<i>Observed</i>	<i>Fitted</i>
10%	\$323,167	\$349,010
20%	\$363,110	\$440,594
30%	\$451,805	\$539,604
40%	\$546,541	\$658,416
50%	\$769,170	\$806,931
55%	\$802,803	\$900,990
60%	\$857,715	\$1,014,851
65%	\$971,943	\$1,153,465
70%	\$1,251,193	\$1,329,208
75%	\$2,409,275	\$1,561,881
80%	\$2,658,336	\$1,893,564
85%	\$2,992,420	\$2,405,941
90%	\$5,298,033	\$3,344,059
95%	\$5,976,521	\$5,779,703
96%	\$6,017,432	\$6,873,762
97%	\$6,228,581	\$8,589,109
98%	\$7,631,389	\$11,737,624
99%	\$9,034,196	\$19,967,822
Expected	\$1,707,943	\$1,712,286

<i>Percentile</i>	<i>Observed</i>	<i>Fitted</i>
10%	\$311,182	\$369,012
20%	\$359,296	\$479,098
30%	\$523,714	\$598,110
40%	\$701,496	\$743,899
50%	\$1,024,741	\$931,343
55%	\$1,162,122	\$1,047,380
60%	\$1,292,149	\$1,190,194
65%	\$1,412,058	\$1,368,712
70%	\$1,857,692	\$1,594,834
75%	\$2,194,495	\$1,901,290
80%	\$2,575,707	\$2,341,634
85%	\$3,523,832	\$3,034,878
90%	\$3,984,301	\$4,332,108
95%	\$5,115,526	\$7,828,083
96%	\$6,557,700	\$9,443,669
97%	\$7,999,875	\$12,014,326
98%	\$9,643,695	\$16,837,284
99%	\$11,372,828	\$29,898,840
Expected	\$1,865,459	\$2,166,749

- Based on trended ultimate claim values from Exhibit II, page 1

***Estimation of Ultimate Small Losses  
At the Forecast Loss Level***

	(A)	(B)	(C)	(D)	(E)
<i>Accident Period</i>	<i>Net Reported Losses</i>	<i>Reported on Large Losses</i>	<i>Trend Factor to 7/1/19-20</i>	<i>Reported Develop. Factor</i>	<i>Ultimate Net on Small Claims</i>
7/1/05-06	\$2,154,597	\$945,381	1.419	1.000	\$1,716,000
7/1/06-07	\$4,736,508	\$3,410,755	1.363	1.000	\$1,807,000
7/1/07-08	\$20,621,182	\$19,293,743	1.315	1.000	\$1,745,000
7/1/08-09	\$13,070,304	\$11,044,481	1.261	1.000	\$2,555,000
7/1/09-10	\$15,806,158	\$12,897,105	1.191	1.000	\$3,464,000
7/1/10-11	\$23,596,204	\$21,505,581	1.153	1.000	\$2,410,000
7/1/11-12	\$2,772,346	\$1,213,666	1.159	1.000	\$1,806,000
7/1/12-13	\$5,075,478	\$3,957,526	1.153	1.000	\$1,289,000
7/1/13-14	\$4,067,924	\$2,584,113	1.118	1.000	\$1,659,000
7/1/14-15	\$6,505,226	\$4,685,124	1.089	1.000	\$1,982,000
7/1/15-16	\$8,125,831	\$6,337,378	1.058	1.003	\$1,899,000
7/1/16-17	\$9,722,952	\$7,331,370	1.030	1.012	\$2,493,000
7/1/17-18	\$13,952,635	\$11,866,331	1.028	1.043	\$2,237,000
<b>Total</b>	<b>\$130,207,347</b>	<b>\$107,072,555</b>			<b>\$27,062,000</b>

(A) - Exhibit I

(B) - Exhibit II

(C) - Appendix B

(D) - Appendix A

(E) = (C)\*(D)\*[(A) - (B)]



**Calculation of Forecast Losses  
Ground Up Losses Less Than \$250,000**

(A)	(B)	(C)	(D)	(E)	(F)
Accident Period	Trended Ultimate Losses	Exposures TIV in \$100s	Exposure Trend Factors	Trended Exposures	Loss Rate
7/1/05-06	\$1,716,000	\$38,317,449	1.309	\$50,168,801	\$0.034
7/1/06-07	\$1,807,000	\$49,202,163	1.271	\$62,529,551	\$0.029
7/1/07-08	\$1,745,000	\$54,283,147	1.230	\$66,750,382	\$0.026
7/1/08-09	\$2,555,000	\$57,240,864	1.209	\$69,208,271	\$0.037
7/1/09-10	\$3,464,000	\$60,705,733	1.201	\$72,922,479	\$0.048
7/1/10-11	\$2,410,000	\$64,305,724	1.173	\$75,433,478	\$0.032
7/1/11-12	\$1,806,000	\$62,853,084	1.143	\$71,863,925	\$0.025
7/1/12-13	\$1,289,000	\$60,055,808	1.123	\$67,463,306	\$0.019
7/1/13-14	\$1,659,000	\$68,049,154	1.106	\$75,287,070	\$0.022
7/1/14-15	\$1,982,000	\$78,756,532	1.097	\$86,397,551	\$0.023
7/1/15-16	\$1,899,000	\$79,574,555	1.089	\$86,691,011	\$0.022
7/1/16-17	\$2,493,000	\$87,993,658	1.071	\$94,262,364	\$0.026
7/1/17-18	\$2,237,000	\$90,450,395	1.047	\$94,726,597	\$0.024
<b>Total</b>	<b>\$27,062,000</b>	<b>\$851,788,266</b>		<b>\$973,704,786</b>	<b>\$0.028</b>

7/1/19-20

(1) Selected Loss Rate  
{ Average, last four years }

\$0.024

(2) Forecast Exposure in \$00s  
{ Exhibit I }

\$119,791,728

(3) Forecast Losses  
{ Line (1) x Line (2) }

\$2,842,000

Column (B) - Column (E) in Exhibit III

Column (C) - Exhibit I

Column (D) - Appendix B2

Column (E) = (C) \* (D)

Column (F) = (B) / (E)

**Forecast Claim Frequency  
Claims over \$250,000 - AOP**

(A) Accident Period	(B) Number of Large Claims	(C) CCDF	(D) Ultimate Large Claims	(E) Trended Exposures TIV in \$100s	(F) Frequency per \$1M TIV
7/1/05-06	1	1.000	1.0	\$50,168,801	0.0002
7/1/06-07	3	1.000	3.0	\$62,529,551	0.0005
7/1/07-08	3	1.000	3.0	\$66,750,382	0.0004
7/1/08-09	6	1.000	6.0	\$69,208,271	0.0009
7/1/09-10	4	1.000	4.0	\$72,922,479	0.0005
7/1/10-11	5	1.000	5.0	\$75,433,478	0.0007
7/1/11-12	1	1.000	1.0	\$71,863,925	0.0001
7/1/12-13	1	1.000	1.0	\$67,463,306	0.0001
7/1/13-14	2	1.000	2.0	\$75,287,070	0.0003
7/1/14-15	0	1.000	0.0	\$86,397,551	0.0000
7/1/15-16	1	1.000	1.0	\$86,691,011	0.0001
7/1/16-17	3	1.000	3.0	\$94,262,364	0.0003
7/1/17-18	3	1.000	3.0	\$94,726,597	0.0003
<b>Total</b>	<b>33</b>		<b>33.0</b>	<b>\$973,704,786</b>	<b>0.0003</b>

7/1/19-20

Selected Frequency  
{ All years weighted average } 0.0003

Forecast Exposure \$119,791,728

**Forecast Claims over \$250,000 - All Other Perils 4.1**

(B) - Exhibit II

(C) - Appendix A

(D) - (B) \* (C)

(E) = Exhibit IV

(F) = (D) / (E) \* 10,000

**Forecast Claim Frequency**  
**Claims over \$250,000 - Wind/Hail**

(A) Accident Period	(B) Number of Large Claims	(C) CCDF	(D) Ultimate Large Claims	(E) Trended Exposures TIV in \$100s	(F) Frequency per \$1M TIV
7/1/05-06	2	1.000	2.0	\$50,168,801	0.0004
7/1/06-07	0	1.000	0.0	\$62,529,551	0.0000
7/1/07-08	5	1.000	5.0	\$66,750,382	0.0007
7/1/08-09	6	1.000	6.0	\$69,208,271	0.0009
7/1/09-10	3	1.000	3.0	\$72,922,479	0.0004
7/1/10-11	2	1.000	2.0	\$75,433,478	0.0003
7/1/11-12	2	1.000	2.0	\$71,863,925	0.0003
7/1/12-13	4	1.000	4.0	\$67,463,306	0.0006
7/1/13-14	0	1.000	0.0	\$75,287,070	0.0000
7/1/14-15	4	1.000	4.0	\$86,397,551	0.0005
7/1/15-16	4	1.000	4.0	\$86,691,011	0.0005
7/1/16-17	3	1.000	3.0	\$94,262,364	0.0003
7/1/17-18	3	1.000	3.0	\$94,726,597	0.0003
<b>Total</b>	<b>38</b>		<b>38.0</b>	<b>\$973,704,786</b>	<b>0.0004</b>

7/1/19-20

Selected Frequency  
{ All years weighted average } 0.0004

Forecast Exposure \$119,791,728

**Forecast Claims over \$250,000 - Wind/Hail 4.7**

(B) - Exhibit II

(C) - Appendix A

(D) - (B) \* (C)

(E) = Exhibit IV

(F) = (D) / (E) \* 10,000

**Forecast Claim Frequency  
Total Claims**

(A) Accident Period	(B) Number of Occurrences	(C) CCDF	(D) Ultimate Claims	(E) Trended Exposures TIV in \$100s	(F) Frequency per \$1M TIV
7/1/05-06	99	1.000	99.0	\$50,168,801	0.020
7/1/06-07	125	1.000	125.0	\$62,529,551	0.020
7/1/07-08	129	1.000	129.0	\$66,750,382	0.019
7/1/08-09	95	1.000	95.0	\$69,208,271	0.014
7/1/09-10	125	1.000	125.0	\$72,922,479	0.017
7/1/10-11	110	1.000	110.0	\$75,433,478	0.015
7/1/11-12	77	1.000	77.0	\$71,863,925	0.011
7/1/12-13	76	1.000	76.0	\$67,463,306	0.011
7/1/13-14	84	1.000	84.0	\$75,287,070	0.011
7/1/14-15	88	1.000	88.0	\$86,397,551	0.010
7/1/15-16	76	1.000	76.0	\$86,691,011	0.009
7/1/16-17	105	1.000	105.0	\$94,262,364	0.011
7/1/17-18	80	1.000	80.0	\$94,726,597	0.008
<b>Total</b>	<b>1,269</b>		<b>1,269.0</b>	<b>\$973,704,786</b>	<b>0.013</b>

7/1/19-20

Selected Frequency  
{ last five years }

0.010

Forecast Exposure \$119,791,728

**Forecast Number of Claims - Total Claims 119.1**

(B) - Exhibit I

(C) - Appendix A

(D) - (B) \* (C)

(E) = Exhibit I

(F) = (D) / (E) \* 10,000

**Forecast Ultimate Losses for 7/1/19-20  
Total Experience Net of Member Deductibles**

	<u>7/1/19-20</u>	
(1) Forecast Small Losses {Exhibit IV}		\$2,842,000
	<u>AOP</u>	<u>Wind/Hail</u>
(2) Expected Number of claims over \$250,000: {Exhibit V}	4.1	4.7
		8.7
(3) Expected Severity of Losses for Claims over \$250,000: {Derived from Losses in Exhibit II}	<u>AOP</u>	<u>Wind/Hail</u>
Limited to \$250,000	\$250,000	\$250,000
Limited to \$500,000		\$473,837
Limited to \$750,000		\$644,917
Limited to \$1,000,000		\$777,256
Unlimited	\$1,712,286	\$2,166,749
(5) Projected Losses Limited to SIR { Line(1) +Line(2) * [Line (3) - Line (4)] }		
Limited to \$250,000 AOP/ \$250,000 W/H		\$5,026,000
Limited to \$250,000 AOP/ \$500,000 W/H		\$6,072,000
Limited to \$250,000 AOP/ \$750,000 W/H		\$6,872,000
Limited to \$250,000 AOP/ \$1,000,000 W/H		\$7,491,000
Unlimited		\$19,923,000
(6) Cost of Corridor (capped at \$1,400,000)		
Excess of \$250,000 AOP/ \$250,000 W/H		\$1,400,000
Excess of \$250,000 AOP/ \$500,000 W/H		\$1,400,000
Excess of \$250,000 AOP/ \$750,000 W/H		\$1,400,000
Excess of \$250,000 AOP/ \$1,000,000 W/H		\$1,400,000
<b>(7) Total Forecast Losses including Corridor { Line(5) + Line(6) }</b>		
Limited to \$250,000 AOP/ \$250,000 W/H		\$6,426,000
Limited to \$250,000 AOP/ \$500,000 W/H		\$7,472,000
Limited to \$250,000 AOP/ \$750,000 W/H		\$8,272,000
Limited to \$250,000 AOP/ \$1,000,000 W/H		\$8,891,000
(8) Forecast Total Insured Value in \$100s		\$119,791,728
<b>(9) Projected Cost per \$100 TIV { Line(7) / Line(8) }</b>		
Limited to \$250,000 AOP/ \$250,000 W/H		\$0.054
Limited to \$250,000 AOP/ \$500,000 W/H		\$0.062
Limited to \$250,000 AOP/ \$750,000 W/H		\$0.069
Limited to \$250,000 AOP/ \$1,000,000 W/H		\$0.074
(10) Projected Total Occurrences		119.1
(11) Average Severity { Line (5) / Line (10) }		
Limited to \$250,000 AOP/ \$250,000 W/H		\$42,200
Limited to \$250,000 AOP/ \$500,000 W/H		\$51,000
Limited to \$250,000 AOP/ \$750,000 W/H		\$57,700
Limited to \$250,000 AOP/ \$1,000,000 W/H		\$62,900

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention       \$250,000**  
**Corridor Deductible       \$1,400,000**

Percentile	SIR Layer \$250,000 - AOP \$250,000 - W/H	Cost of Corridor Ltd. \$1.4M	Total Retained Losses	Insured Excess Losses	Total Incurred Losses
25.0%	\$4,309,000	\$1,400,000	\$5,706,000	\$5,085,000	\$11,290,000
30.0%	\$4,454,000	\$1,400,000	\$5,851,000	\$5,942,000	\$12,200,000
35.0%	\$4,589,000	\$1,400,000	\$5,988,000	\$6,759,000	\$13,110,000
40.0%	\$4,707,000	\$1,400,000	\$6,107,000	\$7,641,000	\$14,040,000
45.0%	\$4,843,000	\$1,400,000	\$6,242,000	\$8,601,000	\$15,100,000
50.0%	\$4,968,000	\$1,400,000	\$6,368,000	\$9,675,000	\$16,190,000
55.0%	\$5,099,000	\$1,400,000	\$6,499,000	\$10,818,000	\$17,420,000
60.0%	\$5,228,000	\$1,400,000	\$6,628,000	\$12,225,000	\$18,900,000
65.0%	\$5,354,000	\$1,400,000	\$6,754,000	\$13,789,000	\$20,510,000
70.0%	\$5,506,000	\$1,400,000	\$6,906,000	\$15,646,000	\$22,360,000
75.0%	\$5,661,000	\$1,400,000	\$7,061,000	\$18,027,000	\$24,850,000
80.0%	\$5,860,000	\$1,400,000	\$7,260,000	\$21,256,000	\$28,110,000
85.0%	\$6,084,000	\$1,400,000	\$7,484,000	\$25,832,000	\$32,560,000
90.0%	\$6,353,000	\$1,400,000	\$7,753,000	\$31,258,000	\$37,840,000
95.0%	\$6,787,000	\$1,400,000	\$8,187,000	\$38,482,000	\$45,240,000
<b>Expected</b>	<b>\$5,026,000</b>	<b>\$1,400,000</b>	<b>\$6,426,000</b>	<b>\$13,497,000</b>	<b>\$19,923,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.042</b>	<b>\$0.012</b>	<b>\$0.054</b>	<b>\$0.113</b>	<b>\$0.166</b>

Percentiles based on combined distributions for small and large losses

Aggregate small losses modeled using a lognormal distribution

Large claim size modeled using an inverse Weibull distribution

Large claim counts modeled using a Poisson Distribution

	<u>Lognormal</u>	
Mu =	14.82877	
Sigma=	0.25000	
	<u>Inverse Weibull - AOP</u>	<u>Inv. Weibull - W/H</u>
Tau =	1.31389	1.21566
Theta =	579664.2	657549.4
	<u>Poisson - AOP</u>	<u>Poisson - W/H</u>
Lambda =	4.06	4.68

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention       \$500,000**  
**Corridor Deductible       \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$500,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$5,131,000	\$1,400,000	\$6,523,000	\$4,161,000	\$11,290,000
30.0%	\$5,328,000	\$1,400,000	\$6,721,000	\$4,995,000	\$12,200,000
35.0%	\$5,507,000	\$1,400,000	\$6,901,000	\$5,780,000	\$13,110,000
40.0%	\$5,667,000	\$1,400,000	\$7,063,000	\$6,647,000	\$14,040,000
45.0%	\$5,831,000	\$1,400,000	\$7,228,000	\$7,567,000	\$15,100,000
50.0%	\$5,989,000	\$1,400,000	\$7,387,000	\$8,591,000	\$16,190,000
55.0%	\$6,171,000	\$1,400,000	\$7,568,000	\$9,699,000	\$17,420,000
60.0%	\$6,346,000	\$1,400,000	\$7,745,000	\$11,096,000	\$18,900,000
65.0%	\$6,530,000	\$1,400,000	\$7,930,000	\$12,620,000	\$20,510,000
70.0%	\$6,722,000	\$1,400,000	\$8,122,000	\$14,450,000	\$22,360,000
75.0%	\$6,939,000	\$1,400,000	\$8,337,000	\$16,742,000	\$24,850,000
80.0%	\$7,184,000	\$1,400,000	\$8,584,000	\$20,057,000	\$28,110,000
85.0%	\$7,459,000	\$1,400,000	\$8,858,000	\$24,613,000	\$32,560,000
90.0%	\$7,821,000	\$1,400,000	\$9,221,000	\$29,985,000	\$37,840,000
95.0%	\$8,425,000	\$1,400,000	\$9,825,000	\$36,957,000	\$45,240,000
<b>Expected</b>	<b>\$6,072,000</b>	<b>\$1,400,000</b>	<b>\$7,472,000</b>	<b>\$12,451,000</b>	<b>\$19,923,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.051</b>	<b>\$0.012</b>	<b>\$0.062</b>	<b>\$0.104</b>	<b>\$0.166</b>

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

Lognormal  
Mu = 14.82877  
Sigma= 0.25000  
Inverse Weibull  
Tau = 1.21554  
Theta = 600992.70736  
Poisson - AOP      Poisson - W/H  
Lambda = 4.06                      4.68

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention         \$750,000**  
**Corridor Deductible         \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$750,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$5,708,000	\$1,400,000	\$7,090,000	\$3,480,000	\$11,290,000
30.0%	\$5,924,000	\$1,400,000	\$7,310,000	\$4,250,000	\$12,200,000
35.0%	\$6,143,000	\$1,400,000	\$7,533,000	\$5,035,000	\$13,110,000
40.0%	\$6,362,000	\$1,400,000	\$7,753,000	\$5,884,000	\$14,040,000
45.0%	\$6,573,000	\$1,400,000	\$7,964,000	\$6,774,000	\$15,100,000
50.0%	\$6,769,000	\$1,400,000	\$8,166,000	\$7,758,000	\$16,190,000
55.0%	\$6,983,000	\$1,400,000	\$8,379,000	\$8,890,000	\$17,420,000
60.0%	\$7,193,000	\$1,400,000	\$8,592,000	\$10,223,000	\$18,900,000
65.0%	\$7,420,000	\$1,400,000	\$8,818,000	\$11,706,000	\$20,510,000
70.0%	\$7,673,000	\$1,400,000	\$9,072,000	\$13,494,000	\$22,360,000
75.0%	\$7,941,000	\$1,400,000	\$9,341,000	\$15,795,000	\$24,850,000
80.0%	\$8,239,000	\$1,400,000	\$9,638,000	\$19,065,000	\$28,110,000
85.0%	\$8,611,000	\$1,400,000	\$10,010,000	\$23,746,000	\$32,560,000
90.0%	\$9,043,000	\$1,400,000	\$10,443,000	\$29,000,000	\$37,840,000
95.0%	\$9,773,000	\$1,400,000	\$11,170,000	\$35,910,000	\$45,240,000
<b>Expected</b>	<b>\$6,872,000</b>	<b>\$1,400,000</b>	<b>\$8,272,000</b>	<b>\$11,651,000</b>	<b>\$19,923,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.057</b>	<b>\$0.012</b>	<b>\$0.069</b>	<b>\$0.097</b>	<b>\$0.166</b>

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

Lognormal  
Mu = 14.82877  
Sigma= 0.25000  
Inverse Weibull  
Tau = 1.21554  
Theta = 600992.70736  
Poisson - AOP      Poisson - W/H  
Lambda = 4.06                      4.68



**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention       \$1,000,000**  
**Corridor Deductible       \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$1,000,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
25.0%	\$6,087,000	\$1,400,000	\$7,452,000	\$2,999,000	\$11,290,000
30.0%	\$6,356,000	\$1,400,000	\$7,728,000	\$3,729,000	\$12,200,000
35.0%	\$6,616,000	\$1,400,000	\$7,998,000	\$4,458,000	\$13,110,000
40.0%	\$6,877,000	\$1,400,000	\$8,253,000	\$5,274,000	\$14,040,000
45.0%	\$7,125,000	\$1,400,000	\$8,520,000	\$6,174,000	\$15,100,000
50.0%	\$7,372,000	\$1,400,000	\$8,764,000	\$7,142,000	\$16,190,000
55.0%	\$7,601,000	\$1,400,000	\$8,997,000	\$8,242,000	\$17,420,000
60.0%	\$7,864,000	\$1,400,000	\$9,259,000	\$9,503,000	\$18,900,000
65.0%	\$8,118,000	\$1,400,000	\$9,515,000	\$11,039,000	\$20,510,000
70.0%	\$8,414,000	\$1,400,000	\$9,809,000	\$12,714,000	\$22,360,000
75.0%	\$8,741,000	\$1,400,000	\$10,138,000	\$15,066,000	\$24,850,000
80.0%	\$9,091,000	\$1,400,000	\$10,487,000	\$18,244,000	\$28,110,000
85.0%	\$9,510,000	\$1,400,000	\$10,907,000	\$22,875,000	\$32,560,000
90.0%	\$10,059,000	\$1,400,000	\$11,457,000	\$28,263,000	\$37,840,000
95.0%	\$10,918,000	\$1,400,000	\$12,318,000	\$34,931,000	\$45,240,000
<b>Expected</b>	<b>\$7,491,000</b>	<b>\$1,400,000</b>	<b>\$8,891,000</b>	<b>\$11,032,000</b>	<b>\$19,923,000</b>
<i>TIV in \$00s</i>	\$119,791,728				
<b>Cost Per \$100 TIV</b>	<b>\$0.063</b>	<b>\$0.012</b>	<b>\$0.074</b>	<b>\$0.092</b>	<b>\$0.166</b>

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

Lognormal  
Mu = 14.82877  
Sigma= 0.25000  
Inverse Weibull  
Tau = 1.21554  
Theta = 600992.70736  
Poisson - AOP      Poisson - W/H  
Lambda = 4.06                      4.68

**Estimation of Cumulative Reported Loss Development Factors  
Losses Limited to \$250,000 per Occurrence  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X' LN(1/(X+C))	Y' LN(Y-1)	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.089	-6.8156	-2.4217	46.453	5.8647	16.5056	163	1.000
24	1.027	-6.8287	-3.6067	46.631	13.0086	24.6294	151	1.000
36	1.007	-6.8416	-4.9618	46.808	24.6199	33.9470	139	1.000
							127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
							67	1.000
Sum		-20.4860	-10.9903	139.8920	43.4933	75.0821	55	1.000
Average		-6.8287	-3.6634	46.6307	14.4978	25.0274	43	1.003
							31	1.012
							19	1.043
							7	1.920

N =	3
A =	2.350E+288
B =	97.774
C =	900
R^2 =	0.99820

\* - Appendix A4, Page 1

**Estimation of Cumulative Reported Loss Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
12	1.298	-4.6728	-1.2098	21.835	1.4636	5.6531	163	1.000
24	1.057	-4.7791	-2.8584	22.840	8.1704	13.6606	151	1.000
36	1.007	-4.8752	-4.9604	23.768	24.6057	24.1830	139	1.000
48	1.002	-4.9628	-6.2146	24.630	38.6214	30.8421	127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
							67	1.000
							55	1.001
Sum		-19.2900	-15.2432	93.0727	72.8611	74.3389	43	1.003
Average		-4.8225	-3.8108	23.2682	18.2153	18.5847	31	1.017
							19	1.102
							7	2.532

N =	4
A =	2.874E+35
B =	17.721
C =	95
R^2 =	0.993916

\* - Property and APD unlimited loss development

**Estimation of Cumulative Reported Claim Development Factors  
Using "The Method of Least Squares"**

Curve :  $Y = A(1/(X+C))^B + 1$  (Modified Inverse Power Curve)

Months of Maturity X	Cumulative Factors Y*	Transformed Values for Regression					Fitted Values	
		X'	Y'	(X')^2	(Y')^2	X' x Y'	X	Cumulative Factor Y
		$LN(1/(X+C))$	$LN(Y-1)$				163	1.000
							151	1.000
							139	1.000
							127	1.000
							115	1.000
							103	1.000
							91	1.000
							79	1.000
							67	1.000
							55	1.000
Sum		0.0000	0.0000	0.0000	0.0000	0.0000	43	1.000
Average							31	1.000
							19	1.000
							7	1.714

N =	0		
A =			
B =		R^2 =	
C =	0		

\* - Appendix A6 from IBNR study

**U.S. Claims Cost Index**

(A)	(D)	(E)	(F)	(G)	(H)
Year	Combined Fire and Allied Index	Annual Percent Increase	Accident Period	Interpolated Index	Trend Factor to 7/1/19-20
2004	92.9				
2005	100.0	7.6%			
2006	104.7	4.7%	7/1/05-06	102.3	1.419
2007	108.4	3.6%	7/1/06-07	106.5	1.363
2008	112.5	3.8%	7/1/07-08	110.5	1.315
2009	117.7	4.6%	7/1/08-09	115.1	1.261
2010	126.2	7.2%	7/1/09-10	121.9	1.191
2011	125.8	-0.3%	7/1/10-11	126.0	1.153
2012	124.8	-0.8%	7/1/11-12	125.3	1.159
2013	127.1	1.9%	7/1/12-13	126.0	1.153
2014	132.6	4.3%	7/1/13-14	129.9	1.118
2015	134.1	1.1%	7/1/14-15	133.4	1.089
2016	140.3	4.6%	7/1/15-16	137.2	1.058
2017	141.8	1.0%	7/1/16-17	141.0	1.030
2018*	140.9	-0.6%	7/1/17-18	141.3	1.028
2019**	143.8	2.1%	7/1/18-19	142.3	1.021
2020**	146.7	2.1%	7/1/19-20	145.2	1.000

(B) and (C) - Willis Towers Watson Claim Cost Index, November 2018

Jeremy P. Pecora and Emily M. Thompson

\* - numbers are preliminary

\*\* - future trend estimated based on 2013-2018

(D) = average of BI and PD

(E) =  $[(D) / (D, \text{prior})] - 1$

(G) - Linear interpolation of column (D)

(H) -  $[(G), \text{forecast period}] / [(G), \text{current period}]$

***Derivation of Consumer Price Index  
Exposure Trend Factors***

(A)	(B)	(C)	(D)	(E)
Year	CPI Index	Accident Period	Interpolated Index	Trend Factor to 7/1/19-20
2004	188.9			
2005	195.3			
2006	201.6	7/1/05-06	198.5	1.309
2007	207.3	7/1/06-07	204.5	1.271
2008	215.3	7/1/07-08	211.3	1.230
2009	214.5	7/1/08-09	214.9	1.209
2010	218.1	7/1/09-10	216.3	1.201
2011	224.9	7/1/10-11	221.5	1.173
2012	229.6	7/1/11-12	227.3	1.143
2013	233.0	7/1/12-13	231.3	1.123
2014	236.7	7/1/13-14	234.9	1.106
2015	237.0	7/1/14-15	236.9	1.097
2016	240.0	7/1/15-16	238.5	1.089
2017	245.1	7/1/16-17	242.6	1.071
2018	251.1	7/1/17-18	248.1	1.047
2019*	256.9	7/1/18-19	254.0	1.023
2020*	262.8	7/1/19-20	259.8	1.000

\* - Forecast at 2.3% annual increase

(B) - based on data from the U. S. Department of Labor, Bureau of Statistics

(D) - Values interpolated from index in (B)

(E) = (D, Forecast period) / (D)

August 8, 2019

Ms. Jennifer McKenzie  
Oklahoma Schools Insurance Group  
Arthur J. Gallagher Risk Management Services, Inc.  
1300 S. Main  
Tulsa, OK 74119

RE: OSIG Actuarial Review as of 6/30/19

Dear Jennifer,

The purpose of this review is to update the IBNR estimate as of June 30, 2019, based on the actual loss data for the Oklahoma Schools Insurance Group (OSIG) as of June 30, 2019, and to revise the forecast ultimate losses for 7/1/19-20 based on the exposures written on July 1, 2019. I have compared the current data to the data used in the prior actuarial report as of January 31, 2019, and the projected paid and reported losses as of June 30, 2019. For those accident periods where actual losses deviated from expected losses by a significant amount, the ultimate losses for those periods were increased or decreased accordingly. Since IBNR is calculated as the difference in the ultimate losses and the limited reported losses, the level of IBNR may fluctuate although ultimate losses may be relatively stable, or vice versa. Changes in ultimate losses generally track the changes in reported and paid losses compared to expectations. The change in ultimate losses (before applying the aggregate stop loss limits) is shown below.

<b>Change in Selected Ultimate Losses for years 02/03 through 18/19 Compared to Report as of 1/31/19</b>	
Automobile Liability	\$325,000
General Liability with E&O	\$75,000
Property including APD	\$1,600,000
<b>Total</b>	<b>\$2,000,000</b>

The comparisons of the actual versus expected reported losses as of June 30, 2019, are shown in Exhibit III for each line. We have selected a new estimate of ultimate losses based upon the comparison of actual versus expected losses. The change in the ultimate losses is given in terms of a dollar amount as well as an overall percentage change. Experience since the previous actuarial report is worse than expected in total. Ultimate losses for liability were increased \$400,000 in total with increases to each year from 14/15 to 18/19 for automobile liability, Experience for general liability was mixed, with adverse development in 17/18 off set by better experience in 18/19. There was a net increase of \$75,000 for general liability.

There was adverse development for property claims but much of it was on large claims that had already exceeded the \$250,000 SIR. Losses within the SIR developed close to expected levels except for the 18/19 year. We increased the ultimate SIR losses for that year by \$1,600,000. Reported losses excess of the \$250,000 SIR in 18/19 have already exceed the \$1,400,000 corridor, although only \$19,000 has been paid.

IBNR is calculated in Table A and in Exhibit IV for each line of business as the difference in the selected ultimate losses and the limited reported losses as of June 30, 2019.

<b>OSIG Reserve Estimates as of June 30, 2019</b>		
	<i>Liability</i>	<i>Property</i>
<i>Case Reserves</i>	\$6,011,000	\$4,732,000
<i>IBNR Reserves</i>	\$1,465,000	\$713,000
<b><i>Total Reserve</i></b>	<b>\$7,476,000</b>	<b>\$5,445,000</b>

The total reserves for Liability are higher than projected based on 1/31/19 data. This is due to an increase in case reserves. For property, there is \$1,381,000 in case reserves for claims in the corridor and \$3,351,000 in the SIR layer. No IBNR is needed for the excess losses since the corridor has been exceeded. All IBNR for property claims is related to losses within the \$250,000 SIR.

We adjusted the forecast losses for 7/1/19-20 for the change in the amount of exposures to be underwritten in this period. The selected loss rates from the 1/31/19 study were applied to the current exposure estimates to derive the ultimate losses for the 7/1/19-20 year. The liability losses are capped at the \$100,000 deductible.

<b>Forecast losses for OSIG's Liability Program 7/1/19-20</b>		
	<i>Ultimate Losses</i>	<i>Loss Rate</i>
<i>Automobile Liability</i>	\$1,531,000	\$121 per vehicle or (\$3.18 per student)
<i>General Liability (including E&amp;O)</i>	\$2,466,000	\$5.13 per student
<b><i>Total Forecast</i></b>	<b>\$3,997,000</b>	<b>\$8.31 per student</b>

The Property forecast for 7/1/18-19 is shown below. OSIG will now retain \$500,000 for wind/hail related claims and \$250,000 on all other types of claims. We expect that OSIG will utilize the full \$1,400,000 corridor deductible again this year. The portion of the \$8,600,000 property forecast associated with Auto Physical Damage claims is \$915,000. The rates per \$100 TIV have changed slightly for property. This is because the APD losses which are all assumed to be included in the SIR layer are projected using vehicle counts. In addition, the corridor is spread over a larger exposure base than before.



Forecast losses for OSIG's Property Program 7/1/19-20		
	<i>Ultimate Losses</i>	<i>Loss Rate</i>
<i>Losses within the Retention \$500,000 Wind/Hail \$250,000 AOP</i>	\$8,600,000	\$0.057 per \$100 TIV
<i>Corridor deductible</i>	\$1,400,000	\$0.009 per \$100 TIV
<b><i>Total Forecast</i></b>	<b>\$10,000,000</b>	<b>\$0.066 per \$100 TIV</b>

Table A summarizes the IBNR and Outstanding losses for Liability and Property. Table B shows the IBNR for each of Liability and Property at various confidence levels. Table C shows the comparison of experience between 1/31/19 and 6/30/19. The updated loss projection for the 7/1/19-20 year is in Table D.

If you or OSIG's auditors have any questions, I would be happy to answer them. As always, it has been a pleasure serving you and the Oklahoma Schools Insurance Group.

Sincerely,

Laura T. Sprouse, FCAS, MAAA

**Estimated Outstanding Losses for Liability  
As of June 30, 2019**

Accident Period	Coverage	(A) Estimated Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
2002/03	AL	\$65,087	\$65,087	\$65,087	\$0	\$0	\$0
2003/04	AL	\$357,297	\$357,297	\$357,297	\$0	\$0	\$0
2004/05	AL	\$618,336	\$618,336	\$618,336	\$0	\$0	\$0
2005/06	AL	\$450,928	\$450,928	\$450,928	\$0	\$0	\$0
2006/07	AL	\$535,205	\$535,205	\$535,205	\$0	\$0	\$0
2007/08	AL	\$759,907	\$759,907	\$759,907	\$0	\$0	\$0
2008/09	AL	\$1,423,346	\$1,423,346	\$1,423,346	\$0	\$0	\$0
2009/10	AL	\$703,413	\$703,413	\$703,413	\$0	\$0	\$0
2010/11	AL	\$843,333	\$843,333	\$843,333	\$0	\$0	\$0
2011/12	AL	\$974,000	\$948,291	\$973,586	\$25,294	\$0	\$26,000
2012/13	AL	\$625,000	\$625,317	\$625,317	\$0	\$0	\$0
2013/14	AL	\$675,000	\$674,842	\$674,842	\$0	\$0	\$0
2014/15	AL	\$1,209,000	\$900,763	\$1,200,674	\$299,911	\$8,000	\$308,000
2015/16	AL	\$1,199,000	\$955,223	\$1,186,303	\$231,080	\$13,000	\$244,000
2016/17	AL	\$1,227,000	\$942,150	\$1,195,255	\$253,105	\$32,000	\$285,000
2017/18	AL	\$953,000	\$532,337	\$899,537	\$367,200	\$53,000	\$421,000
2018/19	AL	\$1,469,000	\$536,211	\$1,281,141	\$744,930	\$188,000	\$933,000
		\$14,088,000	\$11,872,000	\$13,794,000	\$1,922,000	\$294,000	\$2,217,000
2002/03	GL/E&O	\$168,909	\$168,909	\$168,909	\$0	\$0	\$0
2003/04	GL/E&O	\$840,274	\$840,274	\$840,274	\$0	\$0	\$0
2004/05	GL/E&O	\$488,972	\$488,972	\$488,972	\$0	\$0	\$0
2005/06	GL/E&O	\$1,253,449	\$1,253,449	\$1,253,449	\$0	\$0	\$0
2006/07	GL/E&O	\$953,237	\$953,237	\$953,237	\$0	\$0	\$0
2007/08	GL/E&O	\$1,432,614	\$1,432,614	\$1,432,614	\$0	\$0	\$0
2008/09	GL/E&O	\$1,159,541	\$1,159,541	\$1,159,541	\$0	\$0	\$0
2009/10	GL/E&O	\$1,275,000	\$1,271,848	\$1,271,848	\$0	\$3,000	\$3,000
2010/11	GL/E&O	\$1,849,000	\$1,811,132	\$1,838,086	\$26,954	\$11,000	\$38,000
2011/12	GL/E&O	\$1,461,000	\$1,459,814	\$1,459,814	\$0	\$1,000	\$1,000
2012/13	GL/E&O	\$809,000	\$745,401	\$805,866	\$60,465	\$3,000	\$64,000
2013/14	GL/E&O	\$781,000	\$725,604	\$773,844	\$48,240	\$7,000	\$55,000
2014/15	GL/E&O	\$1,693,000	\$1,532,310	\$1,669,436	\$137,126	\$24,000	\$161,000
2015/16	GL/E&O	\$1,998,000	\$1,409,052	\$1,927,015	\$517,963	\$71,000	\$589,000
2016/17	GL/E&O	\$2,402,000	\$1,416,950	\$2,268,430	\$851,480	\$134,000	\$985,000
2017/18	GL/E&O	\$1,569,000	\$250,424	\$1,365,884	\$1,115,460	\$203,000	\$1,319,000
2018/19	GL/E&O	\$2,131,000	\$86,271	\$1,418,058	\$1,331,788	\$713,000	\$2,045,000
		\$22,265,000	\$17,006,000	\$21,095,000	\$4,089,000	\$1,170,000	\$5,260,000
<b>Total Liability Losses Limited to Policy Aggregate Stop Loss</b>							
Accident Period	Aggregate Limit	Ultimate Limited Losses	Limited Paid Losses	Limited Reported Losses	Case Reserves	IBNR Losses	Outstanding Losses
Prior		\$10,507,103	\$10,507,103	\$10,507,103	\$0	\$0	\$0
2009/10	\$3,549,580	\$1,978,413	\$1,975,261	\$1,975,261	\$0	\$3,000	\$3,000
2010/11	\$3,869,920	\$2,692,333	\$2,654,465	\$2,681,419	\$26,954	\$11,000	\$38,000
2011/12	\$3,416,075	\$2,435,000	\$2,408,105	\$2,433,399	\$25,294	\$2,000	\$27,000
2012/13	\$2,788,172	\$1,434,000	\$1,370,717	\$1,431,182	\$60,465	\$3,000	\$63,000
2013/14	\$3,473,373	\$1,456,000	\$1,400,445	\$1,448,686	\$48,240	\$7,000	\$56,000
2014/15	\$3,994,646	\$2,902,000	\$2,433,074	\$2,870,110	\$437,037	\$32,000	\$469,000
2015/16	\$4,017,890	\$3,197,000	\$2,364,275	\$3,113,318	\$749,043	\$84,000	\$833,000
2016/17	\$4,147,089	\$3,629,000	\$2,359,100	\$3,463,685	\$1,104,585	\$165,000	\$1,270,000
2017/18	\$4,271,645	\$2,522,000	\$782,761	\$2,265,421	\$1,482,660	\$257,000	\$1,739,000
2018/19	\$5,061,877	\$3,600,000	\$622,482	\$2,699,200	\$2,076,718	\$901,000	\$2,978,000
<b>Total</b>		<b>\$36,353,000</b>	<b>\$28,878,000</b>	<b>\$34,889,000</b>	<b>\$6,011,000</b>	<b>\$1,465,000</b>	<b>\$7,476,000</b>

**Percentile Distribution of IBNR  
For Liability Coverages  
As of June 30, 2019**

<i>percentile</i>	<i>Ultimate Losses</i>	<i>IBNR Reserve</i>	<i>Total Reserve</i>
Expected	\$36,353,000	\$1,465,000	\$7,476,000
40%	\$36,039,000	\$1,150,000	\$7,161,000
50%	\$36,263,000	\$1,374,000	\$7,385,000
55%	\$36,384,000	\$1,495,000	\$7,506,000
60%	\$36,504,000	\$1,615,000	\$7,626,000
65%	\$36,636,000	\$1,747,000	\$7,758,000
75%	\$36,916,000	\$2,027,000	\$8,038,000
85%	\$37,270,000	\$2,381,000	\$8,392,000
90%	\$37,499,000	\$2,610,000	\$8,621,000
95%	\$37,868,000	\$2,979,000	\$8,990,000

<i>Total Expected Ultimate Losses</i>	\$36,353,000
<i>Total Paid Losses as of 6/30/19</i>	\$28,878,000
<i>Total Case Reserves as of 6/30/19</i>	\$6,011,000
<i>Total IBNR Reserves as of 6/30/19</i>	\$1,465,000
<i>Total Outstanding as of 6/30/19</i>	\$7,476,000

*Figures in this Table are limited to Aggregate Stop Loss Limits*

**Comparison of Results with Previous Estimates as of 1/31/19**

Accident Period	(A) Actual Reported Losses 1/31/2019	(B) Expected Reported Losses 6/30/2019	(C) Actual Reported Losses 6/30/2019	(D) Percent Difference	(E) Expected Ultimate Losses 1/31/2019	(F) Actual Ultimate Losses 6/30/2019	(G) Year-End Adjustment	Percent Difference
2008/09	\$2,582,887	\$2,582,887	\$2,582,887	0.0%	\$2,582,887	\$2,582,887	\$0	0.0%
2009/10	\$1,995,911	\$1,996,619	\$1,975,261	-1.1%	\$1,998,413	\$1,978,413	-\$20,000	-1.0%
2010/11	\$2,681,419	\$2,684,527	\$2,681,419	-0.1%	\$2,692,333	\$2,692,333	\$0	0.0%
2011/12	\$2,433,399	\$2,433,892	\$2,433,399	0.0%	\$2,435,000	\$2,435,000	\$0	0.0%
2012/13	\$1,431,182	\$1,431,968	\$1,431,182	-0.1%	\$1,434,000	\$1,434,000	\$0	0.0%
2013/14	\$1,448,686	\$1,450,814	\$1,448,686	-0.1%	\$1,456,000	\$1,456,000	\$0	0.0%
2014/15	\$2,817,610	\$2,829,285	\$2,870,110	1.4%	\$2,857,000	\$2,902,000	\$45,000	1.6%
2015/16	\$3,044,214	\$3,074,459	\$3,113,318	1.3%	\$3,147,000	\$3,197,000	\$50,000	1.6%
2016/17	\$3,290,075	\$3,365,990	\$3,463,685	2.9%	\$3,554,000	\$3,629,000	\$75,000	2.1%
2017/18	\$1,846,089	\$1,951,525	\$2,265,421	16.1%	\$2,222,000	\$2,522,000	\$300,000	13.5%
2018/19	\$1,559,225	\$2,785,730	\$2,699,200	-3.1%	\$3,650,000	\$3,600,000	-\$50,000	-1.4%
<b>Total</b>	<b>\$25,130,696</b>	<b>\$26,587,696</b>	<b>\$26,964,567</b>	<b>1.4%</b>	<b>\$28,028,632</b>	<b>\$28,428,632</b>	<b>\$400,000</b>	<b>1.4%</b>
Variance in Reported Losses			\$376,871					

Accident Period	(A) Actual Paid Losses 1/31/2019	(B) Expected Paid Losses 6/30/2019	(C) Actual Paid Losses 6/30/2019	(D) Percent Difference	(E) Expected Ultimate Losses 1/31/2019	(F) Actual Ultimate Losses 6/30/2019	(G) Year-End Adjustment	Percent Difference
2008/09	\$2,192,521	\$2,192,521	\$2,192,521	0.0%	\$2,582,887	\$2,582,887	\$0	0.0%
2009/10	\$2,582,887	\$2,582,887	\$2,582,887	0.0%	\$1,998,413	\$1,978,413	-\$20,000	-1.0%
2010/11	\$1,975,261	\$1,980,955	\$1,975,261	-0.3%	\$2,692,333	\$2,692,333	\$0	0.0%
2011/12	\$2,652,560	\$2,662,911	\$2,654,465	-0.3%	\$2,435,000	\$2,435,000	\$0	0.0%
2012/13	\$2,408,087	\$2,416,918	\$2,408,105	-0.4%	\$1,434,000	\$1,434,000	\$0	0.0%
2013/14	\$1,369,504	\$1,388,380	\$1,370,717	-1.3%	\$1,456,000	\$1,456,000	\$0	0.0%
2014/15	\$1,400,445	\$1,417,633	\$1,400,445	-1.2%	\$2,857,000	\$2,902,000	\$45,000	1.6%
2015/16	\$2,363,386	\$2,525,694	\$2,433,074	-3.7%	\$3,147,000	\$3,197,000	\$50,000	1.6%
2016/17	\$2,321,210	\$2,581,651	\$2,364,275	-8.4%	\$3,554,000	\$3,629,000	\$75,000	2.1%
2017/18	\$2,077,936	\$2,465,894	\$2,359,100	-4.3%	\$2,222,000	\$2,522,000	\$300,000	13.5%
2018/19	\$606,955	\$875,530	\$782,761	-10.6%	\$3,650,000	\$3,600,000	-\$50,000	-1.4%
<b>Total</b>	<b>\$21,950,752</b>	<b>\$23,090,972</b>	<b>\$22,523,611</b>	<b>-2.5%</b>	<b>\$28,028,632</b>	<b>\$28,428,632</b>	<b>\$400,000</b>	<b>1.4%</b>

(A) and (E) - From Previous actuarial report as of 01/31/19  
 (B) - Derived from (E) and (A) using loss development patterns  
 (C) - Provided by OSIG, limited to SIR  
 (D) = [(C) / (B)] - 1  
 (F) - (E) + (G)  
 (G) - Judgmentally Selected based on experience

***Distribution of Losses for 7/1/19-20  
Assuming a \$100,000 SIR***

<i>Percentile</i>	<i>SIR Layer \$100,000</i>	<i>Layer \$900,000 xs \$100,000</i>	<i>Losses Limited to \$1,000,000</i>	<i>Losses Excess of \$1,000,000</i>	<i>Total Incurred Losses</i>
20.0%	\$3,382,000	\$456,000	\$4,057,000	\$0	\$4,059,000
30.0%	\$3,583,000	\$564,000	\$4,322,000	\$0	\$4,325,000
40.0%	\$3,758,000	\$674,000	\$4,561,000	\$0	\$4,567,000
50.0%	\$3,932,000	\$789,000	\$4,802,000	\$0	\$4,811,000
60.0%	\$4,117,000	\$913,000	\$5,053,000	\$0	\$5,074,000
70.0%	\$4,326,000	\$1,071,000	\$5,323,000	\$0	\$5,351,000
75.0%	\$4,433,000	\$1,159,000	\$5,474,000	\$0	\$5,513,000
80.0%	\$4,560,000	\$1,269,000	\$5,648,000	\$0	\$5,698,000
85.0%	\$4,722,000	\$1,405,000	\$5,864,000	\$0	\$5,934,000
90.0%	\$4,940,000	\$1,563,000	\$6,153,000	\$0	\$6,266,000
95.0%	\$5,281,000	\$1,841,000	\$6,636,000	\$147,000	\$6,819,000
99.0%	\$5,980,000	\$2,395,000	\$7,449,000	\$1,317,000	\$7,983,000
<b><i>Expected</i></b>	<b>\$3,997,000</b>	<b>\$888,000</b>	<b>\$4,885,000</b>	<b>\$54,000</b>	<b>\$4,939,000</b>
<i>TIV in \$000s</i>	481,072				
<b><i>Cost Per Student</i></b>	<b>\$8.31</b>	<b>\$1.85</b>	<b>\$10.15</b>	<b>\$0.11</b>	<b>\$10.27</b>

<i>GL Forecast</i>	\$2,466,000	\$743,000	\$3,209,000	\$54,000	\$3,263,000
<i>AL Forecast</i>	\$1,531,000	\$145,000	\$1,676,000	\$0	\$1,676,000

**Estimated Outstanding Losses for SIR and Corridor**

Accident Period	SIR	Corridor	(A) Limited Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b><u>Stop Loss Years Total</u></b>			\$25,004,007	\$25,004,007	\$25,004,007	\$0	\$0	\$0
<b><u>SIR Losses</u></b>								
7/1/11-12	\$250,000		\$3,282,543	\$3,282,543	\$3,282,543	\$0	\$0	\$0
7/1/12-13	\$250,000		\$3,032,675	\$3,032,675	\$3,032,675	\$0	\$0	\$0
7/1/13-14	\$250,000		\$2,506,177	\$2,506,177	\$2,506,177	\$0	\$0	\$0
7/1/14-15	\$250,000		\$3,470,662	\$3,470,662	\$3,470,662	\$0	\$0	\$0
7/1/15-16	\$250,000		\$3,695,000	\$3,677,763	\$3,682,092	\$4,000	\$13,000	\$17,000
7/1/16-17	\$250,000		\$4,603,000	\$4,345,524	\$4,409,508	\$64,000	\$193,000	\$257,000
7/1/17-18	\$250,000		\$4,680,000	\$3,995,174	\$4,618,077	\$623,000	\$62,000	\$685,000
7/1/18-19	\$250,000		\$5,663,000	\$2,557,841	\$5,217,986	\$2,660,000	\$445,000	\$3,105,000
<b><u>Corridor Losses</u></b>								
7/1/11-12		\$2,700,000	\$735,946	\$735,946	\$735,946	\$0	\$0	\$0
7/1/12-13		\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$0	\$0	\$0
7/1/13-14		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/14-15		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/15-16		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/16-17		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/17-18		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/18-19		\$1,400,000	\$1,400,000	\$19,368	\$1,400,000	\$1,381,000	\$0	\$1,381,000
<b>Total</b>			\$67,473,000	\$62,028,000	\$66,760,000	\$4,732,000	\$713,000	\$5,445,000

**Total Estimated IBNR as of June 30, 2019 \$713,000**

**Percentile Distribution of IBNR  
For Property Coverages  
As of June 30, 2019**

<i>percentile</i>	<i>Ultimate Losses</i>	<i>IBNR Reserve</i>	<i>Total Reserve</i>
Expected	\$67,473,000	\$713,000	\$5,445,000
40%	\$67,287,000	\$527,000	\$5,259,000
50%	\$67,456,000	\$696,000	\$5,428,000
55%	\$67,536,000	\$776,000	\$5,508,000
60%	\$67,625,000	\$865,000	\$5,597,000
65%	\$67,717,000	\$957,000	\$5,689,000
75%	\$67,919,000	\$1,159,000	\$5,891,000
85%	\$68,189,000	\$1,429,000	\$6,161,000
90%	\$68,354,000	\$1,594,000	\$6,326,000
95%	\$68,632,000	\$1,872,000	\$6,604,000

<i>Total Expected Ultimate Losses</i>	\$67,473,000
<i>Total Paid Losses as of 6/30/19</i>	\$62,028,000
<i>Total Case Reserves as of 6/30/19</i>	\$4,732,000
<i>Total IBNR Reserves as of 6/30/19</i>	\$713,000
<i>Total Outstanding as of 6/30/19</i>	\$5,445,000

*Figures in this Table are limited to Aggregate Stop Loss Limits*

**Comparison of Results with Previous Estimates as of 1/31/19**

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	
Accident Period	Actual Reported Losses 1/31/2019	Projected Reported Losses 6/30/2019	Actual Reported Losses 6/30/2019	Percent Difference	Expected Ultimate Losses 1/31/2019	Actual Ultimate Losses 6/30/2019	Year-End Adjustment	Percent Difference
7/1/11-12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	\$0	0.0%
7/1/12-13	\$5,432,675	\$5,432,675	\$5,432,675	0.0%	\$5,432,675	\$5,432,675	\$0	0.0%
7/1/13-14	\$3,905,352	\$3,905,352	\$3,906,177	0.0%	\$3,905,352	\$3,906,177	\$825	0.0%
7/1/14-15	\$4,870,662	\$4,870,662	\$4,870,662	0.0%	\$4,870,662	\$4,870,662	\$0	0.0%
7/1/15-16	\$5,082,092	\$5,087,293	\$5,082,092	-0.1%	\$5,095,000	\$5,095,000	\$0	0.0%
7/1/16-17	\$5,947,880	\$5,970,189	\$5,809,508	-2.7%	\$6,003,000	\$6,003,000	\$0	0.0%
7/1/17-18	\$5,885,867	\$5,963,803	\$6,018,077	0.9%	\$6,080,000	\$6,080,000	\$0	0.0%
7/1/18-19	\$1,205,182	\$4,962,634	\$6,617,986	33.4%	\$5,463,000	\$7,063,000	\$1,600,000	29.3%
<b>Total</b>	<b>\$36,348,198</b>	<b>\$40,211,096</b>	<b>\$41,755,666</b>	<b>3.8%</b>	<b>\$40,868,177</b>	<b>\$42,469,002</b>	<b>\$1,600,825</b>	<b>3.9%</b>

(A) and (E) - From Previous actuarial report as of 1/31/2019

Losses below \$250,000 SIR plus Corridor Losses

(B) - Derived from (A) and (E) using loss development patterns

(C) - Provided by OSIG, limited to SIR and Corridor

(D) = [(C) / (B)] - 1

(F) - (E) + (G)

(G) - Judgmentally Selected based on experience



**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention         \$500,000**  
**Corridor Deductible         \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$500,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
20.0%	\$7,247,000	\$1,400,000	\$8,644,000	\$5,469,000	\$14,890,000
30.0%	\$7,724,000	\$1,400,000	\$9,123,000	\$7,405,000	\$17,110,000
40.0%	\$8,130,000	\$1,400,000	\$9,529,000	\$9,563,000	\$19,490,000
50.0%	\$8,503,000	\$1,400,000	\$9,902,000	\$12,038,000	\$22,230,000
60.0%	\$8,901,000	\$1,400,000	\$10,301,000	\$15,143,000	\$25,560,000
70.0%	\$9,320,000	\$1,400,000	\$10,720,000	\$19,221,000	\$29,670,000
75.0%	\$9,581,000	\$1,400,000	\$10,981,000	\$22,197,000	\$32,730,000
80.0%	\$9,845,000	\$1,400,000	\$11,245,000	\$25,679,000	\$36,250,000
85.0%	\$10,186,000	\$1,400,000	\$11,586,000	\$30,060,000	\$40,550,000
90.0%	\$10,645,000	\$1,400,000	\$12,045,000	\$34,988,000	\$45,590,000
95.0%	\$11,305,000	\$1,400,000	\$12,705,000	\$42,113,000	\$53,080,000
99.0%	\$12,736,000	\$1,400,000	\$14,136,000	\$60,106,000	\$71,470,000
<b>Expected</b>	<b>\$8,600,000</b>	<b>\$1,400,000</b>	<b>\$10,000,000</b>	<b>\$16,128,000</b>	<b>\$26,128,000</b>
<i>TIV in \$00s</i>	\$151,593,951				
<b>Cost Per \$100 TIV</b>	<b>\$0.057</b>	<b>\$0.009</b>	<b>\$0.066</b>	<b>\$0.106</b>	<b>\$0.172</b>

APD	\$915,000	\$0	\$915,000	\$0	\$915,000
Other Property	\$7,685,000	\$1,400,000	\$9,085,000	\$16,128,000	\$25,213,000

Vehicles	10,898
TIV	\$151,593,951

APD Cost per Vehicle	\$83.96				
Property Cost per TIV	\$0.051	\$0.009	\$0.060	\$0.106	\$0.166

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

**Summary of Loss Data as of June 30, 2019**  
**Total Experience Net of Member Deductibles**

(A)		(B)	(C)	(D)		(E)	(F)	(G)	(H)
Accident Period Begin      End		Evaluation Date	Maturity (months)	Total Claims	Open Claims	Net Loss and Expense Payments	Net Loss and Expense Reserves	Net Loss and Expense Incurred	Vehicles
7/1/2002	6/30/2003	6/30/2019	204	24	0	\$65,087	\$0	\$65,087	
7/1/2003	6/30/2004	6/30/2019	192	81	0	\$433,514	\$0	\$433,514	
7/1/2004	6/30/2005	6/30/2019	180	109	0	\$1,097,512	\$0	\$1,097,512	5,046
7/1/2005	6/30/2006	6/30/2019	168	134	0	\$450,928	\$0	\$450,928	6,391
7/1/2006	6/30/2007	6/30/2019	156	145	0	\$549,344	\$0	\$549,344	7,017
7/1/2007	6/30/2008	6/30/2019	144	178	0	\$759,907	\$0	\$759,907	7,753
7/1/2008	6/30/2009	6/30/2019	132	207	0	\$1,465,586	\$0	\$1,465,586	7,641
7/1/2009	6/30/2010	6/30/2019	120	182	0	\$703,413	\$0	\$703,413	8,309
7/1/2010	6/30/2011	6/30/2019	108	187	0	\$882,016	\$0	\$882,016	9,022
7/1/2011	6/30/2012	6/30/2019	96	177	1	\$948,291	\$25,294	\$973,586	6,650
7/1/2012	6/30/2013	6/30/2019	84	162	0	\$661,103	\$0	\$661,103	6,979
7/1/2013	6/30/2014	6/30/2019	72	185	0	\$705,549	\$0	\$705,549	7,460
7/1/2014	6/30/2015	6/30/2019	60	226	5	\$1,126,059	\$307,187	\$1,433,246	9,047
7/1/2015	6/30/2016	6/30/2019	48	226	5	\$1,029,781	\$231,080	\$1,260,860	9,517
7/1/2016	6/30/2017	6/30/2019	36	207	5	\$968,458	\$281,144	\$1,249,602	10,334
7/1/2017	6/30/2018	6/30/2019	24	167	16	\$532,337	\$367,200	\$899,537	10,113
7/1/2018	6/30/2019	6/30/2019	12	231	164	\$536,211	\$744,930	\$1,281,141	11,525
7/1/2019	6/30/2020	6/30/2019							12,571
				2828	196	\$12,915,097	\$1,956,835	\$14,871,932	122,803

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher
- Claims are grouped by occurrence, claims with \$0 incurred are excluded
- Losses are net of member deductibles

Summary of Large Claim Information

Occurrence #	School	Policy Year	Loss Date	Status	Net Paid	Net Incurred	SIR	Excess Recoveries	Excess Paid	Excess Incurred	Severity Factor	Ultimate Net
000203	NEWKIRK PUBLIC SCHOOLS	7/1/03-04	1/30/2004	Closed	\$176,217	\$176,217	\$100,000	\$76,217	\$76,217	\$76,217	1.000	\$176,217
000513	CHICKASKA PUBLIC SCHOOL	7/1/04-05	12/20/2004	Closed	\$129,748	\$129,748	\$100,000	\$29,748	\$29,748	\$29,748	1.000	\$129,748
000596	RIPLEY PUBLIC SCHOOLS	7/1/04-05	3/29/2005	Closed	\$549,427	\$549,427	\$100,000	\$449,427	\$449,427	\$449,427	1.000	\$549,427
001433	VELMA-ALMA ISD #5	7/1/06-07	12/20/2006	Closed	\$114,139	\$114,139	\$100,000	\$14,139	\$14,139	\$14,139	1.000	\$114,140
002940	CANEY VALLEY PUBLIC SCHOOL	7/1/08-09	5/7/2009	Closed	\$106,504	\$106,504	\$100,000	\$6,504	\$6,504	\$6,504	1.000	\$106,505
002638	ALTUS PUBLIC SCHOOL	7/1/08-09	11/14/2008	Closed	\$104,466	\$104,466	\$100,000	\$4,466	\$4,466	\$4,466	1.000	\$104,466
002678	CHICKASKA PUBLIC SCHOOL	7/1/08-09	12/15/2008	Closed	\$131,271	\$131,271	\$100,000	\$31,271	\$31,271	\$31,271	1.000	\$131,271
90075	PAOLI ISD	7/1/10-11	8/18/2010	Closed	\$134,999	\$134,999	\$100,000	\$34,999	\$34,999	\$34,999	1.000	\$135,002
90305	GUTHRIE PUBLIC SCHOOLS	7/1/10-11	12/8/2010	Closed	\$103,684	\$103,684	\$100,000	\$3,684	\$3,684	\$3,684	1.000	\$103,686
91477	LAWTON BOARD OF EDUCATION	7/1/12-13	9/19/2012	Closed	\$135,786	\$135,786	\$100,000	\$35,786	\$35,786	\$35,786	1.000	\$135,809
92239	PUTNAM CITY ISD	7/1/13-14	1/7/2014	Closed	\$130,707	\$130,707	\$100,000	\$30,707	\$30,707	\$30,707	1.001	\$130,775
93063	MIDWEST CITY-DEL CITY ISD	7/1/14-15	4/20/2015	Closed	\$219,224	\$219,224	\$100,000	\$119,224	\$119,224	\$119,224	1.002	\$219,577
93008	WESTERN HEIGHTS ISD	7/1/14-15	3/23/2015	Closed	\$206,102	\$206,102	\$100,000	\$106,072	\$106,072	\$106,072	1.002	\$206,434
93186	JONES ISD	7/1/14-15	6/3/2015	Open	\$15,969	\$107,276	\$100,000	\$0	\$0	\$7,276	1.002	\$107,449
93477	HAYWOOD ISD	7/1/15-16	11/19/2015	Closed	\$174,557	\$174,557	\$100,000	\$74,557	\$74,557	\$74,557	1.005	\$175,438
94052	PUTNAM CITY ISD	7/1/16-17	9/29/2016	Closed	\$126,307	\$126,307	\$100,000	\$26,307	\$26,307	\$26,307	1.016	\$128,336
94363	ADAIR ISD	7/1/16-17	3/23/2017	Open	\$22,004	\$128,040	\$100,000	\$0	\$0	\$28,040	1.016	\$130,096
					\$2,581,113	\$2,778,456		\$1,043,110	\$1,043,110	\$1,078,425		

- Loss and policy information provided by Jennifer McKenzie, Gallagher-Bryce

Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.

**Calculation of Limited Losses**

<i>Policy Period</i>	<i>(A) Retention</i>	<i>(B) Unlimited Paid Losses</i>	<i>(C) Unlimited Reported Losses</i>	<i>(D) Paid Excess of Primary</i>	<i>(E) Reported Excess of Primary</i>	<i>(F) Paid Limited to Primary</i>	<i>(G) Reported Limited to Primary</i>
7/1/02-03	\$100,000	\$65,087	\$65,087	\$0	\$0	\$65,087	\$65,087
7/1/03-04	\$100,000	\$433,514	\$433,514	\$76,217	\$76,217	\$357,297	\$357,297
7/1/04-05	\$100,000	\$1,097,512	\$1,097,512	\$479,175	\$479,175	\$618,336	\$618,336
7/1/05-06	\$100,000	\$450,928	\$450,928	\$0	\$0	\$450,928	\$450,928
7/1/06-07	\$100,000	\$549,344	\$549,344	\$14,139	\$14,139	\$535,205	\$535,205
7/1/07-08	\$100,000	\$759,907	\$759,907	\$0	\$0	\$759,907	\$759,907
7/1/08-09	\$100,000	\$1,465,586	\$1,465,586	\$42,241	\$42,241	\$1,423,346	\$1,423,346
7/1/09-10	\$100,000	\$703,413	\$703,413	\$0	\$0	\$703,413	\$703,413
7/1/10-11	\$100,000	\$882,016	\$882,016	\$38,683	\$38,683	\$843,333	\$843,333
7/1/11-12	\$100,000	\$948,291	\$973,586	\$0	\$0	\$948,291	\$973,586
7/1/12-13	\$100,000	\$661,103	\$661,103	\$35,786	\$35,786	\$625,317	\$625,317
7/1/13-14	\$100,000	\$705,549	\$705,549	\$30,707	\$30,707	\$674,842	\$674,842
7/1/14-15	\$100,000	\$1,126,059	\$1,433,246	\$225,296	\$232,572	\$900,763	\$1,200,674
7/1/15-16	\$100,000	\$1,029,781	\$1,260,860	\$74,557	\$74,557	\$955,223	\$1,186,303
7/1/16-17	\$100,000	\$968,458	\$1,249,602	\$26,307	\$54,347	\$942,150	\$1,195,255
7/1/17-18	\$100,000	\$532,337	\$899,537	\$0	\$0	\$532,337	\$899,537
7/1/18-19	\$100,000	\$536,211	\$1,281,141	\$0	\$0	\$536,211	\$1,281,141
<i>Total</i>		\$12,915,097	\$14,871,932	\$1,043,110	\$1,078,425	\$11,871,987	\$13,793,507

(A) and (B) - Exhibit I-A

(D) and (E) - Excess amounts from claims in Exhibit II, page 1

(F) = (B) - (D)

(G) = (C) - (E)

**Comparison of Results with Previous Estimates as of 1/31/19**

	(A) Actual Reported Losses 1/31/2019	(B) Expected Reported Losses 6/30/2019	(C) Actual Reported Losses 6/30/2019	(D) Percent Difference	(E) Ultimate Losses 1/31/2019	(F) Ultimate Losses 6/30/2019	(G) Year-end Adjustment	Percent Difference
Accident Period								
7/1/02-03	\$65,087	\$65,087	\$65,087	0.0%	\$65,087	\$65,087	\$0	0.0%
7/1/03-04	\$357,297	\$357,297	\$357,297	0.0%	\$357,297	\$357,297	\$0	0.0%
7/1/04-05	\$618,336	\$618,336	\$618,336	0.0%	\$618,336	\$618,336	\$0	0.0%
7/1/05-06	\$450,928	\$450,928	\$450,928	0.0%	\$450,928	\$450,928	\$0	0.0%
7/1/06-07	\$535,205	\$535,205	\$535,205	0.0%	\$535,205	\$535,205	\$0	0.0%
7/1/07-08	\$759,907	\$759,907	\$759,907	0.0%	\$759,907	\$759,907	\$0	0.0%
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	0.0%	\$1,423,346	\$1,423,346	\$0	0.0%
7/1/09-10	\$703,413	\$703,413	\$703,413	0.0%	\$703,413	\$703,413	\$0	0.0%
7/1/10-11	\$843,333	\$843,333	\$843,333	0.0%	\$843,333	\$843,333	\$0	0.0%
7/1/11-12	\$973,586	\$973,738	\$973,586	0.0%	\$974,000	\$974,000	\$0	0.0%
7/1/12-13	\$625,317	\$625,199	\$625,317	0.0%	\$625,000	\$625,000	\$0	0.0%
7/1/13-14	\$674,842	\$674,901	\$674,842	0.0%	\$675,000	\$675,000	\$0	0.0%
7/1/14-15	\$1,180,674	\$1,181,929	\$1,200,674	1.6%	\$1,184,000	\$1,209,000	\$25,000	2.1%
7/1/15-16	\$1,139,699	\$1,143,230	\$1,186,303	3.8%	\$1,149,000	\$1,199,000	\$50,000	4.4%
7/1/16-17	\$1,122,718	\$1,133,819	\$1,195,255	5.4%	\$1,152,000	\$1,227,000	\$75,000	6.5%
7/1/17-18	\$742,385	\$774,038	\$899,537	16.2%	\$828,000	\$953,000	\$125,000	15.1%
7/1/18-19	\$705,465	\$1,220,232	\$1,281,141	5.0%	\$1,419,000	\$1,469,000	\$50,000	3.5%
<b>Total</b>	<b>\$12,921,537</b>	<b>\$13,483,939</b>	<b>\$13,793,507</b>	<b>2.3%</b>	<b>\$13,763,000</b>	<b>\$14,088,000</b>	<b>\$325,000</b>	<b>2.4%</b>
Variance in Reported Losses			\$309,568					

	(A) Actual Paid Losses 1/31/2019	(B) Expected Paid Losses 6/30/2019	(C) Actual Paid Losses 6/30/2019	(D) Percent Difference	(E) Ultimate Losses 1/31/2019	(F) Ultimate Losses 6/30/2019	(G) Year-end Adjustment	Percent Difference
Accident Period								
7/1/02-03	\$65,087	\$65,087	\$65,087	0.0%	\$65,087	\$65,087	\$0	0.0%
7/1/03-04	\$357,297	\$357,297	\$357,297	0.0%	\$357,297	\$357,297	\$0	0.0%
7/1/04-05	\$618,336	\$618,336	\$618,336	0.0%	\$618,336	\$618,336	\$0	0.0%
7/1/05-06	\$450,928	\$450,928	\$450,928	0.0%	\$450,928	\$450,928	\$0	0.0%
7/1/06-07	\$535,205	\$535,205	\$535,205	0.0%	\$535,205	\$535,205	\$0	0.0%
7/1/07-08	\$759,907	\$759,907	\$759,907	0.0%	\$759,907	\$759,907	\$0	0.0%
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	0.0%	\$1,423,346	\$1,423,346	\$0	0.0%
7/1/09-10	\$703,413	\$703,413	\$703,413	0.0%	\$703,413	\$703,413	\$0	0.0%
7/1/10-11	\$843,333	\$843,333	\$843,333	0.0%	\$843,333	\$843,333	\$0	0.0%
7/1/11-12	\$948,273	\$956,776	\$948,291	-0.9%	\$974,000	\$974,000	\$0	0.0%
7/1/12-13	\$625,317	\$625,211	\$625,317	0.0%	\$625,000	\$625,000	\$0	0.0%
7/1/13-14	\$674,842	\$674,895	\$674,842	0.0%	\$675,000	\$675,000	\$0	0.0%
7/1/14-15	\$890,251	\$988,530	\$900,763	-8.9%	\$1,184,000	\$1,209,000	\$25,000	2.1%
7/1/15-16	\$944,181	\$1,011,398	\$955,223	-5.6%	\$1,149,000	\$1,199,000	\$50,000	4.4%
7/1/16-17	\$861,228	\$950,517	\$942,150	-0.9%	\$1,152,000	\$1,227,000	\$75,000	6.5%
7/1/17-18	\$452,599	\$549,110	\$532,337	-3.1%	\$828,000	\$953,000	\$125,000	15.1%
7/1/18-19	\$274,924	\$639,783	\$536,211	-16.2%	\$1,419,000	\$1,469,000	\$50,000	3.5%
<b>Total</b>	<b>\$11,428,466</b>	<b>\$12,153,072</b>	<b>\$11,871,987</b>	<b>-2.3%</b>	<b>\$13,763,000</b>	<b>\$14,088,000</b>	<b>\$325,000</b>	<b>2.4%</b>

(A) and (E) - From Previous actuarial report as of 01/31/2019

(B) - Derived from (E) and (A) using loss development patterns

(C) - Provided by OSIG, limited to SIR

(D) = [(C) / (B)] - 1

(F) = (E) + adjustment in (G)

(G) - Judgmentally selected based on experience

**Estimated Outstanding Losses**

<i>Accident Period</i>	<i>(A) Estimated Ultimate Losses</i>	<i>(B) Limited Paid Losses</i>	<i>(C) Limited Reported Losses</i>	<i>(D) Limited Case Reserves</i>	<i>(E) IBNR Losses</i>	<i>(F) Outstanding Losses</i>
<b>As of June 30, 2019</b>						
7/1/02-03	\$65,087	\$65,087	\$65,087	\$0	\$0	\$0
7/1/03-04	\$357,297	\$357,297	\$357,297	\$0	\$0	\$0
7/1/04-05	\$618,336	\$618,336	\$618,336	\$0	\$0	\$0
7/1/05-06	\$450,928	\$450,928	\$450,928	\$0	\$0	\$0
7/1/06-07	\$535,205	\$535,205	\$535,205	\$0	\$0	\$0
7/1/07-08	\$759,907	\$759,907	\$759,907	\$0	\$0	\$0
7/1/08-09	\$1,423,346	\$1,423,346	\$1,423,346	\$0	\$0	\$0
7/1/09-10	\$703,413	\$703,413	\$703,413	\$0	\$0	\$0
7/1/10-11	\$843,333	\$843,333	\$843,333	\$0	\$0	\$0
7/1/11-12	\$974,000	\$948,291	\$973,586	\$25,294	\$0	\$26,000
7/1/12-13	\$625,000	\$625,317	\$625,317	\$0	\$0	\$0
7/1/13-14	\$675,000	\$674,842	\$674,842	\$0	\$0	\$0
7/1/14-15	\$1,209,000	\$900,763	\$1,200,674	\$299,911	\$8,000	\$308,000
7/1/15-16	\$1,199,000	\$955,223	\$1,186,303	\$231,080	\$13,000	\$244,000
7/1/16-17	\$1,227,000	\$942,150	\$1,195,255	\$253,105	\$32,000	\$285,000
7/1/17-18	\$953,000	\$532,337	\$899,537	\$367,200	\$53,000	\$421,000
7/1/18-19	\$1,469,000	\$536,211	\$1,281,141	\$744,930	\$188,000	\$933,000
<b>Total</b>	<b>\$14,088,000</b>	<b>\$11,871,987</b>	<b>\$13,793,507</b>	<b>\$1,921,520</b>	<b>\$294,000</b>	<b>\$2,217,000</b>

**Total Estimated IBNR as of June 30, 2019    \$294,000**

(A) - Table 1

(B) and (C) - Provided by OSIG, limited to SIR

(D) = (C) - (B)

(E) = (A) - (C)

(F) = (A) - (B)

***Distribution of Forecast Losses for 7/1/19-20  
Assuming a \$100,000 SIR***

<i>Percentile</i>	<i>SIR Layer \$100,000</i>	<i>Layer \$900,000 xs \$100,000</i>	<i>Losses Limited to \$1,000,000</i>	<i>Losses Excess of \$1,000,000</i>	<i>Total Incurred Losses</i>
20.0%	\$1,244,000	\$46,000	\$1,339,000	\$0	\$1,339,000
30.0%	\$1,339,000	\$71,000	\$1,451,000	\$0	\$1,451,000
40.0%	\$1,423,000	\$96,000	\$1,549,000	\$0	\$1,549,000
50.0%	\$1,501,000	\$121,000	\$1,645,000	\$0	\$1,645,000
60.0%	\$1,590,000	\$150,000	\$1,746,000	\$0	\$1,746,000
70.0%	\$1,687,000	\$183,000	\$1,859,000	\$0	\$1,859,000
75.0%	\$1,741,000	\$204,000	\$1,921,000	\$0	\$1,921,000
80.0%	\$1,807,000	\$227,000	\$1,994,000	\$0	\$1,994,000
85.0%	\$1,878,000	\$257,000	\$2,080,000	\$0	\$2,080,000
90.0%	\$1,980,000	\$297,000	\$2,197,000	\$0	\$2,197,000
95.0%	\$2,131,000	\$362,000	\$2,379,000	\$0	\$2,379,000
99.0%	\$2,424,000	\$518,000	\$2,721,000	\$0	\$2,721,000
<b><i>Expected</i></b>	<b>\$1,531,000</b>	<b>\$145,000</b>	<b>\$1,676,000</b>	<b>\$0</b>	<b>\$1,676,000</b>
<i>Vehicles</i>	12,571				
<i>Students</i>	481,072				
<b><i>Cost Per Vehicle*</i></b>	<b>\$121.79</b>	<b>\$11.53</b>	<b>\$133.32</b>	<b>\$0.00</b>	<b>\$133.32</b>
<b><i>Cost Per Student</i></b>	<b>\$3.18</b>	<b>\$0.30</b>	<b>\$3.48</b>	<b>\$0.00</b>	<b>\$3.48</b>

\* - Cost per Vehicle based on Forecast study as of 1/31/2019  
Forecast losses adjusted for change in exposure

**Summary of Loss Data as of June 30, 2019**  
**Total Experience Net of Member Deductibles**

(A)	(B)	(C)	(D)		(E)	(F)	(G)	(H)
Accident Period	Evaluation Date	Maturity (months)	Total Claims	Open Claims	Loss and Expense Payments	Loss and Expense Reserves	Loss and Expense Incurred	Students
7/1/02-03	6/30/2019	204	28	0	\$168,909	\$0	\$168,909	
7/1/03-04	6/30/2019	192	88	0	\$848,061	\$0	\$848,061	
7/1/04-05	6/30/2019	180	115	0	\$525,685	\$0	\$525,685	198,498
7/1/05-06	6/30/2019	168	136	0	\$1,330,178	\$0	\$1,330,178	249,419
7/1/06-07	6/30/2019	156	132	0	\$1,351,835	\$0	\$1,351,835	267,684
7/1/07-08	6/30/2019	144	163	0	\$1,501,995	\$0	\$1,501,995	308,999
7/1/08-09	6/30/2019	132	155	0	\$2,172,804	\$0	\$2,172,804	313,473
7/1/09-10	6/30/2019	120	144	0	\$1,503,548	\$0	\$1,503,548	314,947
7/1/10-11	6/30/2019	108	110	1	\$2,407,808	\$26,954	\$2,434,762	356,970
7/1/11-12	6/30/2019	96	87	0	\$3,688,203	\$0	\$3,688,203	309,147
7/1/12-13	6/30/2019	84	109	3	\$1,065,869	\$60,465	\$1,126,334	282,168
7/1/13-14	6/30/2019	72	86	1	\$847,442	\$48,240	\$895,683	325,035
7/1/14-15	6/30/2019	60	116	4	\$2,092,796	\$149,626	\$2,242,422	381,156
7/1/15-16	6/30/2019	48	119	14	\$1,605,611	\$526,963	\$2,132,574	381,204
7/1/16-17	6/30/2019	36	133	21	\$2,540,308	\$977,122	\$3,517,430	393,462
7/1/17-18	6/30/2019	24	77	24	\$250,424	\$1,243,310	\$1,493,734	393,700
7/1/18-19	6/30/2019	12	122	87	\$86,271	\$1,359,045	\$1,445,316	448,676
7/1/19-20								481,072
			1,920	155	\$23,987,745	\$4,391,725	\$28,379,470	5,405,610

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher
- Claims are grouped by occurrence, exclude claims with \$0 incurred
- Losses are net of member deductibles



Summary of Large Claim Information

Occurrence #	Loss Date	Status	Net Paid	Net Incurred	SIR	Excess Recoveries	Excess Paid	Excess Reported	Severity Factor	Ultimate Net
00286	5/3/2004	Closed	\$107,737	\$107,737	\$100,000	\$7,787	\$7,787	\$7,787	1.000	\$107,737
00709	9/1/2004	Closed	\$136,712	\$136,712	\$100,000	\$36,712	\$36,712	\$36,712	1.000	\$136,713
00919	10/31/2005	Closed	\$139,329	\$139,329	\$100,000	\$39,329	\$39,329	\$39,329	1.000	\$139,331
00951	1/9/2006	Closed	\$137,400	\$137,400	\$100,000	\$37,400	\$37,400	\$37,400	1.000	\$137,401
01194	7/7/2006	Closed	\$104,657	\$104,657	\$100,000	\$4,657	\$4,657	\$4,657	1.000	\$104,659
01213	7/26/2006	Closed	\$113,021	\$113,021	\$100,000	\$13,021	\$13,021	\$13,021	1.000	\$113,024
02076	4/6/2007	Closed	\$470,603	\$470,603	\$100,000	\$370,603	\$370,603	\$370,603	1.000	\$470,614
01955	5/15/2007	Closed	\$110,316	\$110,316	\$100,000	\$10,316	\$10,316	\$10,316	1.000	\$110,319
02387	7/31/2007	Closed	\$102,095	\$102,095	\$100,000	\$2,095	\$2,095	\$2,095	1.000	\$102,100
02047	10/19/2007	Closed	\$109,798	\$109,798	\$100,000	\$9,798	\$9,798	\$9,798	1.000	\$109,803
01968	11/2/2007	Closed	\$121,452	\$121,452	\$100,000	\$26,452	\$26,452	\$26,452	1.000	\$121,458
02250	4/25/2008	Closed	\$131,036	\$131,036	\$100,000	\$31,036	\$31,036	\$31,036	1.000	\$131,043
02595	10/20/2008	Closed	\$1,075,745	\$1,075,745	\$100,000	\$975,745	\$975,745	\$975,745	1.000	\$1,075,864
02711	1/13/2009	Closed	\$124,447	\$124,447	\$100,000	\$24,447	\$24,447	\$24,447	1.000	\$124,461
03297	5/28/2009	Closed	\$113,070	\$113,070	\$100,000	\$13,070	\$13,070	\$13,070	1.000	\$113,083
03267	11/4/2009	Closed	\$107,144	\$107,144	\$100,000	\$7,144	\$7,144	\$7,144	1.000	\$107,170
03567	2/18/2010	Closed	\$117,345	\$117,345	\$100,000	\$19,845	\$19,845	\$19,845	1.000	\$117,373
90906	5/10/2010	Closed	\$304,711	\$304,711	\$100,000	\$204,711	\$204,711	\$204,711	1.000	\$304,785
90054	7/29/2010	Closed	\$114,574	\$114,574	\$100,000	\$17,074	\$17,074	\$17,074	1.001	\$114,637
90084	8/22/2010	Closed	\$115,615	\$115,615	\$100,000	\$15,615	\$15,615	\$15,615	1.001	\$115,678
90118	9/1/2010	Closed	\$136,645	\$136,645	\$100,000	\$36,645	\$36,645	\$36,645	1.001	\$136,719
90205	10/14/2010	Closed	\$123,444	\$123,444	\$100,000	\$23,444	\$23,444	\$23,444	1.001	\$123,511
90236	10/25/2010	Closed	\$290,942	\$290,942	\$100,000	\$190,942	\$190,942	\$190,942	1.001	\$291,100
90297	12/6/2010	Closed	\$157,221	\$157,221	\$100,000	\$62,221	\$62,221	\$62,221	1.001	\$157,306
90313	12/14/2010	Closed	\$104,163	\$104,163	\$100,000	\$6,663	\$6,663	\$6,663	1.001	\$104,220
90519	3/11/2011	Closed	\$122,502	\$122,502	\$100,000	\$22,502	\$22,502	\$22,502	1.001	\$122,569
90708	3/22/2011	Closed	\$141,522	\$141,522	\$100,000	\$41,522	\$41,522	\$41,522	1.001	\$141,599
90838	6/30/2011	Closed	\$280,047	\$280,047	\$100,000	\$180,047	\$180,047	\$180,047	1.001	\$280,200
91394	9/1/2011	Closed	\$149,418	\$149,418	\$100,000	\$49,418	\$49,418	\$49,418	1.001	\$149,600
91014	10/13/2011	Closed	\$153,190	\$153,190	\$100,000	\$53,190	\$53,190	\$53,190	1.001	\$153,377
91388	10/25/2011	Closed	\$443,010	\$443,010	\$100,000	\$343,010	\$343,010	\$343,010	1.001	\$443,550
91040	11/11/2011	Closed	\$1,708,795	\$1,708,795	\$200,000	\$1,508,795	\$1,508,795	\$1,508,795	1.001	\$1,710,876
91405	4/20/2012	Closed	\$263,443	\$263,443	\$100,000	\$163,443	\$163,443	\$163,443	1.001	\$263,764
91564	5/28/2012	Closed	\$210,533	\$210,533	\$100,000	\$110,533	\$110,533	\$110,533	1.001	\$210,790
91445	8/29/2012	Closed	\$420,468	\$420,468	\$100,000	\$320,468	\$320,468	\$320,468	1.003	\$421,623
92222	12/23/2013	Closed	\$145,266	\$145,266	\$100,000	\$45,266	\$45,266	\$45,266	1.006	\$146,172
92382	1/29/2014	Closed	\$100,352	\$100,352	\$100,000	\$352	\$352	\$352	1.006	\$100,977
92867	4/4/2014	Closed	\$176,221	\$176,221	\$100,000	\$76,221	\$76,221	\$76,221	1.006	\$177,320
92975	9/1/2014	Open	\$84,390	\$112,500	\$100,000	\$0	\$0	\$12,500	1.014	\$114,104
92999	3/2/2015	Closed	\$240,862	\$240,862	\$100,000	\$140,862	\$140,862	\$140,862	1.014	\$244,296
93289	3/22/2015	Closed	\$211,827	\$211,827	\$100,000	\$111,827	\$111,827	\$111,827	1.014	\$214,846
94241	4/16/2015	Closed	\$366,221	\$366,221	\$100,000	\$266,221	\$266,221	\$266,221	1.014	\$371,442
93143	5/15/2015	Closed	\$141,576	\$141,576	\$100,000	\$41,576	\$41,576	\$41,576	1.014	\$143,595
94194	12/9/2015	Open	\$29,861	\$109,000	\$100,000	\$0	\$0	\$9,000	1.033	\$112,572
93680	3/7/2016	Closed	\$175,028	\$175,028	\$100,000	\$75,028	\$75,028	\$75,028	1.033	\$180,764
94063	3/24/2016	Closed	\$153,730	\$153,730	\$100,000	\$53,730	\$53,730	\$53,730	1.033	\$158,768
94446	5/5/2016	Closed	\$167,801	\$167,801	\$100,000	\$67,801	\$67,801	\$67,801	1.033	\$173,300
94291	12/16/2016	Open	\$94,546	\$141,000	\$100,000	\$0	\$0	\$41,000	1.075	\$151,640
94280	1/27/2017	Open	\$1,323,358	\$1,408,000	\$200,000	\$0	\$1,123,358	\$1,208,000	1.075	\$1,514,247
P625-17-95484	6/26/2017	Open	\$28,818	\$95,000	\$100,000	\$0	\$0	\$0	1.075	\$102,169
P625-17-95154	12/1/2017	Open	\$18,857	\$95,000	\$100,000	\$0	\$0	\$0	1.171	\$111,230
95506	1/11/2018	Open	\$0	\$127,000	\$100,000	\$0	\$0	\$27,000	1.171	\$148,697
95055	5/3/2018	Open	\$3,208	\$117,850	\$100,000	\$0	\$0	\$17,850	1.171	\$137,984
95249	5/15/2018	Open	\$7,891	\$183,000	\$100,000	\$0	\$0	\$83,000	1.171	\$214,264
95430	11/26/2018	Open	\$4,867	\$122,867	\$100,000	\$0	\$0	\$22,867	1.343	\$165,051
95577	12/23/2018	Open	\$6,775	\$104,391	\$100,000	\$0	\$0	\$4,391	1.343	\$140,232
P625-17-95106	9/14/2017	Open	\$8,867	\$91,500	\$100,000	\$0	\$0	\$0	1.171	\$107,132
			\$12,052,475	\$13,148,143			\$6,981,944	\$7,284,193		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher

Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.

**Calculation of Limited Losses**

Policy Period	(A) Retention	(B) Unlimited Paid Losses	(C) Unlimited Reported Losses	(D) Paid Excess of Primary	(E) Reported Excess of Primary	(F) Paid Limited to Primary	(G) Reported Limited to Primary
7/1/02-03	\$100,000	\$168,909	\$168,909	\$0	\$0	\$168,909	\$168,909
7/1/03-04	\$100,000	\$848,061	\$848,061	\$7,787	\$7,787	\$840,274	\$840,274
7/1/04-05	\$100,000	\$525,685	\$525,685	\$36,712	\$36,712	\$488,972	\$488,972
7/1/05-06	\$100,000	\$1,330,178	\$1,330,178	\$76,729	\$76,729	\$1,253,449	\$1,253,449
7/1/06-07	\$100,000	\$1,351,835	\$1,351,835	\$398,598	\$398,598	\$953,237	\$953,237
7/1/07-08	\$100,000	\$1,501,995	\$1,501,995	\$69,380	\$69,380	\$1,432,614	\$1,432,614
7/1/08-09	\$100,000	\$2,172,804	\$2,172,804	\$1,013,263	\$1,013,263	\$1,159,541	\$1,159,541
7/1/09-10	\$100,000	\$1,503,548	\$1,503,548	\$231,700	\$231,700	\$1,271,848	\$1,271,848
7/1/10-11	\$100,000	\$2,407,808	\$2,434,762	\$596,676	\$596,676	\$1,811,132	\$1,838,086
7/1/11-12	\$100,000	\$3,688,203	\$3,688,203	\$2,228,390	\$2,228,390	\$1,459,814	\$1,459,814
7/1/12-13	\$100,000	\$1,065,869	\$1,126,334	\$320,468	\$320,468	\$745,401	\$805,866
7/1/13-14	\$100,000	\$847,442	\$895,683	\$121,838	\$121,838	\$725,604	\$773,844
7/1/14-15	\$100,000	\$2,092,796	\$2,242,422	\$560,486	\$572,986	\$1,532,310	\$1,669,436
7/1/15-16	\$100,000	\$1,605,611	\$2,132,574	\$196,559	\$205,559	\$1,409,052	\$1,927,015
7/1/16-17	\$100,000	\$2,540,308	\$3,517,430	\$1,123,358	\$1,249,000	\$1,416,950	\$2,268,430
7/1/17-18	\$100,000	\$250,424	\$1,493,734	\$0	\$127,850	\$250,424	\$1,365,884
7/1/18-19	\$100,000	\$86,271	\$1,445,316	\$0	\$27,257	\$86,271	\$1,418,058
<b>Total</b>		\$23,987,745	\$28,379,470	\$6,981,944	\$7,284,193	\$17,005,801	\$21,095,276

(A) and (B) - Exhibit I-A

(D) and (E) - Excess amounts from claims in Exhibit II, page 1

(F) = (B) - (D)

(G) = (C) - (E)

**Comparison of Results with Previous Estimates as of 1/31/19**

	(A) Actual Reported Losses 1/31/2019	(B) Projected Reported Losses 6/30/2019	(C) Actual Reported Losses 6/30/2019	(D) Percent Difference	(E) Expected Ultimate Losses 1/31/2019	(F) Actual Ultimate Losses 6/30/2019	(G) Year-End Adjustment	Percent Difference
Accident Period								
7/1/02-03	\$168,909	\$168,909	\$168,909	0.0%	\$168,909	\$168,909	\$0	0.0%
7/1/03-04	\$840,274	\$840,274	\$840,274	0.0%	\$840,274	\$840,274	\$0	0.0%
7/1/04-05	\$488,972	\$488,972	\$488,972	0.0%	\$488,972	\$488,972	\$0	0.0%
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	0.0%	\$1,253,449	\$1,253,449	\$0	0.0%
7/1/06-07	\$953,237	\$953,237	\$953,237	0.0%	\$953,237	\$953,237	\$0	0.0%
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	0.0%	\$1,432,614	\$1,432,614	\$0	0.0%
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	0.0%	\$1,159,541	\$1,159,541	\$0	0.0%
7/1/09-10	\$1,292,498	\$1,293,206	\$1,271,848	-1.7%	\$1,295,000	\$1,275,000	-\$20,000	-1.5%
7/1/10-11	\$1,838,086	\$1,841,194	\$1,838,086	-0.2%	\$1,849,000	\$1,849,000	\$0	0.0%
7/1/11-12	\$1,459,814	\$1,460,154	\$1,459,814	0.0%	\$1,461,000	\$1,461,000	\$0	0.0%
7/1/12-13	\$805,866	\$806,769	\$805,866	-0.1%	\$809,000	\$809,000	\$0	0.0%
7/1/13-14	\$773,844	\$775,913	\$773,844	-0.3%	\$781,000	\$781,000	\$0	0.0%
7/1/14-15	\$1,636,936	\$1,647,356	\$1,669,436	1.3%	\$1,673,000	\$1,693,000	\$20,000	1.2%
7/1/15-16	\$1,904,515	\$1,931,229	\$1,927,015	-0.2%	\$1,998,000	\$1,998,000	\$0	0.0%
7/1/16-17	\$2,167,357	\$2,232,171	\$2,268,430	1.6%	\$2,402,000	\$2,402,000	\$0	0.0%
7/1/17-18	\$1,103,704	\$1,177,487	\$1,365,884	16.0%	\$1,394,000	\$1,569,000	\$175,000	12.6%
7/1/18-19	\$853,759	\$1,565,498	\$1,418,058	-9.4%	\$2,231,000	\$2,131,000	-\$100,000	-4.5%
<b>Total</b>	<b>\$20,133,374</b>	<b>\$21,027,973</b>	<b>\$21,095,276</b>	<b>0.3%</b>	<b>\$22,189,996</b>	<b>\$22,264,996</b>	<b>\$75,000</b>	<b>0.3%</b>
Variance In Reported Losses			\$67,304					

	(A) Actual Paid Losses 1/31/2019	(B) Projected Paid Losses 6/30/2019	(C) Actual Paid Losses 6/30/2019	(D) Percent Difference	(E) Expected Ultimate Losses 1/31/2019	(F) Actual Ultimate Losses 6/30/2019	(G) Year-End Adjustment	Percent Difference
Accident Period								
7/1/02-03	\$168,909	\$168,909	\$168,909	0.0%	\$168,909	\$168,909	\$0	0.0%
7/1/03-04	\$840,274	\$840,274	\$840,274	0.0%	\$840,274	\$840,274	\$0	0.0%
7/1/04-05	\$488,972	\$488,972	\$488,972	0.0%	\$488,972	\$488,972	\$0	0.0%
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	0.0%	\$1,253,449	\$1,253,449	\$0	0.0%
7/1/06-07	\$953,237	\$953,237	\$953,237	0.0%	\$953,237	\$953,237	\$0	0.0%
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	0.0%	\$1,432,614	\$1,432,614	\$0	0.0%
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	0.0%	\$1,159,541	\$1,159,541	\$0	0.0%
7/1/09-10	\$1,271,848	\$1,277,542	\$1,271,848	-0.4%	\$1,295,000	\$1,275,000	-\$20,000	-1.5%
7/1/10-11	\$1,809,227	\$1,819,579	\$1,811,132	-0.5%	\$1,849,000	\$1,849,000	\$0	0.0%
7/1/11-12	\$1,459,814	\$1,460,141	\$1,459,814	0.0%	\$1,461,000	\$1,461,000	\$0	0.0%
7/1/12-13	\$744,187	\$763,168	\$745,401	-2.3%	\$809,000	\$809,000	\$0	0.0%
7/1/13-14	\$725,604	\$742,739	\$725,604	-2.3%	\$781,000	\$781,000	\$0	0.0%
7/1/14-15	\$1,473,135	\$1,537,164	\$1,532,310	-0.3%	\$1,673,000	\$1,693,000	\$20,000	1.2%
7/1/15-16	\$1,377,029	\$1,570,253	\$1,409,052	-10.3%	\$1,998,000	\$1,998,000	\$0	0.0%
7/1/16-17	\$1,216,709	\$1,515,377	\$1,416,950	-6.5%	\$2,402,000	\$2,402,000	\$0	0.0%
7/1/17-18	\$154,356	\$326,420	\$250,424	-23.3%	\$1,394,000	\$1,569,000	\$175,000	12.6%
7/1/18-19	\$14,067	\$137,983	\$86,271	-37.5%	\$2,231,000	\$2,131,000	-\$100,000	-4.5%
<b>Total</b>	<b>\$16,542,972</b>	<b>\$17,447,361</b>	<b>\$17,005,801</b>	<b>-2.5%</b>	<b>\$22,189,996</b>	<b>\$22,264,996</b>	<b>\$75,000</b>	<b>0.3%</b>

(A) and (E) - From Previous actuarial report as of 01/31/2019  
 (B) - Derived from (E) and (A) using loss development patterns  
 (C) - Provided by OSIG, limited to SIR  
 (D) = [(C) / (B)] - 1  
 (F) = (E) + (G)  
 (G) - Judgmentally selected based on experience

**Estimated Outstanding Losses**

<i>Accident Period</i>	<i>(A) Estimated Ultimate Losses</i>	<i>(B) Limited Paid Losses</i>	<i>(C) Limited Reported Losses</i>	<i>(D) Limited Case Reserves</i>	<i>(E) IBNR Losses</i>	<i>(F) Outstanding Losses</i>
<b>As of June 30, 2019</b>						
7/1/02-03	\$168,909	\$168,909	\$168,909	\$0	\$0	\$0
7/1/03-04	\$840,274	\$840,274	\$840,274	\$0	\$0	\$0
7/1/04-05	\$488,972	\$488,972	\$488,972	\$0	\$0	\$0
7/1/05-06	\$1,253,449	\$1,253,449	\$1,253,449	\$0	\$0	\$0
7/1/06-07	\$953,237	\$953,237	\$953,237	\$0	\$0	\$0
7/1/07-08	\$1,432,614	\$1,432,614	\$1,432,614	\$0	\$0	\$0
7/1/08-09	\$1,159,541	\$1,159,541	\$1,159,541	\$0	\$0	\$0
7/1/09-10	\$1,275,000	\$1,271,848	\$1,271,848	\$0	\$3,000	\$3,000
7/1/10-11	\$1,849,000	\$1,811,132	\$1,838,086	\$26,954	\$11,000	\$38,000
7/1/11-12	\$1,461,000	\$1,459,814	\$1,459,814	\$0	\$1,000	\$1,000
7/1/12-13	\$809,000	\$745,401	\$805,866	\$60,465	\$3,000	\$64,000
7/1/13-14	\$781,000	\$725,604	\$773,844	\$48,240	\$7,000	\$55,000
7/1/14-15	\$1,693,000	\$1,532,310	\$1,669,436	\$137,126	\$24,000	\$161,000
7/1/15-16	\$1,998,000	\$1,409,052	\$1,927,015	\$517,963	\$71,000	\$589,000
7/1/16-17	\$2,402,000	\$1,416,950	\$2,268,430	\$851,480	\$134,000	\$985,000
7/1/17-18	\$1,569,000	\$250,424	\$1,365,884	\$1,115,460	\$203,000	\$1,319,000
7/1/18-19	\$2,131,000	\$86,271	\$1,418,058	\$1,331,788	\$713,000	\$2,045,000
<b>Total</b>	<b>\$22,265,000</b>	<b>\$17,005,801</b>	<b>\$21,095,276</b>	<b>\$4,089,475</b>	<b>\$1,170,000</b>	<b>\$5,260,000</b>

**Total Estimated IBNR as of June 30, 2019 \$1,170,000**

(A) - Table 1

(B) and (C) - Provided by OSIG, limited to SIR

(D) = (C) - (B)

(E) = (A) - (C)

(F) = (A) - (B)

***Distribution of Forecast Losses for 7/1/19-20  
Assuming a \$100,000 SIR***

<i>Percentile</i>	<i>SIR Layer \$100,000</i>	<i>Layer \$900,000 xs \$100,000</i>	<i>Losses Limited to \$1,000,000</i>	<i>Losses Excess of \$1,000,000</i>	<i>Total Incurred Losses</i>
20.0%	\$1,936,000	\$322,000	\$2,449,000	\$0	\$2,451,000
30.0%	\$2,091,000	\$427,000	\$2,687,000	\$0	\$2,688,000
40.0%	\$2,239,000	\$529,000	\$2,902,000	\$0	\$2,911,000
50.0%	\$2,392,000	\$639,000	\$3,117,000	\$0	\$3,124,000
60.0%	\$2,546,000	\$765,000	\$3,340,000	\$0	\$3,357,000
70.0%	\$2,725,000	\$914,000	\$3,587,000	\$0	\$3,622,000
75.0%	\$2,828,000	\$1,008,000	\$3,731,000	\$0	\$3,769,000
80.0%	\$2,947,000	\$1,113,000	\$3,899,000	\$0	\$3,948,000
85.0%	\$3,095,000	\$1,241,000	\$4,089,000	\$0	\$4,166,000
90.0%	\$3,299,000	\$1,396,000	\$4,366,000	\$0	\$4,470,000
95.0%	\$3,626,000	\$1,679,000	\$4,815,000	\$147,000	\$5,035,000
99.0%	\$4,334,000	\$2,215,000	\$5,697,000	\$1,317,000	\$6,142,000
<b><i>Expected</i></b>	<b>\$2,466,000</b>	<b>\$743,000</b>	<b>\$3,209,000</b>	<b>\$54,000</b>	<b>\$3,263,000</b>
<i>Students</i>	481,072				
<b><i>Cost Per Student*</i></b>	<b>\$5.13</b>	<b>\$1.54</b>	<b>\$6.67</b>	<b>\$0.11</b>	<b>\$6.78</b>

\*- Cost per Student taken from forecast study as of 1/31/2019  
Forecast losses are adjusted for change in exposure estimate

**Summary of Loss Data as of June 30, 2019**  
**Total Experience Net of Deductibles**

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
Accident Period	Evaluation Date	Maturity (months)	Total Claims	Open Claims	Loss Payment	Loss Reserve	Expense and Legal Payment	Expense and Legal Reserve	TIV in \$100s
7/1/02-03	6/30/2019	204	24	0	\$282,938	\$0	\$29,106	\$0	\$312,045
7/1/03-04	6/30/2019	192	104	0	\$2,447,356	\$0	\$66,143	\$0	\$2,513,499
7/1/04-05	6/30/2019	180	122	0	\$1,235,815	\$0	\$69,782	\$0	\$1,305,598
7/1/05-06	6/30/2019	168	190	0	\$3,080,547	\$0	\$142,157	\$0	\$3,222,704
7/1/06-07	6/30/2019	156	232	0	\$7,508,252	\$0	\$164,672	\$0	\$7,672,924
7/1/07-08	6/30/2019	144	255	0	\$27,287,989	\$0	\$261,094	\$0	\$27,549,083
7/1/08-09	6/30/2019	132	211	0	\$14,558,421	\$0	\$226,138	\$0	\$14,784,559
7/1/09-10	6/30/2019	120	266	0	\$17,140,491	\$0	\$250,287	\$0	\$17,390,777
7/1/10-11	6/30/2019	108	225	0	\$26,419,286	\$0	\$52,656	\$0	\$26,471,942
7/1/11-12	6/30/2019	96	173	0	\$3,946,066	\$0	\$72,423	\$0	\$4,018,489
7/1/12-13	6/30/2019	84	163	0	\$6,097,006	\$0	\$39,448	\$0	\$6,136,455
7/1/13-14	6/30/2019	72	157	0	\$4,537,170	\$0	\$53,119	\$0	\$4,590,290
7/1/14-15	6/30/2019	60	208	1	\$4,645,579	\$1,506,125	\$337,389	\$14,208	\$6,503,301
7/1/15-16	6/30/2019	48	182	3	\$9,583,661	\$642,616	\$201,132	\$59,922	\$10,487,332
7/1/16-17	6/30/2019	36	229	7	\$8,628,100	\$1,335,168	\$208,362	\$7,012	\$10,178,642
7/1/17-18	6/30/2019	24	194	11	\$10,159,749	\$5,770,988	\$216,584	\$119,761	\$16,267,082
7/1/18-19	6/30/2019	12	219	77	\$2,514,273	\$8,993,176	\$62,936	\$30,621	\$11,601,006
7/1/19-20									\$151,593,951
			3,154	99	\$150,072,699	\$18,248,074	\$2,453,429	\$231,524	\$171,005,727
									\$532,803,089

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher
- Claims are grouped by occurrence, and exclude claims with \$0 incurred
- Losses are net of member deductibles

Losses over SIR through 7/1/10-11

CAT# or Occ#	Loss Date	Claim Status	Coverage	Paid Losses	Reported Losses	SIR	Deductibles	Excess Recoveries	Excess Paid	Excess Reported
00120	9/26/2003	Closed	AOP	\$160,863	\$160,863	\$100,000	\$2,500	\$63,363	\$63,363	\$63,363
00280	4/23/2004	Closed	Wind	\$501,173	\$501,173	\$200,000	\$10,000	\$311,173	\$311,173	\$311,173
00312	5/29/2004	Closed	Wind	\$1,051,795	\$1,051,795	\$200,000	\$5,000	\$851,795	\$851,795	\$851,795
00622	4/19/2005	Closed	AOP	\$137,015	\$137,015	\$100,000	\$2,500	\$38,605	\$38,605	\$38,605
0003	7/3/2005	Closed	Wind	\$509,241	\$509,241	\$200,000	\$15,000	\$329,241	\$329,241	\$329,241
00974	2/4/2006	Closed	AOP	\$123,265	\$123,265	\$100,000	\$1,000	\$24,265	\$24,265	\$24,265
0006	3/12/2006	Closed	Wind	\$302,863	\$302,863	\$200,000	\$17,500	\$98,003	\$98,003	\$98,003
01070	4/1/2006	Closed	Wind	\$249,726	\$249,726	\$200,000	\$10,000	\$54,736	\$54,736	\$54,736
01069	4/9/2006	Closed	AOP	\$196,964	\$196,964	\$100,000	\$2,500	\$99,464	\$99,464	\$99,464
0010	1/13/2007	Closed	AOP	\$2,728,534	\$2,728,534	\$100,000	\$125,000	\$2,213,033	\$2,213,033	\$2,213,033
01446	1/14/2007	Closed	AOP	\$2,391,851	\$2,391,851	\$100,000	\$2,500	\$2,294,351	\$2,294,351	\$2,294,351
01603	4/1/2007	Closed	AOP	\$498,897	\$498,897	\$100,000	\$5,500	\$409,043	\$409,043	\$409,043
0014	5/26/2007	Closed	AOP	\$258,761	\$258,761	\$100,000	\$125,000	\$151,982	\$151,982	\$151,982
01932	10/20/2007	Closed	AOP	\$4,417,502	\$4,417,502	\$100,000	\$2,500	\$4,320,002	\$4,320,002	\$4,320,002
02010	12/10/2007	Closed	AOP	\$7,939,099	\$7,939,099	\$100,000	\$2,500	\$7,839,099	\$7,839,099	\$7,839,099
02077	1/27/2008	Closed	AOP	\$4,048,087	\$4,048,087	\$100,000	\$5,000	\$3,953,087	\$3,953,087	\$3,953,087
02095	2/12/2008	Closed	AOP	\$1,330,642	\$1,330,642	\$100,000	\$2,500	\$1,233,142	\$1,233,142	\$1,233,142
02123	2/24/2008	Closed	AOP	\$142,203	\$142,203	\$100,000	\$2,500	\$44,693	\$44,693	\$44,693
0017	4/9/2008	Closed	Wind	\$642,619	\$642,619	\$200,000	\$68,000	\$497,819	\$497,819	\$497,819
02205	4/10/2008	Closed	AOP	\$264,208	\$264,208	\$100,000	\$2,500	\$166,708	\$166,708	\$166,708
02283	5/10/2008	Closed	Wind	\$1,079,655	\$1,079,655	\$200,000	\$5,000	\$884,655	\$884,655	\$884,655
0020	5/22/2008	Closed	Wind	\$737,893	\$737,893	\$200,000	\$20,000	\$537,893	\$537,893	\$537,893
0022	6/1/2008	Closed	Wind	\$2,874,505	\$2,874,505	\$200,000	\$47,000	\$2,755,868	\$2,755,868	\$2,755,868
0019	6/5/2008	Closed	Wind	\$1,617,657	\$1,617,657	\$200,000	\$50,000	\$1,400,637	\$1,400,637	\$1,400,637
02412	7/15/2008	Closed	AOP	\$118,000	\$118,000	\$100,000	\$2,500	\$20,500	\$20,500	\$20,500
02442	8/5/2008	Closed	AOP	\$253,900	\$253,900	\$100,000	\$2,500	\$155,155	\$155,155	\$155,155
0024	11/5/2008	Closed	Wind	\$1,825,926	\$1,825,926	\$200,000	\$41,000	\$1,620,926	\$1,620,926	\$1,620,926
02724	1/21/2009	Closed	AOP	\$359,928	\$359,928	\$100,000	\$2,500	\$262,428	\$262,428	\$262,428
0026	1/26/2009	Closed	AOP	\$333,470	\$333,470	\$100,000	\$38,500	\$233,474	\$233,474	\$233,474
0027	2/10/2009	Closed	AOP	\$403,324	\$403,324	\$100,000	\$40,000	\$203,324	\$203,324	\$203,324
02786	2/27/2009	Closed	Wind	\$2,319,259	\$2,319,259	\$200,000	\$2,500	\$2,219,259	\$2,219,259	\$2,219,259
0030	3/27/2009	Closed	AOP	\$2,372,142	\$2,372,142	\$100,000	\$22,500	\$2,372,114	\$2,372,114	\$2,372,114
0031	4/9/2009	Closed	AOP	\$855,773	\$855,773	\$100,000	\$35,000	\$660,773	\$660,773	\$660,773
0033	4/25/2009	Closed	Wind	\$391,102	\$391,102	\$200,000	\$51,000	\$188,354	\$188,354	\$188,354
0037	4/29/2009	Closed	Wind	\$212,817	\$212,817	\$200,000	\$25,000	\$7,888	\$7,888	\$7,888
0032	5/1/2009	Closed	Wind	\$1,097,400	\$1,097,400	\$200,000	\$50,000	\$987,387	\$987,387	\$987,387
0034	5/13/2009	Closed	AOP	\$1,363,503	\$1,363,503	\$100,000	\$72,000	\$1,163,503	\$1,163,503	\$1,163,503
0036	6/12/2009	Closed	Wind	\$311,981	\$311,981	\$200,000	\$62,500	\$128,176	\$128,176	\$128,176
03078	7/21/2009	Closed	Wind	\$332,689	\$332,689	\$200,000	\$10,000	\$132,689	\$132,689	\$132,689
03081	7/27/2009	Closed	Wind	\$304,502	\$304,502	\$200,000	\$5,000	\$204,502	\$204,502	\$204,502
03122	8/21/2009	Closed	AOP	\$4,975,483	\$4,975,483	\$100,000	\$2,500	\$4,877,983	\$4,877,983	\$4,877,983
03138	8/29/2009	Closed	AOP	\$139,641	\$139,641	\$100,000	\$2,500	\$39,641	\$39,641	\$39,641
03179	9/20/2009	Closed	AOP	\$134,098	\$134,098	\$100,000	\$2,500	\$34,101	\$34,101	\$34,101
0038	12/27/2009	Closed	AOP	\$206,927	\$206,927	\$100,000	\$12,500	\$102,361	\$102,361	\$102,361
0039	1/9/2010	Closed	AOP	\$976,159	\$976,159	\$100,000	\$32,500	\$875,889	\$875,889	\$875,889
0040	1/30/2010	Closed	AOP	\$719,056	\$719,056	\$100,000	\$142,500	\$632,790	\$632,790	\$632,790
03548	4/4/2010	Closed	AOP	\$189,327	\$189,327	\$100,000	\$2,500	\$91,827	\$91,827	\$91,827
0041	5/10/2010	Closed	AOP	\$3,827,504	\$3,827,504	\$100,000	\$102,000	\$3,608,302	\$3,608,302	\$3,608,302
0042	5/13/2010	Closed	Wind	\$2,084,566	\$2,084,566	\$200,000	\$65,000	\$1,893,566	\$1,893,566	\$1,893,566
93604	6/12/2010	Closed	Wind	\$248,774	\$248,774	\$200,000	\$10,000	\$27,083	\$27,083	\$27,083
90050	8/4/2010	Closed	Wind	\$247,854	\$247,854	\$200,000	\$2,500	\$242,204	\$242,204	\$242,204
90125	8/6/2010	Closed	AOP	\$105,400	\$105,400	\$100,000	\$2,500	\$0	\$5,400	\$5,400
90229	10/23/2010	Closed	AOP	\$170,445	\$170,445	\$100,000	\$2,500	\$70,445	\$70,445	\$70,445
90336	12/30/2010	Closed	AOP	\$854,448	\$854,448	\$100,000	\$2,500	\$754,448	\$754,448	\$754,448
90334	12/31/2010	Closed	AOP	\$518,228	\$518,228	\$100,000	\$5,000	\$418,228	\$418,228	\$418,228
0043	2/2/2011	Closed	AOP	\$1,042,859	\$1,042,859	\$100,000	\$85,000	\$942,862	\$942,862	\$942,862
0044	2/3/2011	Closed	AOP	\$536,699	\$536,699	\$100,000	\$10,000	\$455,061	\$455,061	\$455,061
0045	2/10/2011	Closed	AOP	\$125,469	\$125,469	\$100,000	\$15,000	\$25,469	\$25,469	\$25,469
0046	2/10/2011	Closed	AOP	\$459,599	\$459,599	\$100,000	\$85,000	\$364,899	\$364,899	\$364,899
90532	4/8/2011	Closed	AOP	\$181,084	\$181,084	\$100,000	\$2,500	\$81,084	\$81,084	\$81,084
0048	4/14/2011	Closed	AOP	\$11,842,873	\$11,842,873	\$100,000	\$79,500	\$11,642,991	\$11,642,991	\$11,642,991
0050	5/22/2011	Closed	Wind	\$8,131,959	\$8,131,959	\$200,000	\$128,000	\$7,899,380	\$7,899,380	\$7,899,380

Total Excess Losses for Years 10/11 and Prior **\$76,219,124 \$76,219,124**

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher

Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.



**Losses over SIR from 7/1/11-12**

CAT# or Occ#	Loss Date	Claim Status	Coverage	Paid Losses	Reported Losses	Paid Expenses	Reported Expenses	SIR	Retained Expenses	Excess Paid	Excess Reported	Severity Factor	Net Ultimate
91234	4/15/2012	Closed	Any	\$485,893	\$485,893	\$26,825	\$26,825	\$250,000	\$26,825	\$235,893	\$235,893	1.000	\$485,893
91287	5/4/2012	Closed	Any	\$483,077	\$483,077	\$1,149	\$1,149	\$250,000	\$1,149	\$233,077	\$233,077	1.000	\$483,077
90999	11/7/2011	Closed	Any	\$426,749	\$426,749	\$497	\$497	\$250,000	\$497	\$176,749	\$176,749	1.000	\$426,749
91351	5/29/2012	Closed	Any	\$340,228	\$340,228	\$2,049	\$2,049	\$250,000	\$2,049	\$90,228	\$90,228	1.000	\$340,228
<b>Total Excess Losses for 11/12</b>										<b>\$735,946</b>	<b>\$735,946</b>		
<b>Applied to \$2,700,000 Corridor for 11/12</b>										<b>\$735,946</b>	<b>\$735,946</b>		
0052	4/26/2013	Closed	Any	\$1,670,786	\$1,670,786	\$2,832	\$2,832	\$250,000	\$2,832	\$1,420,786	\$1,420,786	1.000	\$1,670,786
0054	5/30/2013	Closed	Any	\$1,003,799	\$1,003,799	\$2,291	\$2,291	\$250,000	\$2,291	\$753,799	\$753,799	1.000	\$1,003,799
91392	7/14/2012	Closed	Any	\$570,302	\$570,302	\$7,681	\$7,681	\$250,000	\$7,681	\$320,302	\$320,302	1.000	\$570,302
91814	4/18/2013	Closed	Any	\$454,242	\$454,242	\$290	\$290	\$250,000	\$290	\$204,242	\$204,242	1.000	\$454,242
91861	4/22/2013	Closed	Any	\$473,316	\$473,316	\$0	\$0	\$250,000	\$0	\$223,316	\$223,316	1.000	\$473,316
91393	7/16/2012	Closed	Any	\$431,334	\$431,334	\$1,627	\$1,627	\$250,000	\$1,627	\$181,334	\$181,334	1.000	\$431,334
<b>Total Excess Losses for 12/13</b>										<b>\$3,103,780</b>	<b>\$3,103,780</b>		
<b>Applied to \$2,400,000 Corridor for 12/13</b>										<b>\$2,400,000</b>	<b>\$2,400,000</b>		
<b>Insured Excess of Corridor</b>										<b>\$703,780</b>	<b>\$703,780</b>		
92546	6/28/2014	Closed	Any	\$2,284,671	\$2,284,671	\$13,223	\$13,223	\$250,000	\$13,223	\$2,034,671	\$2,034,671	1.000	\$2,284,671
92144	11/6/2013	Closed	Any	\$299,442	\$299,442	\$5,694	\$5,694	\$250,000	\$5,694	\$49,442	\$49,442	1.000	\$299,442
<b>Total Excess Losses for 13/14</b>										<b>\$2,084,113</b>	<b>\$2,084,113</b>		
<b>Applied to \$1,400,000 Corridor for 13/14</b>										<b>\$1,400,000</b>	<b>\$1,400,000</b>		
<b>Insured excess of Corridor</b>										<b>\$684,113</b>	<b>\$684,113</b>		
0055	3/25/2015	Open	Any	\$859,441	\$2,365,566	\$230,902	\$245,110	\$250,000	\$3,159	\$837,184	\$2,357,518	1.000	\$2,366,610
0061	5/19/2015	Closed	Any	\$620,862	\$620,862	\$30,861	\$30,861	\$250,000	\$5,786	\$395,937	\$395,937	1.000	\$621,136
0056	5/6/2015	Closed	Any	\$406,091	\$406,091	\$5,088	\$5,088	\$250,000	\$5,088	\$156,091	\$156,091	1.000	\$406,270
93164	4/11/2015	Closed	Any	\$331,500	\$331,500	\$22,090	\$22,090	\$250,000	\$1,600	\$101,990	\$101,990	1.000	\$331,646
92831	12/3/2014	Closed	Any	\$271,103	\$271,103	\$5,271	\$5,271	\$250,000	\$5,271	\$21,103	\$21,103	1.000	\$271,223
<b>Total Excess Losses for 14/15</b>										<b>\$1,512,306</b>	<b>\$3,032,639</b>		
<b>Applied to \$1,400,000 Corridor for 14/15</b>										<b>\$1,400,000</b>	<b>\$1,400,000</b>		
<b>Insured excess of Corridor</b>										<b>\$112,306</b>	<b>\$1,632,639</b>		
0059	5/9/2016	Closed	Any	\$1,201,103	\$1,201,103	\$26,978	\$26,978	\$250,000	\$495	\$977,586	\$977,586	1.002	\$1,203,314
0063	11/17/2015	Closed	Any	\$792,926	\$792,926	\$22,313	\$22,313	\$250,000	\$2,000	\$563,240	\$563,240	1.002	\$794,386
0058	4/29/2016	Closed	Any	\$681,598	\$681,598	\$9,674	\$9,674	\$250,000	\$1,494	\$439,778	\$439,778	1.002	\$682,853
94123	5/13/2016	Open	Any	\$711,535	\$795,500	\$70,339	\$119,478	\$250,000	\$322	\$531,552	\$664,656	1.002	\$796,964
95188	5/29/2016	Open	Any	\$3,842,349	\$4,400,000	\$2,535	\$9,990	\$250,000	\$10	\$3,594,874	\$4,159,980	1.002	\$4,408,097
<b>Total Excess Losses for 15/16</b>										<b>\$6,107,031</b>	<b>\$6,805,240</b>		
<b>Applied to \$1,400,000 Corridor for 15/16</b>										<b>\$1,400,000</b>	<b>\$1,400,000</b>		
<b>Insured excess of Corridor</b>										<b>\$4,707,031</b>	<b>\$5,405,240</b>		
0060	7/14/2016	Closed	Any	\$2,583,479	\$2,583,479	\$36,536	\$36,536	\$250,000	\$678	\$2,369,337	\$2,369,337	1.009	\$2,605,950
94256	11/16/2016	Open	Any	\$1,099,838	\$2,300,000	\$31,966	\$35,000	\$250,000	\$0	\$881,804	\$2,085,000	1.009	\$2,320,006
0064	5/27/2017	Closed	Any	\$1,076,986	\$1,076,986	\$55,274	\$55,274	\$250,000	\$4,681	\$877,580	\$877,580	1.009	\$1,086,354
93959	8/23/2016	Closed	Any	\$458,500	\$458,500	\$2,639	\$2,639	\$250,000	\$2,639	\$208,500	\$208,500	1.009	\$462,488
94217	12/19/2016	Closed	Any	\$347,321	\$347,321	\$3,674	\$3,674	\$250,000	\$0	\$100,995	\$100,995	1.009	\$350,342
0065	6/17/2017	Open	Any	\$302,722	\$377,722	\$103	\$103	\$250,000	\$103	\$52,722	\$127,722	1.009	\$381,007
<b>Total Excess Losses for 16/17</b>										<b>\$4,490,938</b>	<b>\$5,769,134</b>		
<b>Applied to \$1,400,000 Corridor for 16/17</b>										<b>\$1,400,000</b>	<b>\$1,400,000</b>		
<b>Insured excess of Corridor</b>										<b>\$3,090,938</b>	<b>\$4,369,134</b>		
94628	8/29/2017	Open	Any	\$4,574,465	\$5,344,000	\$33,912	\$115,000	\$250,000	\$2,912	\$4,355,465	\$5,206,088	1.048	\$5,599,074
95267	3/19/2018	Open	Any	\$0	\$4,000,000	\$72,086	\$87,000	\$250,000	\$88	\$71,998	\$3,836,912	1.048	\$4,190,924
0067	5/29/2018	Open	Any	\$1,619,917	\$2,059,634	\$38,922	\$39,039	\$250,000	\$631	\$1,408,208	\$1,848,042	1.048	\$2,157,943
95052	5/4/2018	Closed	Any	\$679,050	\$679,050	\$0	\$0	\$250,000	\$0	\$429,050	\$429,050	1.048	\$711,462
0068	6/12/2018	Open	Any	\$2,423	\$462,423	\$2,847	\$2,900	\$250,000	\$322	\$2,525	\$215,001	1.048	\$484,495
94879	1/11/2018	Closed	Any	\$357,185	\$357,185	\$12,318	\$12,318	\$250,000	\$5,591	\$113,912	\$113,912	1.048	\$374,234
<b>Total Excess Losses for 17/18</b>										<b>\$6,381,158</b>	<b>\$11,649,005</b>		
<b>Applied to \$1,400,000 Corridor for 17/18</b>										<b>\$1,400,000</b>	<b>\$1,400,000</b>		
<b>Insured excess of Corridor</b>										<b>\$4,981,158</b>	<b>\$10,249,005</b>		
0071	5/25/2019	Open	Any	\$70,322	\$4,457,060	\$0	\$12,000	\$250,000	\$0	\$0	\$4,219,060	1.314	\$5,856,273
95689	4/15/2019	Open	Any	\$233,490	\$1,265,000	\$5,505	\$6,000	\$250,000	\$0	\$5,505	\$1,021,000	1.314	\$1,662,124
0070	5/20/2019	Open	Any	\$153,420	\$650,297	\$1,181	\$1,191	\$250,000	\$1,181	\$0	\$400,307	1.314	\$854,446
0074	6/23/2019	Open	Any	\$0	\$625,000	\$0	\$10	\$250,000	\$0	\$0	\$375,010	1.314	\$821,207
0069	3/24/2019	Open	Any	\$262,554	\$612,485	\$2,360	\$6,209	\$250,000	\$1,052	\$13,862	\$367,642	1.314	\$804,764
P625-19-95731	5/1/2019	Open	Any	\$126,947	\$225,000	\$0	\$0	\$250,000	\$0	\$0	\$0	1.314	\$295,635
P625-19-95666	3/20/2019	Open	Any	\$28,250	\$200,000	\$0	\$0	\$250,000	\$0	\$0	\$0	1.314	\$262,786
<b>Total Excess Losses for 18/19</b>										<b>\$19,368</b>	<b>\$6,383,019</b>		
<b>Applied to \$1,400,000 Corridor for 18/19</b>										<b>\$19,368</b>	<b>\$1,400,000</b>		
<b>Insured excess of Corridor</b>										<b>\$0</b>	<b>\$4,983,019</b>		

- Loss and policy information provided by Jennifer McKenzie, Arthur J. Gallagher

Excess paid and incurred losses for closed claims are equal to the excess recoveries, or amounts over SIR if no recovery yet  
Excess paid and incurred losses for open claims are amounts in excess of SIR regardless of recoveries.



**Calculation of Limited Losses**

<i>Policy Period</i>	<i>(A) Per Occurrence SIR</i>	<i>(B) Unlimited Paid Loss &amp; ALAE</i>	<i>(C) Unlimited Reported Loss &amp; ALAE</i>	<i>(D) Paid Excess of SIR</i>	<i>(E) Reported Excess of SIR</i>	<i>(F) Paid Limited to SIR</i>	<i>(G) Reported Limited to SIR</i>
7/1/02-03	\$100k/\$200k	\$312,045	\$312,045	\$0	\$0	\$312,045	\$312,045
7/1/03-04	\$100k/\$200k	\$2,513,499	\$2,513,499	\$1,226,330	\$1,226,330	\$1,287,169	\$1,287,169
7/1/04-05	\$100k/\$200k	\$1,305,598	\$1,305,598	\$38,605	\$38,605	\$1,266,993	\$1,266,993
7/1/05-06	\$100k/\$200k	\$3,222,704	\$3,222,704	\$605,708	\$605,708	\$2,616,997	\$2,616,997
7/1/06-07	\$100k/\$200k	\$7,672,924	\$7,672,924	\$5,068,410	\$5,068,410	\$2,604,514	\$2,604,514
7/1/07-08	\$100k/\$200k	\$27,549,083	\$27,549,083	\$23,633,602	\$23,633,602	\$3,915,481	\$3,915,481
7/1/08-09	\$100k/\$200k	\$14,784,559	\$14,784,559	\$10,223,263	\$10,223,263	\$4,561,296	\$4,561,296
7/1/09-10	\$100k/\$200k	\$17,390,777	\$17,390,777	\$12,520,736	\$12,520,736	\$4,870,041	\$4,870,042
7/1/10-11	\$100k/\$200k	\$26,471,942	\$26,471,942	\$22,902,470	\$22,902,470	\$3,569,472	\$3,569,472
7/1/11-12	\$250,000	\$4,018,489	\$4,018,489	\$735,946	\$735,946	\$3,282,543	\$3,282,543
7/1/12-13	\$250,000	\$6,136,455	\$6,136,455	\$3,103,780	\$3,103,780	\$3,032,675	\$3,032,675
7/1/13-14	\$250,000	\$4,590,290	\$4,590,290	\$2,084,113	\$2,084,113	\$2,506,177	\$2,506,177
7/1/14-15	\$250,000	\$4,982,968	\$6,503,301	\$1,512,306	\$3,032,639	\$3,470,662	\$3,470,662
7/1/15-16	\$250,000	\$9,784,794	\$10,487,332	\$6,107,031	\$6,805,240	\$3,677,763	\$3,682,092
7/1/16-17	\$250,000	\$8,836,462	\$10,178,642	\$4,490,938	\$5,769,134	\$4,345,524	\$4,409,508
7/1/17-18	\$250,000	\$10,376,332	\$16,267,082	\$6,381,158	\$11,649,005	\$3,995,174	\$4,618,077
7/1/18-19	\$250,000	\$2,577,209	\$11,601,006	\$19,368	\$6,383,019	\$2,557,841	\$5,217,986
<b>Total</b>		\$152,526,129	\$171,005,727	\$100,653,763	\$115,782,000	\$51,872,366	\$55,223,728

<i>Period</i>	<i>Corridor</i>	<i>Paid</i>	<i>Reported</i>
7/1/11-12	\$2,700,000	\$735,946	\$735,946
7/1/12-13	\$2,400,000	\$2,400,000	\$2,400,000
7/1/13-14	\$1,400,000	\$1,400,000	\$1,400,000
7/1/14-15	\$1,400,000	\$1,400,000	\$1,400,000
7/1/15-16	\$1,400,000	\$1,400,000	\$1,400,000
7/1/16-17	\$1,400,000	\$1,400,000	\$1,400,000
7/1/17-18	\$1,400,000	\$1,400,000	\$1,400,000
7/1/18-19	\$1,400,000	\$19,368	\$1,400,000

(B) and (C) - Exhibit I

(D) and (E) - Excess amount from claims in Exhibit II, page 1

(F) = (B) - (D)

(G) = (C) - (E)

**Comparison of Results with Previous Estimates as of 1/31/19**

	(A)	(B)	(C)	(D)	(E)	(F)		(G)
Accident Period	Actual Reported Losses 1/31/2019	Projected Reported Losses 6/30/2019	Actual Reported Losses 6/30/2019	Percent Difference	Expected Ultimate Losses 1/31/2019	Actual Ultimate Losses 6/30/2019	Year-End Adjustment	Percent Difference
<b><u>Limited to SIR</u></b>								
7/1/11-12	\$3,282,543	\$3,282,543	\$3,282,543	0.0%	\$3,282,543	\$3,282,543	\$0	0.0%
7/1/12-13	\$3,032,675	\$3,032,675	\$3,032,675	0.0%	\$3,032,675	\$3,032,675	\$0	0.0%
7/1/13-14	\$2,505,352	\$2,505,352	\$2,506,177	0.0%	\$2,505,352	\$2,506,177	\$825	0.0%
7/1/14-15	\$3,470,662	\$3,470,662	\$3,470,662	0.0%	\$3,470,662	\$3,470,662	\$0	0.0%
7/1/15-16	\$3,682,092	\$3,687,293	\$3,682,092	-0.1%	\$3,695,000	\$3,695,000	\$0	0.0%
7/1/16-17	\$4,547,880	\$4,570,189	\$4,409,508	-3.5%	\$4,603,000	\$4,603,000	\$0	0.0%
7/1/17-18	\$4,485,867	\$4,563,803	\$4,618,077	1.2%	\$4,680,000	\$4,680,000	\$0	0.0%
7/1/18-19	\$1,205,182	\$3,562,634	\$5,217,986	46.5%	\$4,063,000	\$5,663,000	\$1,600,000	39.4%
<b>Total</b>	<b>\$26,212,252</b>	<b>\$28,675,150</b>	<b>\$30,219,720</b>	<b>5.4%</b>	<b>\$29,332,232</b>	<b>\$30,933,057</b>	<b>\$1,600,825</b>	<b>5.5%</b>
<b><u>Unlimited</u></b>								
7/1/11-12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	\$0	0.0%
7/1/12-13	\$6,136,455	\$6,136,455	\$6,136,455	0.0%	\$6,136,455	\$6,136,455	\$0	0.0%
7/1/13-14	\$4,590,290	\$4,590,290	\$4,590,290	0.0%	\$4,590,290	\$4,590,290	\$0	0.0%
7/1/14-15	\$7,613,301	\$7,613,301	\$6,503,301	-14.6%	\$7,617,000	\$6,517,000	-\$1,100,000	-14.4%
7/1/15-16	\$8,878,582	\$8,887,649	\$10,487,332	18.0%	\$8,898,000	\$10,498,000	\$1,600,000	18.0%
7/1/16-17	\$10,565,943	\$10,653,890	\$10,178,642	-4.5%	\$10,744,000	\$10,244,000	-\$500,000	-4.7%
7/1/17-18	\$15,147,881	\$15,769,175	\$16,267,082	3.2%	\$16,370,000	\$16,870,000	\$500,000	3.1%
7/1/18-19	\$1,205,182	\$8,518,529	\$11,601,006	36.2%	\$13,290,000	\$16,290,000	\$3,000,000	22.6%
<b>Total</b>	<b>\$58,156,123</b>	<b>\$66,187,777</b>	<b>\$69,782,596</b>	<b>5.4%</b>	<b>\$71,664,233</b>	<b>\$75,164,233</b>	<b>\$3,500,000</b>	<b>4.9%</b>
<b><u>SIR + Corridor</u></b>								
7/1/11-12	\$4,018,489	\$4,018,489	\$4,018,489	0.0%	\$4,018,489	\$4,018,489	\$0	0.0%
7/1/12-13	\$5,432,675	\$5,432,675	\$5,432,675	0.0%	\$5,432,675	\$5,432,675	\$0	0.0%
7/1/13-14	\$3,905,352	\$3,905,352	\$3,906,177	0.0%	\$3,905,352	\$3,906,177	\$825	0.0%
7/1/14-15	\$4,870,662	\$4,870,662	\$4,870,662	0.0%	\$4,870,662	\$4,870,662	\$0	0.0%
7/1/15-16	\$5,082,092	\$5,087,293	\$5,082,092	-0.1%	\$5,095,000	\$5,095,000	\$0	0.0%
7/1/16-17	\$5,947,880	\$5,970,189	\$5,809,508	-2.7%	\$6,003,000	\$6,003,000	\$0	0.0%
7/1/17-18	\$5,885,867	\$5,963,803	\$6,018,077	0.9%	\$6,080,000	\$6,080,000	\$0	0.0%
7/1/18-19	\$1,205,182	\$4,962,634	\$6,617,986	33.4%	\$5,463,000	\$7,063,000	\$1,600,000	29.3%
<b>Total</b>	<b>\$36,348,198</b>	<b>\$40,211,096</b>	<b>\$41,755,666</b>	<b>3.8%</b>	<b>\$40,868,177</b>	<b>\$42,469,002</b>	<b>\$1,600,825</b>	<b>3.9%</b>

(A) and (E) - From Previous actuarial report as of 1/31/2019

Estimated for Unlimited losses 11-12 through 17-18

(B) - Derived from (A) and (E) using loss development patterns

(C) - Exhibit I, limited to retention

(D) = [(C) / (B)] - 1

(F) - Exhibit VI

(G) = [(F) / (E)] - 1

**Estimated Outstanding Losses**

Accident Period	SIR	(A) Limited Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b>As of June 30, 2019</b>							
7/1/02-03	\$100k/\$200k	\$312,045	\$312,045	\$312,045	\$0	\$0	\$0
7/1/03-04	\$100k/\$200k	\$1,287,169	\$1,287,169	\$1,287,169	\$0	\$0	\$0
7/1/04-05	\$100k/\$200k	\$1,266,993	\$1,266,993	\$1,266,993	\$0	\$0	\$0
7/1/05-06	\$100k/\$200k	\$2,616,997	\$2,616,997	\$2,616,997	\$0	\$0	\$0
7/1/06-07	\$100k/\$200k	\$2,604,514	\$2,604,514	\$2,604,514	\$0	\$0	\$0
7/1/07-08	\$100k/\$200k	\$3,915,481	\$3,915,481	\$3,915,481	\$0	\$0	\$0
7/1/08-09	\$100k/\$200k	\$4,561,296	\$4,561,296	\$4,561,296	\$0	\$0	\$0
7/1/09-10	\$100k/\$200k	\$4,870,042	\$4,870,041	\$4,870,042	\$0	\$0	\$0
7/1/10-11	\$100k/\$200k	\$3,569,472	\$3,569,472	\$3,569,472	\$0	\$0	\$0
7/1/11-12	\$250,000 /\$2.7M corridor	\$4,018,489	\$4,018,489	\$4,018,489	\$0	\$0	\$0
7/1/12-13	\$250,000 /\$2.4M corridor	\$5,432,675	\$5,432,675	\$5,432,675	\$0	\$0	\$0
7/1/13-14	\$250,000 /\$1.4M corridor	\$3,906,177	\$3,906,177	\$3,906,177	\$0	\$0	\$0
7/1/14-15	\$250,000 /\$1.4M corridor	\$4,870,662	\$4,870,662	\$4,870,662	\$0	\$0	\$0
7/1/15-16	\$250,000 /\$1.4M corridor	\$5,095,000	\$5,077,763	\$5,082,092	\$4,329	\$13,000	\$17,000
7/1/16-17	\$250,000 /\$1.4M corridor	\$6,003,000	\$5,745,524	\$5,809,508	\$63,985	\$193,000	\$257,000
7/1/17-18	\$250,000 /\$1.4M corridor	\$6,080,000	\$5,395,174	\$6,018,077	\$622,903	\$62,000	\$685,000
7/1/18-19	\$250,000 /\$1.4M corridor	\$7,063,000	\$2,577,209	\$6,617,986	\$4,040,777	\$445,000	\$4,486,000
<b>Total</b>		<b>\$67,473,010</b>	<b>\$62,027,679</b>	<b>\$66,759,674</b>	<b>\$4,731,994</b>	<b>\$713,000</b>	<b>\$5,445,000</b>

**Total Estimated IBNR as of June 30, 2018 \$713,000**

(A) - Table 1

(B) and (C) - Provided by OSIG, limited to SIR and Corridor

(D) = (C) - (B)

(E) = (A) - (C)

(F) = (A) - (B)

**Estimated Outstanding Losses for SIR and Corridor**

Accident Period	SIR	Corridor	(A) Limited Ultimate Losses	(B) Limited Paid Losses	(C) Limited Reported Losses	(D) Limited Case Reserves	(E) IBNR Losses	(F) Outstanding Losses
<b>As of June 30, 2019</b>								
<b><u>Stop Loss Years Total</u></b>			\$25,004,007	\$25,004,007	\$25,004,007	\$0	\$0	\$0
<b><u>SIR Losses</u></b>								
7/1/11-12	\$250,000		\$3,282,543	\$3,282,543	\$3,282,543	\$0	\$0	\$0
7/1/12-13	\$250,000		\$3,032,675	\$3,032,675	\$3,032,675	\$0	\$0	\$0
7/1/13-14	\$250,000		\$2,506,177	\$2,506,177	\$2,506,177	\$0	\$0	\$0
7/1/14-15	\$250,000		\$3,470,662	\$3,470,662	\$3,470,662	\$0	\$0	\$0
7/1/15-16	\$250,000		\$3,695,000	\$3,677,763	\$3,682,092	\$4,000	\$13,000	\$17,000
7/1/16-17	\$250,000		\$4,603,000	\$4,345,524	\$4,409,508	\$64,000	\$193,000	\$257,000
7/1/17-18	\$250,000		\$4,680,000	\$3,995,174	\$4,618,077	\$623,000	\$62,000	\$685,000
7/1/18-19	\$250,000		\$5,663,000	\$2,557,841	\$5,217,986	\$2,660,000	\$445,000	\$3,105,000
<b><u>Corridor Losses</u></b>								
7/1/11-12		\$2,700,000	\$735,946	\$735,946	\$735,946	\$0	\$0	\$0
7/1/12-13		\$2,400,000	\$2,400,000	\$2,400,000	\$2,400,000	\$0	\$0	\$0
7/1/13-14		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/14-15		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/15-16		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/16-17		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/17-18		\$1,400,000	\$1,400,000	\$1,400,000	\$1,400,000	\$0	\$0	\$0
7/1/18-19		\$1,400,000	\$1,400,000	\$19,368	\$1,400,000	\$1,381,000	\$0	\$1,381,000
<b>Total</b>			\$67,473,000	\$62,028,000	\$66,760,000	\$4,732,000	\$713,000	\$5,445,000

**Total Estimated IBNR as of June 30, 2018 \$713,000**

**Distribution of Forecast Losses for 7/1/19-20**

**AOP Retention                   \$250,000**  
**Wind/Hail Retention       \$500,000**  
**Corridor Deductible       \$1,400,000**

<i>Percentile</i>	<i>SIR Layer \$250,000 - AOP \$500,000 - W/H</i>	<i>Cost of Corridor Ltd. \$1.4M</i>	<i>Total Retained Losses</i>	<i>Insured Excess Losses</i>	<i>Total Incurred Losses</i>
20.0%	\$7,247,000	\$1,400,000	\$8,644,000	\$5,469,000	\$14,890,000
30.0%	\$7,724,000	\$1,400,000	\$9,123,000	\$7,405,000	\$17,110,000
40.0%	\$8,130,000	\$1,400,000	\$9,529,000	\$9,563,000	\$19,490,000
50.0%	\$8,503,000	\$1,400,000	\$9,902,000	\$12,038,000	\$22,230,000
60.0%	\$8,901,000	\$1,400,000	\$10,301,000	\$15,143,000	\$25,560,000
70.0%	\$9,320,000	\$1,400,000	\$10,720,000	\$19,221,000	\$29,670,000
75.0%	\$9,581,000	\$1,400,000	\$10,981,000	\$22,197,000	\$32,730,000
80.0%	\$9,845,000	\$1,400,000	\$11,245,000	\$25,679,000	\$36,250,000
85.0%	\$10,186,000	\$1,400,000	\$11,586,000	\$30,060,000	\$40,550,000
90.0%	\$10,645,000	\$1,400,000	\$12,045,000	\$34,988,000	\$45,590,000
95.0%	\$11,305,000	\$1,400,000	\$12,705,000	\$42,113,000	\$53,080,000
99.0%	\$12,736,000	\$1,400,000	\$14,136,000	\$60,106,000	\$71,470,000
<b>Expected</b>	<b>\$8,600,000</b>	<b>\$1,400,000</b>	<b>\$10,000,000</b>	<b>\$16,128,000</b>	<b>\$26,128,000</b>
<i>TIV in \$00s</i>	\$151,593,951				
<b>Cost Per \$100 TIV</b>	<b>\$0.057</b>	<b>\$0.009</b>	<b>\$0.066</b>	<b>\$0.106</b>	<b>\$0.172</b>

APD	\$915,000	\$0	\$915,000	\$0	\$915,000
Other Property	\$7,685,000	\$1,400,000	\$9,085,000	\$16,128,000	\$25,213,000
Vehicles	10,898				
TIV	\$151,593,951				
APD Cost per Vehicle	\$83.96				
Property Cost per TIV	\$0.051	\$0.009	\$0.060	\$0.106	\$0.166

*Percentiles based on combined distributions for small and large losses*  
*Aggregate small losses modeled using a lognormal distribution*  
*Large claim size modeled using an inverse Weibull distribution*  
*Large claim counts modeled using a Poisson Distribution*

# Statement of Actuarial Opinion

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Oklahoma Schools Insurance Group

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December 5, 2019

Based on data as of June 30, 2019

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## **STATEMENT OF ACTUARIAL OPINION**

### **Net Retained Liabilities as of June 30, 2019 Premium Adequacy for 7/1/19-20**

### **Oklahoma Schools Insurance Group**

I, Laura T. Sprouse, am a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries and meet the Academy's qualification standards for prescribed Statements of Actuarial Opinion. Although no formal appointment was made by the Board of Directors (or equivalent authority) of Oklahoma Schools Insurance Group (OSIG), I have been asked to opine on the adequacy of the reserves for loss and loss adjustment expenses (including IBNR), and the adequacy of premiums for the Oklahoma Schools Insurance Group. This opinion is prepared in accordance with Actuarial Standards of Practice No. 36 and No. 43.

The scope of this review is to evaluate outstanding losses and allocated loss expense reserves (including IBNR) for OSIG's retained liabilities for automobile liability, general liability, and property including auto physical damage evaluated as of June 30, 2019, and to evaluate the premiums for the period July 1, 2019, through June 30, 2020.

### **Loss and ALAE Reserves as of June 30, 2019**

I have examined the reserves listed in the financial statements of Oklahoma Schools Insurance Group (OSIG) as prepared for filing with state regulatory officials as of June 30, 2019.

In forming my opinion on the loss and loss adjustment expense reserves, I relied upon data provided by Jennifer McKenzie, Program Manager for OSIG through July 29, 2019. This data included a loss run valued as of June 30, 2019. I evaluated that data for reasonableness and consistency through comparison to previous reports. In other respects, my examination included such review of the actuarial assumptions and methods used and such tests of the calculations as I considered necessary. The loss and loss adjustment expense reserves shown below and in the financial statements represent the estimates by management of OSIG for all unpaid losses and the related loss adjustment expenses as of June 30, 2019.

<b>OSIG Carried Reserves as of June 30, 2019</b>	
Case Reserves	\$10,546,860
IBNR Reserve	\$2,178,000
<b>Total Unpaid Liabilities</b>	<b>\$12,724,860</b>

My analysis produced a central estimate of the direct and assumed outstanding losses and loss adjustment expenses of \$12,921,000 as of June 30, 2019, including an IBNR estimate of \$2,178,000. My estimate is about \$196,000 higher than OSIG's carried reserves. The difference is due to fact that OSIG updates the case reserves in the financial statements using losses as of September 30, 2019.

## Opinion

In my opinion, the amounts recorded in the financial statements of OSIG:

- Meet the requirements of the insurance laws of the state of Oklahoma.
- Are consistent with the reserves computed in accordance with accepted actuarial standards of practice.
- Make a reasonable provision for all unpaid loss and loss adjustment expense obligations of OSIG under the terms of its contracts and agreements.

## Risk of Material Adverse Deviation

Due to the nature of third party liability claims and OSIG's relatively large retention, it is possible that OSIG could experience a fluctuation of material size from the expected outstanding losses. We continue to observe some late emergence of property losses. To the extent that this is not captured in the loss development patterns, there could be some risk that IBNR reserves are inadequate. However, such losses would be capped at \$250,000, and the corridor has already been exhausted for each of the last six years. We have selected a materiality threshold of \$2,370,000, or 20% of surplus. This threshold is increased from 10% last year. The reserve to surplus ratio was one consideration in raising the threshold. While it is possible that losses could develop by more than \$2,370,000, the probability of this amount of adverse development is remote. Therefore, I would conclude there is not a significant risk of material adverse development.

## Premium Adequacy for 7/1/19-20

My analysis produced a forecast of the ultimate retained losses for the period 7/1/19-20 of \$13,997,000. OSIG has budgeted roughly \$29,434,000 for reinsurance premiums and other expenses for a total premium need of \$43,431,000. OSIG expects to collect about \$42,776,000 in member contributions and earn another



\$205,000 in investment income. Thus, there is an expected shortfall of \$450,000. This shortfall represents less than 5% of surplus, and OSIG currently has a reserve-to-surplus ratio of 1.07. I would consider using this amount of surplus to supplement the 7/1/19-20 budget to be a suitable use of surplus. Therefore, it is my opinion that the premiums for 19-20 are adequate.

## **Actuarial Reports**

The reserve opinion was based on the actuarial study for OSIG dated April 10, 2019, and the letter dated August 8, 2019, that summarized our reserve review as of June 30, 2019. The premium adequacy opinion for 7/1/19-20 was based on my actuarial study dated April 10, 2019, and the August 8 letter.

This opinion was prepared solely for the purpose of filing with regulatory agencies and is not intended for any other purpose.

Sincerely,

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Laura T. Sprouse, FCAS, MAAA

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December 5, 2019